

Congress of the United States
Washington, DC 20515

January 30, 2019

Ms. Paula DiPerna
Special Advisor
CDP North America
127 West 26th Street, Suite 300
New York, NY 10001

Dear Ms. Paula DiPerna,

I am pleased to invite you to testify before the Committee on Natural Resources at a hearing entitled, "Climate Change: The Impacts and the Need to Act," to be held on February 6th, 2019, at 10:00 a.m. in 1324 Longworth House Office Building, Washington, D.C.

At the hearing, you will be given five minutes to present your oral testimony. You are welcome to submit a longer statement in writing that will be included in the hearing record. After all witnesses on your panel have finished their oral testimony, each member of the Committee will have five minutes to comment and ask questions of witnesses.

Please review the enclosed documents and submit any requested information at least 48 hours prior to the scheduled hearing date. If you have any questions, please feel free to contact the Subcommittee Clerk, Ms. Sarina Weiss, at (202) 226-5504. Thank you for your important contribution to the Committee's work. I look forward to hearing your testimony.

Sincerely,



Raúl M. Grijalva
Chairman
Committee on Natural Resources

Enclosures: Committee Witness Requirements
"Truth in Testimony" Witness Disclosure Form
Rules of the Committee on Natural Resources
Rule XI of the Rules of the House of Representatives

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WRITTEN STATEMENT OF PAULA DIPERNA, Special Advisor, CDP, 6 February 2019

Thank you for the opportunity to testify here today on climate change and the recognition of its economic importance among businesses, investors, and consumers—all, of course, constituents. No doubt the CDP Platform has a touch point with all the states represented here on the Committee and I thank you for your service to the nation.

A word about CDP: CDP-North America, formerly known as the Carbon Disclosure Project, is a non-profit organization that operates for the public good. Today, roughly 500 companies in the US disclose to us and through us quantitative and qualitative information about their environmental performance and imperatives they perceive. Our annual request for this information is standardized and signed by roughly 550 institutional investors, asset owners and asset managers, our signatories, who represent over 94 trillion dollars in cumulative assets, and most of the financial services sector of the world. They use our disclosure as a reference on corporate environmental performance, strategic advantages and vulnerabilities, and a gauge for making investment decisions.

The CDP disclosure platform also provides companies with information needed to benchmark to their peers, and we make this information available to the general public.

If you took a stroll through our data, in sum, you would find more than 15 years of evidence of the do-ability, desirability and necessity of addressing climate change, expressed by companies themselves, as well as evolving corporate, investor and consumer attitudes on the topic.

In short, we are the “go to” platform for companies to disclose how climate change is affecting their businesses. And what affects business affects average Americans directly—floods, power outages and disrupted supply chains means people can’t get to work—who pays them for that time missed? Climate change is, in sum, a here and now issue that will hurt the poor and disenfranchised most of all.

A word about me: My resume is part of my written testimony but suffice it to say here that I have seen the climate change issue from 360 degrees, from coral reefs to carbon markets, literally, having helped spearhead, with renowned economist Richard Sandor, the world’s first integrated cap-and-trade system, the pioneering Chicago Climate Exchange, also known globally as CCX; as well as with oceans pioneer Jacques-Yves Cousteau to visit the first President Bush in the Oval Office and his Cabinet to discuss these issues, resulting in the he US signing the landmark Framework Convention on Climate Change, to which the US remains a signatory even if the US has pulled out of the Paris agreement. This withdrawal has left the US the only nation on earth to stand outside the circle of consensus that climate change must be addressed, not only because of the risks it poses, but the extraordinary opportunities that

addressing it represents as we redesign, retool, rebuild and refit almost all our critical infrastructure, generating jobs and helping the US regain dominance of 21st century technological innovation and manufacturing. For example, In Maryland, Lockheed Martin Corporation, which has more than 590 facilities in 50 US states and employs approximately 100,000 people worldwide, in our disclosure identified the use of lower-emission energy sources as a \$21 billion opportunity.

The International Labour Organization (ILO) forecasts that “24 million new posts will be created globally by 2030,” with the caveat that, “the right policies to promote a greener economy must also be in place for this to happen, along with better social safety nets for workers

Sometimes it is said that American companies are worried about regulation on climate change hurting business. On the contrary, companies are quite concerned about climate change itself, and what they do need, above all is the certainty level playing field established by public policy, especially as all the other nations in the world enact rules that could hamper the ability of a US company to compete as they struggles to smooth out uneven legal and operational requirements across global operations.

I will share with you here a few examples of what key companies are doing or have disclosed about risks they face, and climate change related losses and costs they have incurred already I refer you to my written testimony and CDP itself for further details and examples.

In Arizona and the Colorado River Basin, Arizona Pinnacle West Capital Corporation, which owns Arizona Public Services, with ~6,300 employees and serving 1.2million customers, identified catastrophic fires as an enterprise top risk in 2017-2018, with a potential financial risk of over 50 million dollars. The company said “Risks associated with forest fires are not new, but scientists have indicated that as the global temperatures increase, there is a greater risk of drought and a correlated increase in risk and intensity of forest fires,” they state. “Forest fires could threaten not only communities that APS serves, but also our vast network (35,000 + miles) of electric transmission lines and facilities.... The potential threat is very real.”

In Connecticut: Stanley Black and Decker, employer of nearly 60,000 Americans, stated, “climate change can have potentially devastating impacts on our supply chain should drought or flood occur.” It estimated a potential loss of \$118 million associated with supply chain disruption of primary materials and minerals used in their products from droughts in Chile and droughts and floods in Western Australia alone. SBD lists suppliers in USA, Israel, Brazil and Mexico as being potentially affected by drought.

In Ohio, American Electric Power Company, responsible for employing 17,500 people, and serving five million customers across 11 states, including Texas, West Virginia, Louisiana, and Kentucky, has disclosed:

“Climate change risk is considered a major and material issue for AEP,” adding “AEP has invested to ensure its system is reliable and resilient over more than a century. However, as the generation fleet transitions to lower carbon and intermittent resources and other infrastructure ages, additional capital investment is needed for resiliency. Additionally, public discourse about climate-related weather events has also prompted public interest in resiliency investment.” And in 2017, about regulatory uncertainty, AEP said, “Additionally, in recent years, legal challenges to almost every major EPA rulemaking have added additional uncertainty and cost. This uncertainty can lead to uneconomic decisions being made during the planning process as the ultimate goals are subject to change. These uneconomic decisions will lead to increased capital and operating costs. While general environmental regulations mentioned above will have a large impact on AEP operations, the uncertainty regarding climate regulation or legislation is a more challenging risk to manage.”

In Texas, companies such as Chevron, Dupont, and Total described risks in their CDP disclosure pertinent to the need for storm barrier protection for oil facilities.

In Florida, Jacksonville-based Harris Corporation, with close to 17,000 employees, identifies increased severity of extreme weather events such as storms, cyclones and floods risks as a current and direct risk to its operations. Their disclosure states “For data centers, reduction in operational efficiency and increased component failure rates as increases in average temperatures and associated humidity will affect baseline design parameters. For example, the loss of ambient cooling potential. Changes in humidity may also lead to changes in patterns and rates of equipment corrosion. Higher humidity levels may also lead to new requirements to maintain internal environments within system tolerance ranges, as excess condensation can cause short-circuiting or water ingress.” Harris also said it will, “expand the scope of events we consider in our planning to include more frequent and unusually disruptive storms in these locations, as well as the impacts of increased/more severe winter storms on our operations in the Midwest and Northeast.”

Also of general interest, in 2017, 96 companies disclosing to CDP disclosed that they have set an internal carbon price, indicating that they accept and understand that greenhouse gas emissions carry a hidden cost to their business which they seek to make visible using a projected surrogate cost, an internal carbon price. 245 companies have stated they would disclose their internal carbon pricing by 2019. And many companies using this internal mechanism indicate they do so because they wish to be better prepared for eventual regulation and/or are operating in a jurisdiction where they already face mandatory requirements, such as in the EU or in China.

Among the companies using an internal carbon is Oklahoma Gas and Electric, which employs 2500 people and serves more than 800,000 electricity customers. Citing opportunities ahead, OG&E also disclosed that it “has leveraged its advantageous geographic position to develop renewable energy resources and completed transmission investments to deliver the renewable energy. The Southwest Power Pool (SPP) has begun to consider and authorize the construction of transmission lines capable of bringing renewable energy out of the wind resource area in western Oklahoma, the Texas Panhandle and western Kansas to load centers by planning for more transmission to be built in these areas.”

In fact, given the links between drought and water availability, and anticipated scarcities in predictable water supply, 88 companies have also begun using internal water prices to better gauge rising costs and risk

Also, of general interest, far from denying the science of climate change, companies are bending over backward to establish reduction targets that are in line with the demand of climate change science on the scope and rate of emissions reductions, known as Science Based Targets or SBTIs. As of the end of 2018, 150 disclosing companies disclosed they had or were in the process of setting SBTs, as compared to 128 companies in 2017 and 88 in 2016.

With regard to disruption of supply chains due to extreme and unpredictable weather, some may question whether there is a direct link between changing climate and the increases in extreme or unpredictable weather we have been experiencing of late, but the preponderance of scientific evidence establishes a strong likelihood. Some examples of what companies anticipate follow:

Johnson and Johnson, headquartered in New Jersey and employing 134,000 people, states “changes to global climate, extreme weather and natural disasters could affect demand for our products and services, cause disruptions in manufacturing and distribution networks, alter the availability of goods and services within the supply chain, and affect the overall design and integrity of our products and operations.”

Michigan based GM, employing 180,000 people, has an “active” crisis center that “watches the weather 24/7” and begins contacting suppliers when extreme weather events are forecasted, the system was partly developed in reaction to the Tōhoku earthquake and the Thai floods in 2011. “People felt pretty good because none of our production or manufacturing facilities were in the way,” but those events impacted both GM’s direct suppliers and the suppliers of its suppliers.

In Georgia, Atlanta-based Coca-Cola Company employs over 90,000 Americans. Coke and its bottling partners use many key ingredients in the manufacture and packaging of their beverage products, that are derived from agricultural commodities such as sugarcane, corn, sugar beets, citrus, coffee and tea. Coca-Cola has stated “Increased demand for food products and decreased agricultural productivity in certain regions of the world as a result of changing weather patterns may limit the availability or increase the cost of such agricultural commodities and could impact the food security of communities around the world.... the affordability of our products and ultimately our business and results of operations could be negatively impacted.”

In Nevada, even Caesar’s Palace is not immune from climate change impacts. Its parent company, Caesar’s Entertainment in Las Vegas, foresees increased operating costs as “virtually-certain” in the short-term due to increasing temperatures and reduced precipitation in areas where water resources are more limited such as the U.S. southwest and their properties in Southern Africa and Egypt. Caesar spends “approximately \$15 million per year on water utilities, a 10% increase in water prices due to increasing temperature causing water supply issues would represent a cost increase of up to \$1.5m.” Rising mean average temperature will impact Caesars supply chain. “Caesars requires a steady stream of fresh produce and other food sources to stock our restaurants and kitchens. Our supply chain has been impacted by temperature fluctuations that have cause us to source from alternative suppliers. The relative magnitude has thus far been low on our total business operations. However, if enough suppliers face major climate related impacts the future magnitude could be substantial.”

In fact, this very day in Las Vegas, we are conveying a conference on protecting supply chains and other related issues in Las Vegas co-sponsored by Caesar’s, to be attended by concerned large procurement entities as Walmart, Los Angeles Department of Water and Power, Johnson & Johnson and JBS, a \$28 billion dollar meat packaging and distribution company with 78,000 employees or so.

With regard to supply chain disruption, the source of risk is eclectic and widespread, and many US companies have acknowledged this likelihood as credible for some time.

For example, as early as 2014, the year before the Paris agreement was signed, we issued a report specifically focused on these disruptions and risks cited literally ranged if not from soup to nuts, soup to tomatoes.

For example, Campbell’s Soup cited water risks and climate change for all its products due to threats to agriculture and Con Agra told us literally, “we have experienced weather-related sourcing challenges, such as delayed tomato harvesting due to unseasonably cool weather.”

Gap and the VF Corporation told us that both drought and its opposite, increased precipitation, had reduced cotton production in India and China, and were contributing factors in the rise of global product prices.

Sears, ill-fated, told us as early as 2011 that it faced more than \$14 million in expenses just from repairing and replacing buildings and goods that were the direct or indirect result of extreme weather, as well as another \$8.7 million due to flood damage that year alone.

Dr. Pepper Snapple Group said, “water is the main ingredient in substantially all of our products and climate change may cause water scarcity and a deterioration of water in areas where we maintain operations...a portion of our cost of sales, or \$2.5 billion, could be at risk through increased costs to our supply chain.” Concerns about water issues laced through the disclosures of Pepsi Co and other beverage companies as well.

And, after super-storm Sandy in the New York area, the venerable utility Con Edison reported that the costs of restoration in just two counties, Orange and Rockland, were \$431 million and \$90 million respectively.

Obviously, events such as these affect the lives of people directly in myriad ways we have seen, from blackouts to hospital patients having to be evacuated in their beds to costs passed on to consumers, loss of work days etc.

As to investors and the capital markets, of substantial recent note, Moody's, which by its own wording "strives to be the rating agency of choice," issued just recently in January this year its General Principles for Assessing Environmental, Social and Governance Risks, to better inform its users in this evolving field cited the bankruptcy filing by PG&E, which employs 20,000 people, related to the catastrophic forest fires in California. Moody's said "...From a climate-related time horizon perspective, it could [also] be argued that the effects of climate change crystallized into event risk more rapidly than PG&E expected, adding, "We highlighted this in 2018, when we noted that 'long term climate change risks like droughts and wildfires are manifesting faster than regulators and legislators can react to protect [PG&E] from exposure."

Also just last month, Standard and Poor's ratings stated "we lowered our credit rating on Edison International and its subsidiary Southern California Edison...and placed all of our ratings on the companies on Creditwatch with negative implications" which "reflects the increased likelihood that Edison will continue to experience catastrophic wildfires due to climate change." S&P similarly downgraded San Diego Gas and Electric Company, for the same reasons. Subsequently, Fitch Ratings also revised its rating outlook for Edison International, from stable to negative adding "Given the unprecedented size of recent wildfires, future multi-notch downgrades cannot be ruled out."

These credit ratings changes may seem far from the American people, but in fact they reflect a drain on financial stability and borrowing power of key employers and infrastructure providers, not so much linked to the longer term impact climate change but the here and now impact of related unpredictable and extreme weather events—causing hardship and heartbreak for the ordinary Americans who suffer loss of life and property.

Yet, on the other hand, recognizing that addressing climate change is essential to long term financial value creation, mainstream investors are also recognizing the significant upside of shifting capital to companies that take environmental and social factors into strategic account in their business management. According to the Sustainable Investment Forum of the US, for example, which tracks relevant data:

"Sustainable, responsible and impact (SRI) investing in the United States continues to expand at a healthy pace. The total US-domiciled assets under management using SRI strategies grew from \$8.7 trillion at the start of 2016 to \$12.0 trillion at the start of 2018, an increase of 38 percent. This represents 26 percent—or 1 in 4 dollars—of the \$46.6 trillion in total US assets under professional management."

And, in a basic core indication of how integrated low carbon efficiency has become, the S&P 500 carbon efficient index, which overweights carbon efficient companies and underweights carbon intensive companies, is now tracking virtually to a T with the venerable classic S&P500, an alignment that indicates if nothing else that it does not cost mainstream companies or their shareholders, if low carbon intensity and energy efficiency are prioritized. On the contrary.

And as for constituents and consumer preferences, CDP disclosure can also shed light.

Minnesota headquartered Best Buy reported that by promoting ENERGY STAR certified products, Best Buy US helped its customers realize utility bill savings of more than US\$45 million in 2018. ENERGY STAR is a response to the increased demand for low-carbon products.

And Ohio-based American Electric Power Company states: "AEP has increasingly seen customers look to deploy low or no-carbon generation resources as a means of supplanting, replacing, or offsetting electricity provided by AEP. AEP is actively pursuing deploying utility-scale and community scale distributed resources which provide our customers with a more cost-effective solution in utilizing low and no-carbon energy."

PepsiCo says: “Any negative perception (whether valid or not) of PepsiCo’s response to climate change or water scarcity could result in adverse publicity and could adversely affect PepsiCo’s business, financial condition or results of operations. Changes in consumer preference, for example, due to a negative reaction to PepsiCo’s reputation relative to the environment could adversely affect PepsiCo’s business, for example, a one percent impact on PEP’s market value (defined as our market capitalization) would equate to ~\$1.6 billion.”

I could go on and on. But will not. In sum climate change is present and costly to companies and average Americans, and the US has made itself more vulnerable, not less. Thank you and I will be glad to answer any questions.

Paula DiPerna

Special Advisor, CDP North America

Direct: 1-212-688-0942

+1 212 378 2086 | paula.diperna@cdp.net

www.cdp.net | [@CDP](#) | [CDP LinkedIn](#)

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PAULA DIPERNA/Bionote/2019 paula.diperna@cdp.net

Paula DiPerna is a strategic global environmental and philanthropic policy advisor, and writer. She serves currently as Special Advisor to CDP (formerly known as the Carbon Disclosure Project). In addition, Ms. DiPerna is a member of the Board of Advisors of Global Kids, based in New York City, whose mission is to develop global citizenship. She also serves on the Circle of Advisors of Rachel's Network, which links women philanthropists who have environmental interests. DiPerna also served on the Board of Advisors of the NTR Foundation, based in Dublin, Ireland, which was dedicated to environmental grant making. In 2018, Ms. DiPerna was a Visiting Fellow at Civic Exchange, Hong Kong, focusing on emerging issues in green finance in Asia.

Ms. DiPerna served formerly as President of the International division of the Chicago Climate Exchange (CCX), a private company that pioneered emissions trading worldwide, with special responsibility for China, India, and Asia. DiPerna also served as President of the Joyce Foundation, a major public policy philanthropy known for innovation; Executive Vice President for Recruitment and Public Policy of CCX; and Vice President for International Affairs for the Cousteau Society, whose principal was oceans pioneer Jacques-Yves Cousteau.

While at CCX, DiPerna led the expansion of corporate membership, as well as domestic and international policy efforts. She has extensive experience in China, where she helped negotiate the joint venture that created the Tianjin Climate Exchange (TCX) with CCX Chairman, financial innovator Dr. Richard L. Sandor, in partnership with China National Petroleum Corporation (CNPC) and the first of China's pilot emissions trading markets. DiPerna also served on the TCX founding Board of Directors. CCX, founded by Dr. Sandor, began emissions trading in 2003 and was the world's first and North America's only integrated greenhouse gas emissions reduction and trading system.

As President of the Joyce Foundation, Ms. DiPerna oversaw all grant making and operations, representing roughly \$40 million in annual philanthropy.

As Vice-President for International Affairs at the Cousteau Society, Ms. DiPerna was responsible for all aspects of national and international environmental policy, and interacted extensively with the U.S. Congress, Heads of State, and the United Nations. While at the Cousteau Society, Ms. DiPerna also wrote and co-produced a dozen Cousteau documentary films. She has traveled extensively globally with Cousteau teams, and lived for one year in the Amazon regions of Brazil, Colombia and Peru, where she oversaw and planned expedition activities.

DiPerna also served as Strategic Advisor to the landmark Intellectual Property Exchange International (IPXI), which was the world's first exchange for the licensing and trading of unitized intellectual property rights (ULRs). She has also been a consultant on environmental matters to the World Bank, the Global Environment Facility and LEAD- International, among other organizations. Ms. DiPerna also founded the Jobs and Environment Initiative, which quantifies jobs creation benefits of environmental activities nationally and in various U.S. states. DiPerna was a candidate for the US Congress, and also won an Eisenhower Fellowship, an international program for emerging leaders and spent time in Hungary, Slovakia and the Czech Republic studying emerging environmental journalism and public policy in Central Europe. DiPerna has also won a Rockefeller Foundation Bellagio Society residency to develop her work in environmental finance.

Paula DiPerna is a frequent public speaker, media commentator, guest lecturer and teacher, and panelist. She is widely published in magazines and newspapers, and the author of a novel and several non-fiction books. "Cluster Mystery: Epidemic and the Children of Woburn, Mass" (Mosby, 1985) became a touchstone of environmental epidemiology. She is a contributor and columnist for various publications, including www.wealthasia.net, a leading publication for Asian investors. Ms. DiPerna is a member of the Women's Forum of New York, and the Council on Foreign Relations and is based in New York City.

(2019)

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