Beyond Politics: The Private Governance Response to Climate Change

Summary

When the United States withdrew from the Paris Climate Agreement, 100 private corporations reaffirmed their commitment to fighting climate change. While governments are often tasked with facing climate change, many major private institutions are taking steps to significantly reduce carbon emissions, reaping the benefits of favorable public image and reduced operational costs from energy and other savings. On September 5, 2018, ELI held an expert panel discussing the role of private institutions in climate change mitigation, the incentives for private actors pursuing carbon reduction initiatives, key factors in successful case studies, and methods for developing and evaluating successful private climate initiatives. Below, we present a transcript of the discussion, which has been edited for style, clarity, and space considerations.

Cassie Phillips (moderator) is Director of the Private Environmental Governance Initiative at the Environmental Law Institute.
Jonathan Gilligan is an Associate Professor of Earth and Environmental Sciences and Civil and Environmental Engineering at Vanderbilt University, and co-author of *Beyond Politics: The Private Governance Response to Climate Change*.
Stephen Harper is the Global Director of Environment and Energy Policy at Intel Corporation.
Jackie Roberts is the Chief Sustainability Officer at The Carlyle Group.
Michael P. Vandenbergh is Director of the Climate Change Research Network, Co-Director of the Energy, Environment, and Land Use Program and a Professor of Law at Vanderbilt University, and co-author of *Beyond Politics: The Private Governance Response to Climate Change*.

Cassie Phillips: Our topic today is private environmental governance—that is, how and why private companies take on roles that are traditionally held by government—and the context today is climate change. I sometimes summarize private environmental governance as, "the customer is the new regulator." So, what does it mean to have the customer—or any business—be the new regulator in the area of climate change?

Our panelists will talk about a variety of private-sector initiatives companies are taking to address climate change. We want to explore why companies do these things and how effective they are. What are the problems they face in doing them, and what are the opportunities? And really, in the end, our goal is to figure out how to make these initiatives easier to do and more effective so there are more of them.

I want to take a minute to talk about ELI's program on private environmental governance and more generally, why bring lawyers into this subject at all. This is an area that has not had a lot of attention by the legal profession. You'll see that in our panel today: only two of us are lawyers. Many people will say that's a good thing. But my view is that private environmental governance gets done through voluntary standards. There may be individual initiatives, but usually what happens is companies decide they want to work together. This idea of companies working together on voluntary standards and the processes and the substantive rules around it have a long history. There's a large body of pretty well-settled law about how it's done. The more people participating in these initiatives understand that, I think the more effective they can be.

The biggest constraint in this area is antitrust law. Having realistic expectations about what companies can do helps a great deal in judging what kind of strategies you use in private-sector initiatives and then how you judge their effectiveness. You'll hear from some of our speakers that you have to be careful not to expect private-sector initiatives to be the same as government regulation. They can't go that far. There are clearly rules for both or roles for both. One can't displace the other entirely. There's also advertising law and laws around claims that are my personal favorite because they're a lot of fun.

But those are bodies of law that environmental attorneys are not really used to practicing in. Environmental lawyers are experts in governance and administrative law. How do you make governance systems that are truly sustainable that will retain the support of the regulated community to last over time and have clear language that can be enforced? Those are things that ELI attorneys are experts at and the larger community that's engaged

with ELI—that's our expertise. If we can bring those skills to bear in the area of voluntary standards, private environmental governance, and private-sector initiatives, we can be all the more effective in what we do. So, with that little pitch about bringing in the lawyers, I'll turn to the speakers.

Our first two speakers will be Mike Vandenbergh and Jonathan Gilligan. Both Mike and Jonathan are professors at Vanderbilt University. Mike is a well-known expert in the area of private environmental governance. He's our other attorney. And Jonathan is a physicist. They are the co-authors of a recent book, *Beyond Politics: The Private Governance Response to Climate Change*,[1] and that will be their subject.

Our next speaker will be Stephen Harper. Steve is the global director of environment and energy policy for Intel Corporation. He's going to talk about Intel's initiative in this area and the information technology (IT) industry, the pressures they face, and the reasons they engage in private sector initiatives on climate change.

Our last speaker is Jackie Roberts. Jackie is the chief sustainability officer of the Carlyle Group. Jackie will also give us practical examples of real-world experiences. Her background is in the environmental community, so she'll bring a unique perspective. So, with that, I will turn it over to Mike.

Michael P. Vandenbergh: Thank you, Cassie. We appreciate ELI's leadership in this area and yours in particular. I know you did a lot of great work in the private sector on these issues. We are pleased to be here with Steve Harper and Jackie Roberts, too, who've taken a real leadership role in the private sector. Jonathan and I co-authored our book, which was published by Cambridge University Press last December, and we will tag-team today.

We'll start with a question that we've asked literally dozens of audiences: who announced the goal to eliminate one billion metric tons of greenhouse gas (GHG) emissions by 2030? As you might imagine, the kind of answers we've gotten over time have included major cities and countries. Someone said Rhode Island. Of course, all those on the panel know the right answer is Walmart. Walmart committed by 2030, working with several leading environmental groups, to reduce GHG emissions from its supply chain by one billion metric tons. That's following an initiative where they had committed to 20 million metric tons of reductions and then exceeded that several years ago.

Walmart has 10,000 suppliers in China alone and a global network, so there's a remarkable potential effect on global GHG emissions. You could say that our book is really an exploration, not just of what corporations are doing, but of the entire nongovernmental or private sector. What's happening out there with private-sector carbon emissions reductions? What's causing something like this to occur?

What we'd like to do with this book, though, is move the discussion of private climate initiatives more into the practicing law community and the applied policy community because we wrote this book to be not only technically and theoretically defensible, but also to reach out to a more general audience.

We'll start with the underlying climate problems. I know this audience is very sophisticated, but as we talk about what we're trying to achieve with the book, we'll say a word or two about where we see the climate science.

Let me say that the book, as a general rule, is trying to achieve three things. The first is something that is overlooked frequently in policy debates, which is that it's not enough simply to reframe the climate problem over and over again by providing more information about climate science or climate risks. That doesn't seem to change people's beliefs or their support for climate mitigation. An important point of the book is that much of what people are doing is engaging in solution aversion. They're more worried about what the solution is to climate change, such as more regulation, than they are about climate change itself. This is particularly true among conservatives and libertarians. So, it's as important to discuss different solutions to the climate problem as it is to re-frame the climate problem if we want people to better understand and act upon the climate threat. That's point number one.

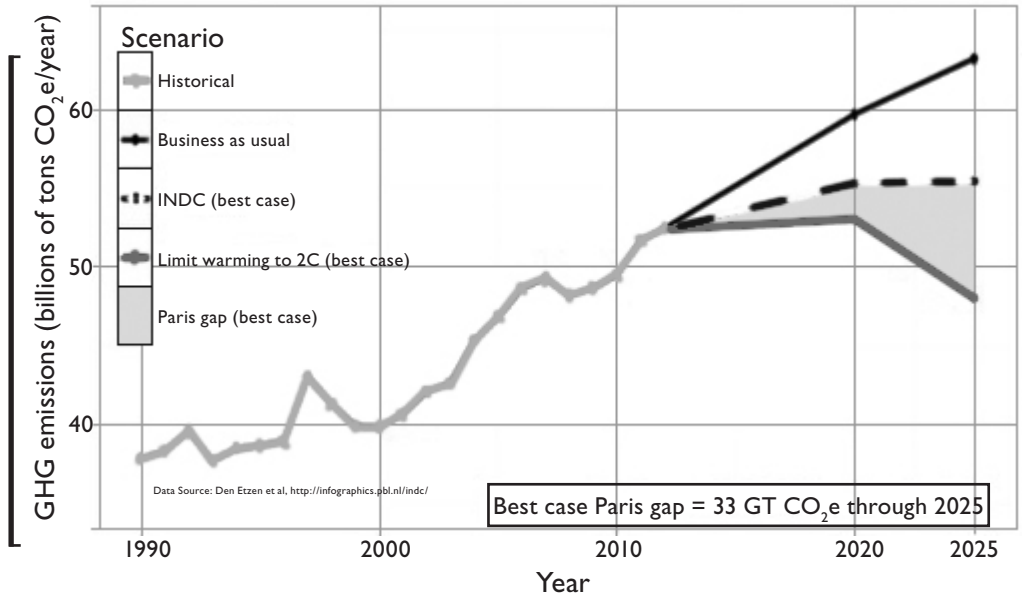
Second, as to solutions, we make the argument that the private sector can get us an additional billion tons per year of emissions reductions over the next decade. This is not a substitute for government action, but private-sector responses can bypass solution aversion and complement government activities, filling gaps while we wait for government to act.

Then, lastly, the biggest contribution of the book, if it makes a big contribution, is to try to see all of the different private activities that are going on out there as a coherent whole—in other words, to make a conceptual shift so that nongovernmental organization (NGO) leaders, lawyers, philanthropists, academics, and others look at private-sector action as an option—as a thing that can make a real contribution on the climate front. Why do we need to do that?

Jonathan Gilligan: There has been so much attention to the Paris Agreement. What we argue is even if the United States had not announced it would withdraw, and even if all the countries that were participating met all their commitments and all of those commitments were at the upper end of what people anticipate, what they would accomplish in reducing emissions is shown as the dashed line in Figure 1. For comparison, the light gray line is historical emissions, the black line is where we expect emissions to go under business as usual, and the dark gray line at the bottom indicates what would be necessary to

1. Michael P. Vandenbergh & Jonathan M. Gilligan, Beyond Politics: The Private Governance Response to Climate Change (Cambridge Univ. Press 2017).

Figure 1: The Paris Gap—Best Case



limit global warming to 2°C in the best case. If we are more unlucky, that dark gray line would be much further down. The dashed line shows what the countries' emissions would be under the most optimistic interpretation of the intended nationally determined contributions.

The gray wedge between the dashed line and the dark gray line is the gap that would have to be filled between the best case of what Paris would do and the most optimistic view of what we would need to do to limit warming to 2°C. That's about 33 billion metric tons between now and 2025. In the worst case, we anticipate that it would be closer to 90 billion tons. So, that's roughly 30 to 90 billion metric tons of carbon dioxide that have to be abated on top of what Paris produces.

Michael P. Vandenbergh: The book essentially is saying we can't fill that gap with private-sector activity, but we can close that gap quite a bit. We can close that Paris gap by one billion tons a year, a total of about 10 billion tons over the next decade. We think that was a conservative estimate. So, why is it necessary to think about the private sector? Well, one answer is because the federal government is unlikely to close the Paris gap.

Looking at the League of Conservation Voters' environmental scores for Democratic and Republican members of the U.S. Senate and the U.S. House of Representatives,[2] what you see is that starting in the early 1990s, a massive gap opened up. We are now in a very deeply polarized space on climate change, which makes it difficult to assume that the federal government is going to solve this problem.

So, you might say, will states and cities fill the gap? And the point in the book is not that either the federal government or states and cities shouldn't try to do so, but it's very difficult to see how you completely close that gap.

I'll give you one example, which is that although 20 states have set GHG targets, and California has just made some major important moves in this area, those 20 states only account for a little more than one-third of U.S. GHG emissions. The kind of states where Jonathan and I live now are not moving in that direction. And, in fact, the southeastern states would be the sixth or seventh largest country in the world in terms of fossil fuel-based carbon emissions if they were a country. These states are not in any way moving in the direction of reducing GHG emissions through government policy. So, there's room here for private action.

And you might simply say, well, the right answer is to provide more information to motivate voters to drive government action. That's called in the psychology literature the "information deficit model." If we give more information, people's beliefs and their actions will change. There's very little support for that in the climate area, however. Instead, what we tend to see are two widely understood phenomena in psychology: confirmation bias and motivated reasoning. In essence, people don't start with a blank slate; they start with a worldview, and they pick and choose the information that they're willing to believe in order to confirm that worldview. That makes it very difficult to reach much of the American population.

On top of that, what we see is that between two-thirds and three-quarters of the American population views big government as the biggest problem we face. So, if you combine the problem of solution aversion—the idea that people will deny that a problem exists if they don't like the anticipated solution—with the aversion to big gov-

2. Aaron M. McCright et al., *Political Polarization on Support for Government Spending on Environmental Protection in the USA, 1974-2012*, 48 Soc. Sci. Res. 251 (2014).

ernment, you can see the challenge. If people are worried that climate change means big government, and if they deeply dislike big government, then many people in the American population are unlikely to get on board with accepting the climate science or doing something about climate change.

What we're offering is another way to think about this problem, which is that the private sector can do quite a bit more than we would otherwise think it might. It can't completely solve the problem, but it can make a contribution in ways that bypass solution aversion. In other words, we're moving from assuming the actor that responds to climate change must only be government to saying it could be any public or private organization. Rather than simply saying that there must be some government law, policy, or program that will be our only response to an environmental problem, we ask what kind of private initiative might fill the gap.

As examples, the Marine Stewardship Council accounts for 10% of all the fish caught for human consumption, and the Forest Stewardship Council addresses the forest management for roughly 14% to 15% of global temperate forests. I know Cassie's been heavily involved in the Sustainable Forestry Initiative as well. In addition, environmental supply chain requirements are imposed by more than one-half of the major companies in eight leading sectors. A recent lobbyist said that Target and Walmart can be thought of as some of the leading regulators of toxics in America because of their private toxic standards.

All of this requires us to make something of a conceptual shift—to think more broadly about public regulation versus private initiatives, to think about global activity rather than just international activity, a term that assumes nation states are interacting with one another. The book is really about what we can do about climate change if we drop the assumption that only government can play a meaningful role in climate mitigation.

Jonathan Gilligan: The central core of the book is saying that private-sector initiatives between corporations and households can each provide about 500 million metric tons per year of carbon dioxide abatement. That adds up to about one billion tons per year. We take an analytic approach to this to try to be able to set priorities and assess the practicality of various private-sector initiatives, which can be corporations, NGOs, or households. We start with looking at what we call the technical potentials to go ahead. We look at these in terms of what we are comparing them to.

It's often the case people will say, well, these private-sector things are too small. They're not going to be able to achieve the same comprehensive emissions reductions that a big globally harmonized carbon tax or cap-and-trade scheme would. But we feel that the focus on this policy that would be ideal once it's adopted ignores a very important piece, which is the opportunity cost of the time and effort it takes to get that through the legislature and signed by the president, through all the lawsuits opposing it, and actually implemented in practice. Those opportunity costs are huge. People in the United States have been trying to impose a carbon tax since the early days of the William Clinton Administration. There's been very little progress on that.

So, we're looking at what can be done quickly that will make an impact. We focused on a three-part analytic approach that starts with the technical potential. What would this do if everybody who was capable of doing it did it? Would it have the technical potential to reduce emissions significantly? But then we ask a second question, which is, without the big government regulatory stick, how many people will actually do this or how many organizations will do this? We call that the behavioral plasticity. Carpooling, for instance, is capable of producing huge emissions reductions, but very few people voluntarily do that. We have to take this into account.

Finally, if this is going to be promoted by some policies, incentives, marketing, and so on, who is actually going to implement those incentives? Is there an actor? That could be traditional public governance, or it could be a private actor who's going to take actions to encourage this behavior.

Michael P. Vandenbergh: I would say that maybe one of the biggest contributions of the book from our perspective is that we use this three-part analysis. When you're interacting with others, look to see how often people deal with all three of these factors. What's the technical potential? How changeable is the behavior? And is it feasible to adopt the policy? Because if you drop any one of those three factors, it's easy to engage in kind of a utopian analysis, which is not what we think is needed to solve the Paris gap problem.

I'm going to take the model that we have here and use it to explore the corporate contribution. Jonathan is then going to say a few words about the household contribution, and then we'll turn things over to our panel. In our model, we're not assuming that everyone acts altruistically. Much of the model that we built for this book is about why self-interested motivations already exist out there, such as market failures, that can drive emissions reductions.

For example, in shipping, much of the cost of shipping a good is borne by the party shipping the good—for example, the fuel cost—not by the shipping industry itself. As a result, the shipping industry has less incentive than it otherwise would to reduce fuel use. We see those kinds of issues over and over. There are also behavioral failures. People are overly optimistic, lack information, and so forth. In addition, self-interested action often occurs in an industry because some third party, whether it's an NGO, a lender, an investor, or individuals within the firm like employees, is putting pressure on the firm.

So, we've built this model based on an assumption about self-interest with an overlay of altruism, but it starts

with self-interest. You don't have to believe that everyone is a saint to think that we have something here.

Let me say a word or two about the corporate sector, because people tend to assume that corporate-sector action to reduce carbon emissions is only driven by whether consumers are willing to pay more for low-carbon goods. Instead, a set of factors jumped out at us as we did research on why companies seem to be reducing carbon emissions, and these are in addition to the traditional motivations of industry that you see in the literature. We see examples of companies wanting to accelerate efficiency; to assure supply or reduce disruption; concern about brand reputation; concern about retail customers but also corporate customers and supply chains; pressure from investors like Carlyle or BlackRock; pressure from lenders; and pressure arising from employee morale and the norms of top managers. There is a complex set of drivers, and it's important not to simply assume that only one or two are motivating a corporation to reduce carbon emissions.

An example of the importance of market failures and manager norms can be seen in a recent study by several University of Chicago economists working with an NGO and Virgin Atlantic Airways. The study found that Virgin Atlantic, even though it's been in business for three to four decades, had never provided fuel economy information to its pilots. Simply providing that information, even if they didn't change the pilots' other incentives, produced substantial reductions in GHG emissions and costs for the airline. This is important because aircraft fuel is about one-third of the operating cost of an airline. So, there is inefficient activity that's been going on for several decades, and it took concern about the airline's carbon footprint, possibly driven by the climate concerns of founder Sir Richard Branson, to induce the company to identify this kind of inefficiency.

Another point is that even if a company might not be motivated on its own to do something, we found in our research that companies are feeling pressure from many different places. One of the best examples is that more than $100 trillion in investments is held by companies that participate in CDP, formally the Carbon Disclosure Project. CDP is putting pressure on companies to disclose and ultimately reduce their carbon emissions, and is moving more and more in the direction of encouraging reporting and reductions from supply chains. Supply chain pressure would extend the reach of the CDP outside of the biggest companies.

Supply chain initiatives can have an effect not just in the United States and not just with large companies, but with small and medium-sized companies, and that effect can occur around the world. When retailers and others feel pressure from a variety of sources, they then transfer that pressure on to manufacturers who transfer that pressure on to their second- and third-order suppliers. So, this is a way to bypass some of the gridlock that we see at the international level, and to increase pressure for carbon emissions to companies around the world, even if these governments in which they operate are not doing so.

Jonathan Gilligan: A report issued earlier this year by the CDP about supply chain contracting[3] looked at the 99 largest corporate purchasers who were part of their program and the 4,800 suppliers in their supply chains, and it found that requiring carbon disclosure in the supply chain had already achieved reductions of 550 million metric tons per year of emissions. They believe that there is quite a bit of additional potential if these requirements are pushed further down into the supply chain.

Michael P. Vandenbergh: You're seeing supply chain efforts extend to companies like Apple, which recently helped fund two gigawatts worth of new renewable power in China alone. This is also a way to shift resources and interest in carbon emissions reduction outside of some of the countries that are participating actively in Paris, helping to bridge the developed-developing country divide.

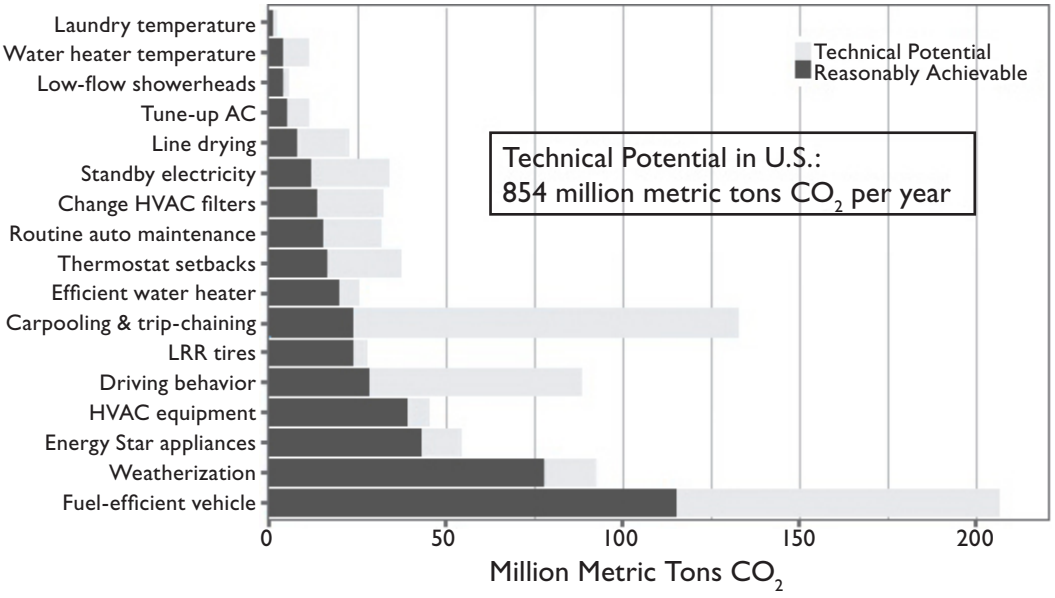
Now, we want to switch over to households; there's been a major development there.

Jonathan Gilligan: A big development in this area is that both the corporate side and the household side are interacting in a very positive way, driven in large part by big pressure that Walmart put on its suppliers to produce cost-effective, energy-efficient light bulbs, such as compact fluorescents and more recently light-emitting diode bulbs. We see that per capita residential electricity use had grown steadily from the 1930s until about 2008 or so. Around 2008, this growth started to level off and, starting in 2012, actually dropped. So, per capita, electricity consumption in U.S. households dropped over the past six years or so. Lucas Davis, an economist at University of California, Berkeley, believes this is largely driven by the adoption of energy-efficient light bulbs in the house.[4]

That adoption is driven in large part by Walmart marketing energy-efficient light bulbs, making them inexpensive, and making them easy for people to get. This ties into a piece of work[5] we did in conjunction with a number of social and behavioral scientists looking at a bunch of activities that households in the United States could do that wouldn't require big changes in lifestyle. We prioritized them on technical potential. How much carbon dioxide emissions reduction could be accomplished if all the households did these actions? We concluded that it's about 850 million metric tons of carbon dioxide per year.

3. CDP, Closing the Gap: Scaling Up Sustainable Supply Chains (2018), *available at* https://www.cdp.net/en/research/global-reports/global-supply-chain-report-2018.
4. Lucas W. Davis, *Evidence of a Decline in Electricity Use by U.S. Households*, 37 Econ. Bull. 1098 (2017).
5. Thomas Dietz et al., *Household Actions Can Provide a Behavioral Wedge to Rapidly Reduce U.S. Carbon Emissions*, 106 Proc. Nat'l Acad. Sci. 18452 (2009).

Figure 2: Household Sector Behavioral Wedge Opportunities
Dietz, Gardner, Gilligan, Stern & Vandenbergh (2009)



But then we looked at behavioral plasticity—not everybody's going to do every action. Carpooling has a huge technical potential, but very few people will do it. So, the dark gray bars in Figure 2 indicate what we think people would actually do with reasonable incentives that could be provided by the public or private sector. That gives us a realistically achievable emissions reduction of about 450 million metric tons per year. That would be the dark gray bars that could be achieved very quickly at relatively low cost for private-sector initiatives.

Michael P. Vandenbergh: Households and the corporate sector are two of the leading focal points of the book, but when we use the term private climate governance, we also include many types of NGOs, such as religious organizations. For instance, the Catholic church would be one of the top 50 countries in the world if we did a carbon footprint of it, which we did for the book. We also talk in the book about colleges and universities, small businesses, civic and cultural organizations, and hospitals. All of these are different actors that, even if government mitigation is limited, can either have incentives to reduce carbon emissions or can have incentives created for them.

What we're suggesting in the long run is that we step back and create an agenda where we identify the biggest opportunities, why they are not being taken advantage of, and how we can induce philanthropists, NGOs, and managers in the corporate sector to go ahead and take those next steps and give us that million tons that we think is possible each year.

Cassie Phillips: Thank you, Mike and Jonathan. That was fascinating. Steve?

Stephen Harper: I want to cover several things, talking about Intel's perspective on this issue. I'm going to try to keep this from becoming too apparent a commercial for my own company, although I think you'll tell that I'm proud of who I work for. Most everybody knows Intel, but there are some aspects of the company that are not familiar. We're over about 110,000 employees at this point worldwide, 50,000 of whom are here in the United States.

We are very unusual in the high-tech sector in that we make stuff. Most companies in high tech design their products or services, turn it over to somebody else to make, and then sell it in the marketplace. But we actually make virtually everything that we sell to our customers. So, that means when Greenpeace has somebody look at our carbon and climate profile, we don't look as good as some companies that actually don't have manufacturing, but it's kind of an unfair apples-to-oranges comparison.

There are two phases of our manufacturing. One is the etching of the chip circuits. That's called the fabrication process. And the back end is called the assembly test, where the chips are tested. If they work, they're put on packages and motherboards. Our fabrication facilities cost $4 to $5 billion apiece when we build them from scratch. We do most of our manufacturing here in the United States, Ireland, and Israel on the front end. On the back end, it's mostly done in Vietnam, a little bit in Costa Rica, and a little bit in China.

So, we have 7,000 suppliers. Not quite as many as Walmart has in China, but 7,000. We are the third-largest U.S. investor in research and development. In any given year, we spend between $12-$15 billion per year on research and development, both in new products as well as in the processes to make them.

We are in a number of markets. We used to be primarily in the personal computer (PC) and server markets. In the server market, we have about 98% market share. But we're also in the artificial intelligence, autonomous vehicle, and drone markets. If you saw the opening of the last Olympics, you saw the drone display. Those were all Intel drones. We're basically a data-centric company. We're all about computing data in all of its forms and promoting the growth of data and the efficient analysis of that data.

One of the things that's unique in the semiconductor sector as opposed to the rest of high tech is the dependence on chemicals. The smaller features we make in our chips, we can put up to five billion transistors on a piece of silicon that's one-half the size of your thumbnail. Chemicals are extremely important in that innovation. We use very small quantities of very specialized chemicals that tend to be fluorinated, which creates some issues from an environmental perspective.

Finally, we're unusual. We have one of the top and most recognizable brand names in the world, but we are not a consumer-facing company. You don't go to the store to buy an Intel product. You go to buy an Apple, Dell, HP, or Lenovo product—hopefully with an Intel chip in it. But because of our advertising, we are probably the most well-known component manufacturer in virtually any industry.

So, what have we done on the environmental side? I've been at Intel for almost 21 years now, and I've been involved in a lot of different things. I would say the most successful thing, and the thing I'm most proud of, is having been involved in our reduction of the emissions of perfluorinated compound (PFC) gases. We emit them in relatively small amounts. Our whole industry is about one-tenth or thereabouts of 1% of the U.S. GHG inventory. However, fluorinated materials last in the environment forever, so they have very high global warming potential numbers.

But we drove the worldwide semiconductor industry commitment to reduce emissions. This is an important point. We did that because we were afraid 18 years ago that the European Union (EU) was going to ban the use of fluorinated gases. We said, how can we get out in front of that? We did it through this voluntary commitment that has driven huge reductions in PFC emissions worldwide in our industry.

As a company, we chart our GHG emissions—scopes 1, 2, and 3[6]—against the 80 x 50 line. If you chart a straight line, you're going to get to 80% reduction by 2050. We chart our emissions against that line, and we are below that line consistently year in, year out, and we're making progress to remain below that. It's significant in part because of our PFC reductions, but also because in the United States and Europe, we're 100% renewable-powered. That's largely through the direct market, but increasingly we have very large solar farms at our facilities in the United States and Europe.

Water is a big deal. A lot of water is used to make semiconductors. We are bipolar in that we operate in places that are either very wet, like Oregon and Ireland, or very dry, like Israel, New Mexico, and Arizona. But in all of these communities, our water use is a concern, so we've committed to 100% restoration of the water we use in our facilities worldwide. We've also moved to a complete commitment to Leadership in Energy and Environmental Design (LEED) buildings. We've got more than 15 million square feet of office space and factory space that are LEED-certified, and generally LEED Gold or better.

Energy efficiency is a big focus of ours because the more computational power a device has, the more energy it can consume or might consume. People want laptops that they can actually put on their laps and not be too hot. So, we spend a lot of time working with the Energy Star program and elsewhere to improve the energy efficiency of our devices while the computational power increases. Lately, we've been working with the International Energy Agency in G20 on something called the Connected Devices Alliance, which is focused on trying to minimize the energy consumption of Internet of Things devices, sensors, and so on.

I mentioned the supply chain. Supply chain management is a huge issue for us from labor standards to environmental standards, and to things like conflict minerals where we have been a leader, again, in eliminating conflict minerals from our supply chain. The 7,000 suppliers are based on their class site in different tiers based upon how much we spend. But for those suppliers that we spend the most money on, we grade them and hold them accountable for meeting some very tight specifications having to do with environmental as well as labor practices.

The next thing I want to cover is who are our stakeholders who look over our shoulders to make sure that we're doing a good job and improving the job we do over time. Obviously, we're a publicly held corporation, so our shareholders are a big, big part of our focus. Increasingly, our shareholders care about environmental sustainability. It used to be just socially responsible investment funds and analysts like Calvert. But now it's pension funds, it's a lot of the major institutional investors that hold our stock, and our stock is one of the most widely held stocks in the world.

We have a tremendous number of shareholders who care about these matters. Increasingly, our employees are a big shareholder or stakeholder for us. We used to have a program called "Write to Know," where employees could write in to our internal Internet site and ask questions. When cap and trade was being debated in Washington, I did a piece on that site about our position on cap and trade, and why we were trying to support it and work with it.

It was funny: our Arizona employees generally wrote in to say, I'm a shareholder; why are we wasting our

6. Scope 1 covers direct emissions, Scope 2 covers emissions associated with purchased energy, and Scope 3 covers supply chain emissions.

money on this nonproblem? Our Oregon employees, our other biggest site in the United States, said, why are you quibbling? Just take whatever they give you. This was the most important issue facing the world. Increasingly, our employees everywhere care about climate change and about our sustainability profile. And, not uncommonly in the tech industry, if you want to attract and retain the best people, you have to be seen as, and you have to actually be, a leader in these areas.

Our customers are big drivers. We have customers throughout the PC industry, and they all want more efficient products. They all have their own demands for us in terms of our sustainability profile, on things that may not affect their product but make them look good or bad depending on what their supply chain looks like.

There's also a kind of an indirect shareholder-stakeholder relationship. We belong to a number of organizations, like the Center for Climate and Energy Solutions, CDP, American Council for an Energy-Efficient Economy, and Alliance to Save Energy. These are all great forums where we share best practices. There is kind of a friendly competition among members of many of these groups to do better and to do more.

I want to talk about when and how we've chosen to participate with governments and how we try to anticipate government regulations. I mentioned PFC gases. We did think that Europe was going to ban the use of these gases. You can't make semiconductors without them. So, we developed this voluntary program, and we've reported to governments around the world on our progress as an industry. It's one of the few cases where the European Commission has accepted a voluntary program, and they exempted our PFC emissions from their emissions trading program. Not our boiler emissions or our electricity usage, but our PFC gas emissions. So, that's been a great success.

Permitting is a huge issue for our industry and for our company because federal permitting under the new source review program[7] is extremely bureaucratic, extremely slow. Our factories are huge, but the inside of a factory looks more like a scientific establishment or a laboratory. In order to get as much product out the backdoor of a $4 billion plant, we make a lot of operational changes just to maximize the yield. A lot of those changes under traditional federal permitting would require lengthy modification processes and lots of delay.

Led by Intel, although the rest of the industry has been part of this, we decided we're going to reduce our criteria pollutant emissions below the federal major source threshold so that we would be able to live under state permitting programs, which typically are more flexible. That's an example of the federal regulatory program that drove huge amounts of pollution prevention in order to avoid having to be caught in the dragnet of the program. We're now a major source under the new source review program in most of our U.S. facilities for other reasons. But that drove huge, huge pollution prevention in our industry.

We also anticipated that at some point we would become a major source. So, over the past 25 years, we have participated in numerous pilot programs with the U.S. Environmental Protection Agency (EPA) and with our states to develop flexible permitting programs and approaches. We put in something called the plantwide applicability limit permitting processes, which are now part of the federal code, that allow for flexibility as long as you stay under a very tight cap. That's the trade off. Flexibility in exchange for a higher degree of pollution control than you would have to engage in if you were a traditional permittee.

Green chemistry is a big deal for us. We have to use fluorinated chemicals. We're busy trying to figure out alternatives. We've spent 25 years and billions of dollars trying, as an industry and a company, to get out of the fluorinated business. We're not there yet, but we want to develop chemical processes that are not subject to regulations where possible and that means making them greener.

I want to mention cap and trade. It's a good case example. Back when cap and trade was being debated with various bills like McCain-Lieberman[8] here in the United States, all of the proposals were so-called upstream programs. In other words, the onus for holding permits or allowances was on the part of the gas manufacturer, fuel manufacturer, or importer. Our PFCs were covered even though they're not in the European program.

Most of our PFC suppliers are Japanese companies, and Japanese companies often get out of markets where they see a regulatory threat. We were afraid we were going to lose our supplies. So, we were supporting cap and trade throughout the process, but we were arguing for the onus to hold allowances to be put on us, not our suppliers, which is counterintuitive. But that was simply to give us more control over our own destiny, our own operation.

Finally, I want to talk about data centers. When I joined Intel, shortly thereafter was the California energy crisis. Of course, we all know that had to do with bad market design and malefactors like Enron. But at the time, a lot of people thought it was data centers. There were a lot of bad data out there about how data centers were the Godzilla that consumes the U.S. electricity grid.

As a result of concerns about limits on our markets, we joined with a lot of the major IT companies and formed the Green Grid, which has developed standards for designing more efficient data centers, locating data centers to be more efficient, and, on our part, designing more efficient chips that run those data centers because, again, 98% of the world's servers run on our chips. As a result of that, EPA two years ago did a study[9] showing that the amount of data being crunched in U.S. data centers has gone up exponentially, but the total amount of electricity

7. 42 U.S.C. §§7501-7515.

8. S. 139, 108th Cong. (2003); S. 1151, 109th Cong. (2005); S. 280, 110th Cong. (2007).

9. Arman Shehabi et al., Lawrence Berkeley National Laboratory, United States Data Center Energy Usage Report (2016), *available at* https://eta.lbl.gov/publications/united-states-data-center-energy.

consumed by those data centers over the past 10 years has actually gone down.

So, that's an example of how we have been able to be successful with an industry-driven initiative in response to a perceived threat and the threat of potentially difficult government regulation. I wanted to end on that note because I think it's been a very successful example.

Jackie Roberts: I enjoyed Mike and Jonathan's book because when I was at Environmental Defense Fund, we did the first-ever partnership between an environmental group and a company. It was working with McDonald's Corporation. The reason McDonald's came to the table was they were being picketed by school children about their packaging. The packaging was being dumped on the lawns of stores, and it was creating major issues for their brand. It was one of the corporate-sector drivers that the book talks about.

In the process of that six-month project, we saw some stunning results that we really hadn't thought about as an effective strategy that were all around this dynamic of private governance. Specifically, one of the things we very quickly discovered is that most of McDonald's use of resources—packaging waste and other things—was all behind the counter. It was the cardboard boxes delivering all of the food and the packaging that was used for sandwiches and smaller packaging.

At the time, cardboard boxes weren't generally recycled. They had no recycled content in them because all the industry players said if you put recycled content into the boxes, they will collapse. They won't hold up on the truck. If you get them wet, there'll be major issues. They won't protect the product. You'll have a lot of losses. So, there was a real concern over functionality of changing.

McDonald's basically said to its entire supply chain, if you can make a box with recycled content, we'll buy it. Within probably six weeks, a small supplier came in and said, yes, we can make a box that's got 20% recycled content in it that meets all of your specs for functionality, wet strength, and so on. McDonald's tested it out. They said great, we'll buy as much as you can make.

Today, cardboard boxes are 50% recycled content. So, we've gone from zero to 50 with no regulation, no enforcement, nothing that had to be followed up on in that time. And then of course, it's also driven the collection of cardboard boxes. Today, we're at around a 90% recovery rate for cardboard boxes when it was probably 10% when all of this started. I think that was a real eye-opener for those of us in the advocacy community about how to use this very powerful dynamic between customers and suppliers, dynamics around brand, and so on.

Where I sit today at Carlyle, where we own about 175 different companies in virtually every sector, there are a lot of different issues. My role is to try and support our companies as they develop strategies around sustainability. These days, the strategy always starts with these questions: What do customers want? What do employees want? What do we see our competitors doing? The competitive dynamic is very strong. Can we do this? There actually are some efficiencies and cost savings.

When you start to put together that universe of motivation, it's pretty easy to start to drive forward on voluntary initiatives. I think that that's where we really see companies moving forward. The book brings together those dynamics and talks about if you could really put them on steroids, those dynamics, what a big difference they could make in our climate problem.

My other thought would be how important it is in this private governance dynamic to remember the feedback loop. It's one thing to make the initial request. But just like when a law is passed, enforcement is a huge part of that strategy. These requests that are being made and that people are taking credit for on their websites and in their marketing, there's got to be follow-through. And then actually either incentives or penalties that go with that so that there is a little more clout behind some of these requests and dynamics.

I think in the telecom sector it's worked really well and that the competitive dynamics are part of that. But in other sectors, I think there needs to be some more work on follow-through.

Cassie Phillips: Those are great examples. I'll take the privilege of the chair here and tell an anecdote about enforcement from the world of supply chain management. Suppliers often get questionnaires from customers about company commitments, procurement policies, reporting, etc., and then follow them up by asking the supplier to sign a certificate saying, essentially, "I did what you asked me to do." I was always curious, as a former contract lawyer, why all these certificates? Why not ask for a warranty? Why not put the requirements in a contract and ask for indemnification, for example, if a supplier's failure to enforce its procurement policies led to harm to the customer? I asked one major customer once about that and their reaction was, oh my goodness, no, that would mean we really had to enforce it. In other words, a certificate was viewed as an easier and softer enforcement tool, which I don't think is the perception among NGOs, for example.

We now get to turn to audience questions. I think almost everyone can answer this first one, which is, what potential is there to coordinate voluntary requirements within a product supply chain? This example probably assumes a single downstream customer buying from a multi-tiered supply chain. Rather than having to push requirements up the supply chain single supplier to single supplier, are there legal ways for the suppliers to coordinate among themselves? It's a challenging legal issue. But can any of you speak to that?

Stephen Harper: That's a huge issue. It's an issue that Intel is in the middle of because we are in the middle of a supply chain. We've got 7,000 suppliers, but we've also

got customers like HP and Apple and others. So, we are both the cause of irritation on the part of some of our suppliers as well as the victim of it as a supplier ourselves.

The Responsible Business Alliance, formerly the Electronic Industry Citizenship Coalition, is a high-tech group that we formed a number of years ago to try and coordinate as much as possible both the requirements and the forms that our suppliers in our industry are asked to fill out so that a supplier, particularly like a third-tier supplier, doesn't end up getting 200 different forms that are, in fact, different from one another. It's been very successful. The enforcement is not collective. The enforcement is unique to each customer supply chain, but, to a large extent, the data, reporting, and auditing are shared.

It's been very successful most recently in dealing with the conflict mineral issue in our industry. We use a lot less conflict minerals generally than the jewelry industry or the auto industry. But the activists came after Intel and Apple because of our brand value. Our chief executive officer (CEO) at the time took this as a top priority issue, and we drove it. We realized we couldn't do it as Intel alone. We had to do it in common with others in our industry. We used that mechanism to drive the standards, the auditing processes for the smelters, and actually inspection of some of the mine sites. So, it's a very successful model that we've used in our industry.

Michael P. Vandenbergh: I can add one point that is not specific to this problem, but goes to the role that ELI can play. I think ELI is really well-positioned to do a program on the application of antitrust law to private environmental governance issues like this. As you've mentioned a couple of times, antitrust law can be helpful, but it can also be a real barrier. Antitrust law tends to be misunderstood, and it can be overapplied as well. There are going to be areas where broader interpretations of antitrust law are the best approach for improving overall social welfare. In other words, we may want certain kinds of coordination to occur in cases where some risk of anticompetitive behavior exists, but where we will get a huge environmental benefit from that coordination.

So, I think it's time for us to rethink antitrust law on some level in light of what we think private governance might be able to do. These kinds of topics are areas where ELI and maybe practicing lawyers and scholars on private governance and antitrust law could organize a joint program. I think that applications of antitrust law to private governance could become a subfield of antitrust law at some level if private governance activities continue to grow at the rate we're hearing about from Steve and Jackie.

Jonathan Gilligan: Another part where there's a lot of room is standards processes. Because if there's a third-party or outside public standards process, then that provides uniformity that everybody can buy into. But without anything like covert coordination among the parties. And we've seen in our environmental work a large role for private sustainability standardization and certification.

Cassie Phillips: Those are excellent points, and I think there is definitely a role for ELI starting with education, because antitrust law around standards is pretty well-settled and the courts like voluntary standards. The antitrust laws favor them. But there are I's you have to dot and T's to cross. There are processes that are highly recommended. If people just had a higher awareness of them from the start, I think they could probably avoid taking risks that they don't need to take. Whether there's really a need for legal reforms, that's a more sophisticated question and worth looking at once we understand the current situation.

I'm not an antitrust lawyer by any means. But it's always interesting to me how little people working in these areas seem to understand that the law applies. I think a lot of that is because the law is so well-settled that it's not talked about very much in the conventional standards bodies like the American National Standards Institute (ANSI) and the International Organization for Standardization. They're so used to it; its part of the wallpaper. But it would be something I'd love to be able to do more on at ELI.

Here's a question for you, Mike: what can state government do to incentivize private governmental initiatives?

Michael P. Vandenbergh: There is a great deal that state governments and local governments can do as well. One example is just to use the procurement system of the state government or the local government to buy those products that might have been subject to a private disclosure standard. That will provide an advantage to goods in that area.

Another possibility is to play a convening role. I think, for example, in the southeastern U.S., there is a great deal of thinking underway about the opportunities arising from new data centers. Often, whether it's Facebook or Google or someone else, they're saying, we'll open a data center in your community, but we want it to use renewable power. Thinking about issues of economic development and industry recruitment, but doing so in ways that will help decarbonize the economy, is something that states can do as well.

Jonathan Gilligan: The example that Mike was just giving is something that we don't usually think about, which is where private governance initiatives by the companies building the data centers is actually influencing the state governance in a greener way.

But another piece of this, I think, that is really important is that state pension funds control a lot of money. There's an increasing interest among a lot of state treasurers in considering the environmental impact of their pension funds, and then using shareholder initiatives to try to engage constructively with the companies they're investing in. That raises a lot of really interesting legal

issues around fiduciary standards. What does it mean to be a fiduciary when you're incorporating the environmental impacts of these pension investments? That's a very active area right now.

Michael P. Vandenbergh: Let me say one last thing, which is that the standard processes of governments still matter a great deal. If you're in a state and you're just enforcing the public law requirements, that's an important backstop for private activity. Steve mentioned that the threat of regulation from the EU is part of what drives Intel's thinking in some situations. That's very important for all companies. Creating a level playing field in your day-to-day activities at the state, local, and federal levels is very important. The private system can do a great deal, but it can't substitute for what the public law system can do over the long run.

If you work in government, you're doing a great deal to further what's going on with the private side even if your own role is simply to go out and enforce existing laws. That provides a foundation for a lot of these other activities.

Cassie Phillips: Steve gave a good example of Intel's plants choosing to be regulated at the state level. That's an interesting incentive.

Stephen Harper: To add a historical note here, I started my career working for the state legislature in Colorado, my home state. This was a long time ago. But I remember the state treasurer in Colorado at the time was a guy named Sam Brown, who kind of disappeared off the radar screen. But he had been an activist in the anti-war movement. He was a scion of the Buster Brown shoe fortune, interestingly enough. But he was the first state treasurer, I think, in the country who decided that he was going to control the funds that the state had and which banks they put the money in for investment holding purposes. He was going to put those funds in banks that met what he termed "social responsibility criteria." A lot had to do with where they lent. Did they lend in the inner city? Did they have a record of not discriminating and redlining in terms of equal opportunity lending, and so on?

There is this whole idea, which is an important one in our shareholder community, that state funds and state pension funds are one of the biggest forces for pressure to be sustainable and to be environmentally responsible. But I think that's where it started, and it's come a long way. Because when Sam Brown first started doing it, he was seen as a Martian, you know. It was a revolution.

Cassie Phillips: Sticking to the topic of government incentives, one thing I found in my work is there are legal questions around government delegation, or deference, to voluntary standards. There are a whole set of federal policies around delegation or deference to formal voluntary, consensus standards—those designated by ANSI or meeting the definitions in the National Technology Transfer and Advancement Act and Office of Management and Budget Circular A-119[10] (for you standards wonks out there). But an unwillingness to delegate can get in the way of creating incentives for voluntary standards. Some EU policies, for example, will explicitly not defer to voluntary standards.

Considering the amount of work that can go into developing voluntary standards, that can be a key issue in whether they're worth doing. I wonder, Mike or Jonathan, if you have crossed that issue in your research. It's a fairly specific question, to what extent does the government deferring to voluntary standards provide an incentive for them, or a disincentive if not?

Michael P. Vandenbergh: That's something we encountered in doing research for the book. But it's not something we looked into or explored in any detail. Let me do a minor segue to one other quick thought. Then, I'll defer to others on the panel about your specific question.

There are many sectors out there that the federal government is highly unlikely to pursue. They aren't yet really part of the private environmental governance revolution. That includes households. We have a whole chapter in our book on this. It need not necessarily be regulation of households. But stimulating advocacy groups, utilities, and others to try to reduce the footprint of households is an enormous opportunity that's not being fully exploited right now.

Similarly, small businesses are off the radar screen of most federal regulators. They're really much more of a state and local issue—private carbon certification schemes for local businesses and things of that nature. Those types of initiatives, if stimulated by state and local governments, could make a big difference in areas where we're unlikely to displace federal action.

Stephen Harper: Can I tackle one aspect of the standards world that I think is worth paying attention to? Standards play a huge role in the IT industry, particularly around interoperability and Bluetooth. We live and die by standards that are developed ideally in certain ways that ensure broad participation. But there is some opportunity sometimes when governments reference private standards. They need to make sure that they're referencing standards that, in fact, are developed in accordance with best practices in the standards world.

There's an example, a program called EPEAT, Electronic Product Environmental Assessment Tool, which is run by an organization in Oregon. The EPEAT standards for electronics are referenced in the Federal Acquisition Regulation (FAR), so they are a requirement. They embed Energy Star and a lot of other things. There have been some cases with high-tech product sectors where the standards that are incorporated have not been developed

10. *See* NIST, Key Federal Law and Policy Documents: NTTAA & OMB A-119, https://www.nist.gov/standardsgov/what-we-do/federal-policy-standards/key-federal-directives.

in accordance with best standards practices that include, for example, broad participation. And because it's referenced in the FAR, it becomes basically the force of law. Under the Barack Obama Administration, they cracked down and made sure that things like that in the FAR were actually being implemented by acquisition and by procurement officers in the federal government.

My point is that not all standards are created equal. Whether it's the federal government or the state or local government referencing private standards, care should be taken to make sure that the procedures that went into the development of what's being referenced really do meet the best practices requirements of the voluntary standards process.

Jonathan Gilligan: Something that you were saying, Steve, makes me think of something that's not implemented by the federal government, but a lot of the criticism that the LEED program ran into is that it's all at the design phase and no part of it is monitoring the building's actual performance.

Cassie Phillips: Part of the challenge with a private-sector initiative is, to the extent government does adopt them by reference or rely on them for procurement, they become pretty darned important in the sector affected. Therefore, the participants can expect controversy. This is again a role for lawyers. The developers will want to be able to go back and show they used the right processes to adopt them and engaged the affected stakeholders, so they have at least procedural arguments that someone unhappy with the result had their chance. There are so many interesting parallels to administrative law.

But here's a question for Jackie and Steve. Please describe how your respective organizations measure and report your climate goals, including for example the use of key performance indicators (KPIs). And other than CDP, describe what voluntary climate reports your companies provide.

Jackie Roberts: We have a couple of different reporting mechanisms. For our larger buyout funds, we're just starting to roll out KPIs and reporting on investments. Depending on the sector and materiality, carbon might be one of those KPIs or it might not. It really just depends on the sector. We use the Sustainability Accounting Standards Board as a guide or a starting place for determining the appropriate KPIs and issues that we would expect the company to be focused on in our underlying portfolio companies.

And then we're the first large private equity firm to be carbon-neutral ourselves. I'm proud that in this day and age in Washington, a company as traditional as The Carlyle Group has stood up and said, this is a problem and we should do our part in being carbon-neutral. We calculate our footprint. We include travel in that because that's a big part of our footprint. A lot of our reductions have been focused around our IT system. We're doing some office renovations and we're getting some reductions in our office footprint from those.

We also use offsets this year where we picked a very specific project investing in truck electrification. Because shipping and trucking is a big part of most of our portfolio companies—how they distribute their goods and services—we supported electrification. So, we do offsets, as well, to hit our carbon-neutral goal.

There is a range of reporting and tracking and monitoring. We do not report to CDP, although some of our underlying portfolio companies do.

Stephen Harper: For Intel, it's not that dissimilar, although we're an operating company as opposed to an investment company. But CDP is the main vehicle we use. It's been a very useful vehicle. We've relied upon it more and more over time. We're currently developing a science-based target that we will report against.

And then we have our corporate social responsibility report I referenced earlier, by which we report annually. We show the trend over time of our emissions against the 80% reduction by 2050 line to show whether we are contributing toward progress in that direction or not. We report that both with and without the renewable energy certificates that we purchase for our electricity in the United States and Europe.

I think it's underappreciated outside the corporate sector that within many industrial sectors there is a tremendous amount of intercompany competition. If activist groups and state and local governments and others can find ways to stimulate that competitive instinct, it can be very powerful. I was at a meeting recently where three companies—Intel, Facebook, and Google—all introduced ourselves by saying that we were the largest purchaser of renewable energy in the United States. All three of us. And I went back to my procurement person. And he said, well, it's different baselines; it's comparing apples and oranges.

Every year, we're going through this process because we're currently developing a next-generation climate commitment. I don't know at what point we're going to roll that out. One of the things we did was we looked at the reporting of other high-tech companies, particularly manufacturing companies. So, we're comparing ourselves to like companies, but not just in the United States. Our biggest competitors are TSMC in Taiwan and Samsung. They don't have the same type of reporting that U.S. companies do. But we used a variety of data centers to try and compare ourselves to them. There is a lot of competition. People are doubling down and increasing the stringency and the ambition of their commitments at least here in the United States based upon wanting to be more sustainable than their next-door neighbor competitor company. That's an important motivating factor within the C-suite.

Michael P. Vandenbergh: One of the interesting things, coming at this from an academic perspective, is that many of the drivers of corporate action that you've heard us talk about here are very difficult to measure empirically, difficult to quantify. The interest in the C-suite reputation, for example, is hard to study. One of the reasons why there isn't even more attention being given to this field is because it's difficult for economists to suss out what role brand plays in this and how that can be accentuated or accounted for in models about corporate and social behavior. This is an area we're very focused on right now. We are trying to get a better handle on what we really mean by brand, how it drives corporate behavior, and what that means for private environmental governance.

Stephen Harper: I think one of the things along this competitive line that's important is what companies can and cannot claim publicly about their environmental or sustainability performance. This has to do with Federal Trade Commission (FTC) standards. I think we're all concerned about greenwashing that can occur if people can make broad claims that aren't in fact defensible. But my impression, historically, has been that the standards at the FTC for what you can claim and the level of proof you need to have gets in the way of being able to make defensible claims.

Years ago, I worked for the old Amoco Oil. We had a premium gasoline that was refined one more step than everyone else's. It was a clear gasoline because we took out the polycyclic aromatic hydrocarbons. We had EPA data from their lab in Ann Arbor, Michigan, to show that this gasoline was marginally cleaner burning than our competitors. But even though we had EPA data and EPA would vouch for the data, we couldn't get the FTC to approve a marketing claim that our gasoline was cleaner. Now, query whether consumers of gasoline were going to be motivated by that environmental claim to buy more of our gasoline, but we couldn't even try that out as a proposition because of the stringency of the FTC requirement. So that, in addition to antitrust, might be an area worth looking at in the legal world.

Jonathan Gilligan: To add to that, on the one hand, you have concerns about credibility in greenwashing. And this is an important place for thinking about, again, some of the independent certifying bodies, as well as legitimate concerns about agency capture.

But there's also a phenomenon I've seen in the literature of brownwashing,[11] which is a little bit like what you were saying about the gasoline where companies will make environmentally beneficial changes but not advertise them, which may be in part because of FTC rules. It may also be in part because of a perception that investors or customers will think that a more green product is either inferior quality or is hurting the bottom line. Also, Mike and I have speculated that some of this may be a company wanting to keep a few things in its back pocket. So, if it gets attacked by activists, they can say, oh, but look, here are these things that we are doing, to be able to respond to criticism. All three of those things may lead to downplaying the things that the company is actually doing.

Cassie Phillips: You're anticipating and answering one of the questions, which is what can be done in the private-sector initiatives to reduce the risk of greenwashing and false environmental claims? ELI had a joint webinar with the National Advertising Division of the U.S. Council of Better Business Bureaus, which is itself a self-regulatory body for advertising claims. They have an interest in the area of green marketing. So, let's talk a little bit about greenwashing. That's a big concern.

Michael P. Vandenbergh: It's a huge issue. One of the things we hope will happen as a result of our book and a lot of other things going on out there is that the funders who support the environmental community, and the environmental community itself, will recognize that a very important role for them to play is to continue to monitor and, frankly, not to knock efforts where someone is trying to do the right thing and falls a little short. Instead, environmental groups should focus on those parties that aren't doing anything or are doing very little and then making false claims about what they have done. We can expect some enforcement activity by the FTC, for example. Yet, in the final analysis, I suspect that there is much more activity that occurs out of fear of exposure and concern about brand reputation in response to either press- or NGO-generated concerns.

This whole field of private governance doesn't function well if greenwashing becomes dominant. You can put up with a little bit of greenwashing on the margin. But if it begins to dominate the whole area, the value of the private response begins to fall apart. So, funders, advocacy groups, and civic and cultural groups play an incredibly important role, as do the traditional and news media, in making sure that we hold people's feet to the fire. Again, we have to be really careful not to just say, hey, if you try to do something great and you only do something good, we're going to knock you on that point. Instead, we also have to look at all those entities that are doing very little while claiming that they're doing quite a bit. That's often where some of the worst greenwashing occurs.

Cassie Phillips: Jackie, if you can draw on your experience in the environmental community, what are the challenges about trying to control greenwashing or encouraging more disclosure of that kind of thing?

Jackie Roberts: It's actually the very first issue I worked on at Environmental Defense Fund because at the time,

11. Eun-Hee Kim & Thomas P. Lyon, *Greenwash vs. Brownwash: Exaggeration and Undue Modesty in Corporate Sustainability Disclosure*, 26 Org. Sci. 705 (2014).

back in 1990, there was an explosion of "ozone-friendly," "environmentally friendly," and the like. I think it is incumbent on everybody in this field to continue to monitor stuff. I just don't see that the FTC has a lot of resources to be following up enforcing where there are some claims that are made that are fairly egregious.

But I'll also say that consumers, customers are much more sophisticated now. I think greenwashing hurts the brand. Once in a while, I'll have one of our companies send something that they want to put out marketing-wise. They're talking about their environmentally friendly products. And I can immediately say, no, you cannot use that language. For example, here's all the impacts that product still has even if it's a waterborne paint instead of a solvent-borne paint. But you can say it's environmentally improved or environmentally preferable to the previous generation.

Stephen Harper: This problem is not just related to advertising claims. There's an oil company that I won't name, but it used to advertise itself as being very green, and it ran into some problems. You know, like a major oil spill in the Gulf, and it was shown not to be as green as they were claiming to be.

I remember a previous CEO when we were trying to get him to be more comfortable with approving us in our annual shareholders report and our corporate social responsibility report—not in advertising, but in other corporate communications—to be able to talk about the things that we were doing that we were proud of. He was very, very cautious about saying too much about any of that stuff because he said, I don't want to be seen as . . . fill in the blank. You know, referencing that company.

I don't think we're unique in that. I don't know if it's brownwashing, but there's underclaiming going on in a lot of major responsible companies because of that fear. That may be a good thing on balance. I don't know. It's to keep some false claims from being made. But it's not just an advertising issue.

Michael P. Vandenbergh: What we found in our research is that a lot of companies are actually doing things that do not make sense if they are only responding to direct consumer demand. They are often meeting certification standards, but they're not labeling their products or claiming benefits from participating in these systems. These companies seem to be trying to buy reputational insurance as much as anything.

Cassie Phillips: This is another area where ELI can really add value by translating some of the law over to make it more accessible for practitioners, just as you all have done in your work.