

*Prepared Statement of*  
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**Commissioner, Commodity Futures Trading Commission**  
*before the*  
**House Select Committee on the Climate Crisis**  
**“Creating a Climate Resilient America: Strengthening the U.S. Financial System and  
Expanding Economic Opportunity”**  
**Thursday October 1, 2020 1:30 p.m.**

Chair Castor, Ranking Member Graves, and members of the committee, it is an honor to appear before you today to discuss creating a climate resilient America through strengthening the U.S. financial system and expanding economic opportunity. Before I begin, please recognize that the views I express today are my own and do not represent the views of the CFTC, its staff, or my fellow Commissioners.

The critical work of this committee and the topic of today’s hearing could not be timelier. As of Tuesday, wildfire activity continued in 10 western states where 70 large fires have burned more than 3.9 million acres,<sup>1</sup> and the Gulf Coast is still reeling from the damage of Hurricanes Laura and Sally. Data from NASA satellites confirms that 2020 fire activity in California, Oregon, and Washington State has broken several records in both size and scope.<sup>2</sup> In particular, a review of the data collected since 1997 indicates that 2020 is the highest year of fire carbon emissions for California, and, notably, this figure only reflects activity through September 11<sup>th</sup>.<sup>3</sup>

The impact of wildfires on air quality has led to the use of the word “airpocalypse” to describe the dangerously high particulate pollution in parts of the United States, a term that in the past has only applied to other countries.<sup>4</sup> The impact of airpocalyptic conditions on human health and welfare is indisputable. Even as this country continues to battle COVID-19 with its own litany of impacts on respiratory function, Oregon hospitals recently reported a 10% increase in emergency room visits for breathing problems related to air quality.<sup>5</sup>

These are all manifestations of the physical risks associated with changing climate and extreme weather events. But how is an “airpocalypse,” or climate risk generally, understood and accounted for in the financial markets? And, why is a financial regulator in the right position to

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<sup>1</sup>*Fire Information*, NATIONAL INTERAGENCY FIRE CENTER, <https://www.nifc.gov/fireInfo/nfn.htm> (last visited Sept. 29, 2020).

<sup>2</sup> *Historic Fires Devastate the U.S. Pacific Coast*, NASA EARTH OBSERVATORY, <https://earthobservatory.nasa.gov/images/147277/historic-fires-devastate-the-us-pacific-coast> (last visited Sept. 29, 2020).

<sup>3</sup> *Id.*

<sup>4</sup> Blacki Migliozi, Scott Reinhard, Nadja Popovich, Tim Wallace, and Allison McCann, *Record Wildfires on the West Coast are Capping a Disastrous Decade*, N.Y. TIMES (Sept. 24, 2020), <https://www.nytimes.com/interactive/2020/09/24/climate/fires-worst-year-california-oregon-washington.html>.

<sup>5</sup> *Id.*

move this conversation forward? Before I answer these questions, I'd like to provide a bit of background.

## **Background and Beginnings**

I serve as a Commissioner at the Commodity Futures Trading Commission, or the CFTC. The CFTC is a bipartisan, five-member independent federal regulatory agency that serves as the primary U.S. derivatives market regulator. Derivatives, which include futures, options, and swaps, are financial contracts that derive their value from an underlying asset, ranging from a variety of commodities including wheat, natural gas, gold, interest rates, and bitcoin. Derivatives are critical risk management and price discovery tools that touch nearly every corner of our economy, from the price of bread to gas at the pump.

The CFTC's mission is to foster open, transparent, competitive and financially sound markets; prevent and deter price manipulation and other disruptions to market integrity; and to protect all market participants and the public from fraud, manipulation, and abusive practices.<sup>6</sup> When the CFTC was established as an independent agency in 1974, most futures trading took place in the agricultural sector.<sup>7</sup> Today, the portfolio of derivatives is much more diverse, with the vast majority of the contracts being financial in nature, including global currencies, interest rates, and financial indices. Like the contracts themselves, the market participants also vary, including banks, institutional investors, manufacturers, farmers and ranchers, and energy companies.

With a previous background as a congressional aide focused on both financial services policy and agricultural policy, including the 2014 Farm Bill,<sup>8</sup> the multitude of risks related to climate change faced by farmers, ranchers, and the entire value chain has been at the forefront of my thinking since joining the Commission in 2017. Weather and climate present the greatest, consistent—yet uncertain—risks to the agricultural economy and rural communities. More frequent and more severe extreme weather events, from flooding, hurricanes, and tornadoes, to wildfires have presented a growing set of longer term challenges that require a different way of assessing long-term risk management and the policies to support it.

At the CFTC, when we think about financial market risk we are required to think about scenarios that are “extreme but plausible.” What if there were years in which wildfires impaired the economy of the Western states, record flooding in the Midwest shocked the agricultural engine of the country, and Gulf Coast and East Coast Hurricanes destroyed coastal property? And what if these events happened in quick succession, or, even worse, but still plausible, *and this is key*, what if they happened at the same time? Beyond the implications for our lives, health, safety, and national security, would our economy and the financial markets that underpin it be able to

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<sup>6</sup> See Section 3 of the Commodity Exchange Act, 7 U.S.C. 5.

<sup>7</sup> About the Commission, COMMODITY FUTURES TRADING COMMISSION, <https://www.cftc.gov/About/AboutTheCommission> (last visited Sept. 29, 2020).

<sup>8</sup> Agricultural Act of 2014, Pub. L. No. 113-79, 128 Stat. 649 (2014).

withstand such withering and debilitating shock? And, more to the point, what could or should policy makers do about it?

Like many other agencies and departments, the CFTC has active and insightful Federal Advisory Committees, authorized under the Federal Advisory Committee Act,<sup>9</sup> which provide outside input and make recommendations to the Commission on regulatory and market issues. Our advisory committees are comprised of industry participants, subject matter experts, and stakeholders in the markets we oversee. I have proudly served as the sponsor of the Market Risk Advisory Committee (MRAC) since I arrived at the Commission. During my tenure, the MRAC has convened to address a variety of matters, including the impending transition away from the London Interbank Offered Rate, more commonly known as Libor, market structure issues, and clearinghouse risk issues.

The MRAC advises the Commission on matters relating to evolving market structures and movement of risk across the derivatives markets. It examines systemic issues that threaten the stability of the derivatives and other financial markets. The MRAC is therefore perfectly situated to explore the links between climate change and financial market risk, and what role policy makers should and could play to mitigate these more extreme, emerging risks, specifically with respect to financial market participants.

In June of 2019, the MRAC held a public meeting on the relationship between climate change and financial market risk.<sup>10</sup> I left that informative day with three fears confirmed: 1) climate risk manifests in the financial markets in multiple and sometimes amplifying ways; 2) the U.S. financial regulators were far behind their global counterparts; and 3) much more work needed to be done to examine the potential risks that might demand a policy response. It turns out that central banks and financial regulators across the world have been working on this issue for years, but in the U.S. we are only at the very nascent stages. I'd like to recognize the leading work of the Bank of England in this space, and a number of excellent papers they have authored on this topic.<sup>11</sup> Additionally, the Bank for International Settlements, the Network for Greening the Financial System, and the Financial Stability Board's Task Force on Climate-related Financial Disclosures have also done superb work in this space.<sup>12</sup>

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<sup>9</sup> Federal Advisory Committee Act ("FACA"), as amended, 5 U.S.C. App. 2.

<sup>10</sup> Information on all of the MRAC meetings, including press releases, archived webcasts, and presentation materials are available at

[https://www.cftc.gov/About/CFTCCommittees/MarketRiskAdvisoryCommittee/mrac\\_meetings.html](https://www.cftc.gov/About/CFTCCommittees/MarketRiskAdvisoryCommittee/mrac_meetings.html).

<sup>11</sup> *Climate Change*, BANK OF ENGLAND, <https://www.bankofengland.co.uk/climate-change> (last visited Sept. 29, 2020).

<sup>12</sup> See Patrick Bolton, Morgan Despres, Luis Awazu Pereira da Silva, Frédéric Samama, and Romain Svartzman, *The Green Swan: Central Banking and Financial Stability in the Age of Climate Change*, BANK FOR INTERNATIONAL SETTLEMENTS (Jan. 2020), <https://www.bis.org/publ/othp31.pdf>; *Origin and Purpose*, NETWORK FOR GREENING FIN. SYS., <https://www.ngfs.net/en/about-us/governance/origin-and-purpose> (last visited Sept. 29, 2020); THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES, <https://www.fsb-tcfd.org/> (last visited Sept. 29, 2020).

To more fully focus on the issues and ensure we were able to gather the right mix of stakeholders, I immediately began the process of forming the Climate-Related Market Risk Subcommittee of the MRAC. After unanimously confirming its formation and charge, and soliciting the public for membership nominations,<sup>13</sup> the CFTC unanimously confirmed its membership in November, 2019.<sup>14</sup> I charged the Subcommittee with exploring the relationship between climate risk and financial market risk, and asked that it produce a report with findings and recommendations to address the risk.

The Subcommittee membership includes 34 professionals from banking, asset management, insurance, a credit rating company, agricultural and energy markets, data providers, environmental groups, and academia, singularly focused on climate change, adaptation, public policy, and finance. Identifying a chairperson of the Subcommittee was a critical step, and I could not have been more fortunate with Dr. Bob Litterman's willingness to serve as the Subcommittee chair.

Dr. Litterman's professional career has spanned more than four decades and across many disciplines, including economics, finance, and risk management. Dr. Litterman spent 23 years at Goldman, Sachs & Co., where he served in research, risk management, and investments, including the head of the firm-wide risk function, and as the co-developer of the Black-Litterman Global Asset Allocation Model with Dr. Fischer Black. After leaving Goldman, Bob became a founding partner at Kepos Capital, a New York City based macro investment firm, shifting much of his focus to addressing the risks of climate change. Concerned with the inadequate manner in which society addressed climate risk, Bob, as an economist and risk manager, has strongly advocated for appropriate incentives to reduce carbon emissions, through a price on carbon. This unique mixture of expertise in finance, risk management, economics, and climate change risk made Bob the perfect candidate to lead the effort, and we should all be grateful to him for his service.

The Subcommittee represents a diverse and broad coalition of stakeholders that includes some of the sharpest minds on climate related financial market risk and also represents a novel, comprehensive, and inclusive public sector supported effort to study and address climate risk issues. I am grateful to each of the members for their commitment to the effort, and their willingness to step up and tackle a difficult issue during an unprecedented time in our country's history.

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<sup>13</sup> See Press Release Number 7963-19, CFTC Commissioner Behnam Announces the Establishment of the Market Risk Advisory Committee's Climate Related Market Risk Subcommittee and Seeks Nominations for Membership (July 10, 2019), <https://www.cftc.gov/PressRoom/PressReleases/7963-19>.

<sup>14</sup> See Press Release Number 8079-19, CFTC, CFTC Commissioner Rostin Behnam Announces Members of the Market Risk Advisory Committee's New Climate-Related Market Risk Subcommittee (Nov. 14, 2019), <https://www.cftc.gov/PressRoom/PressReleases/8079-19>.

The Subcommittee held two in person meetings beginning 10 months ago before the COVID-19 pandemic, and then held monthly, then weekly, and then almost daily telephonic meetings as they conducted their work. I received updates on their progress throughout the process. When I asked for a consensus document, I knew that was a high bar to achieve. However, I was very pleased, when in early September, the Subcommittee voted unanimously, 34-0, to approve the 165 page report.

In the months preceding the vote, there were many reasons to doubt the Subcommittee would meet its goal, specifically with the scope and charge of the Subcommittee. Many outsiders thought arriving at consensus with members from such diverse parts of the economy and market was simply not feasible. But, I was optimistic and determined given the seriousness of the issue and the need for action. More importantly, as a result of the dedication, skill, and creativity of each of our members, adept leadership and diplomacy by the Chairman, the cogent writing of the work stream leads, and the grit, determination, and wisdom exhibited by our talented editorial team, the Subcommittee produced what I am very proud to present to you today.<sup>15</sup>

Before I turn to the report itself, I would like to take a moment to recognize and thank my Chief of Staff, Mr. David Gillers. David joined my office in July, 2019, and in many respects has shepherded this initiative from his very first day at the CFTC. David's commitment and belief in the Subcommittee's success has been steadfast, and his comprehensive understanding of the policy issues is a significant part of why we are here today. I'd also like to recognize and thank John Dunfee, Laura Gardy, and Alicia Lewis for their tireless work and support.

## **The Report**

*Managing Climate Risk in the U.S. Financial System* (the "Report") is a first-of-its kind document. This is the first time an advisory coalition representing a broad swath of the U.S. economy has come together under the leadership of the federal government, presented a consensus view diagnosing climate-related financial market risk, and outlined a roadmap to directly tackle the problem. Fortunately for us, the members were not bashful in what they have recommended.

A few of the critical findings of the Report:

1. Climate change poses a major risk to the stability of the U.S. financial system and to its ability to sustain the American economy.
2. U.S. financial regulators must recognize this, and should move urgently and decisively to measure, understand, and address this risk.
3. The financial system can be a catalyst for investment that accelerates economic resilience and the transition to a net-zero emissions economy.

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<sup>15</sup>*Managing Climate Risk in the U.S. Financial System, Report to the CFTC's Market Risk Advisory Committee by the Climate-Related Market Risk Subcommittee* (Sept. 2020), [https://www.cftc.gov/About/AdvisoryCommittees/MarketRiskAdvisory/MRAC\\_Reports.html](https://www.cftc.gov/About/AdvisoryCommittees/MarketRiskAdvisory/MRAC_Reports.html) (the "Report").

The Report provides 53 policy recommendations, several of which I will highlight in a moment. But before I do, I'd like to establish a few threshold matters that the Report makes clear.

First, the Report establishes at the outset that it calls for policy and regulatory choices that are “flexible, open-ended, and adaptable to new information about climate change and its risks, based on close and iterative dialogue with the private sector.”<sup>16</sup> In other words, there is much about climate risk that we are still learning, and policy makers must adapt to new information in real time. This is by no means an argument to delay action; indeed, the case for urgent and immediate action is clear. But, that action must be prudent and thoughtful, accompanied by continued evaluation and consultation.

Second, the Report recognizes that climate change already has placed disproportionate burdens on the low and moderate income households and historically marginalized communities. This is why the framing of every one of the recommendations, and indeed, the entire Report, considers impacts on low-to-moderate income households and marginalized communities. Any policy prescription must not exacerbate existing inequitable burdens of climate change. This is absolutely critical in ensuring the actions the government takes do not make the problem worse.

Finally, COVID-19 hit the Subcommittee as it did every other corner of our country, but there are lessons learned from the pandemic that are applicable to the climate discussion.

We should take note of the lessons learned from the Covid-19 pandemic: the importance of being decisive leaders, supporting and creating resilient stakeholders, of ensuring the availability of timely, consistent, and improved information, and of innovating to ensure our financial models build in risks and scenarios that are extreme but plausible in the near and longer term.

If we start building better equipped financial systems now that both acknowledge and account for the inevitable impacts of climate change, we can be positioned to avoid the need for extreme shifts in balance sheet management and fiscal and monetary policy.

### **Recommendations:**

The first recommendation of the Report is also the one that requires Congressional action: The U.S. should establish a price on carbon. The Report highlights that “[t]his is the single most important step to manage climate risk and drive appropriate allocation of capital.”<sup>17</sup>

As the Subcommittee’s chairman, Dr. Litterman has pointed out on several occasions, “financial markets do an amazing job of allocating capital in the direction of the incentives that they are given.”<sup>18</sup> And that is why, when incentives are appropriate, they can help lead to innovation, improvements in health and safety, and quality of life the world has never seen. But when the

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<sup>16</sup> *Id.* at ii.

<sup>17</sup> *Id.* at vi, 9, and 123.

<sup>18</sup> *Id.* at xix.

incentives are mis-aligned, as in the case of carbon emissions, there is a market failure, and the incentives go in the wrong direction, things begin to break down.

A negative externality is a cost imposed on someone outside of a specific transaction.<sup>19</sup> Carbon emissions are a perfect example of a negative externality. Emissions impose significant costs on society in the form of current and future climate impacts, but the markets have not priced in this cost. In other words, the costs of burning fossil fuels and “other emitting activities have been treated until now as if they were ‘free’.”<sup>20</sup> When a negative externality is identified, “there is a role for the government to ensure those externalities are reflected in prices.”<sup>21</sup> Without a cost in place, “financial markets lack the most efficient incentive mechanism to price climate risks.”<sup>22</sup> Though a price on carbon is the single most consequential action policy makers could take to address climate risk, this recommendation serves as the context for the Report, rather than its focus.

In the absence of a price on carbon, there is still an urgent role for regulators. The Report points out that “financial regulators should actively promote, and in some cases require, better understanding, quantification, disclosure and management of climate-related risks by financial institutions...and other market participants.”<sup>23</sup> Regulators today have the authority to implement these requirements. The Report argues for critical action regarding disclosure, stress testing, scenario analysis, and governance.

Another key recommendation of the Report is international collaboration and harmonization. The U.S. is not alone in facing this challenge, nor are we alone in identifying policy solutions. When it comes to pricing carbon, disclosures, stress testing, and scenario analysis, it’s critical that we approach this together with our international partners. There are a host of international organizations active in this space. However, as the Report points out, the U.S. “is a reluctant participant in these efforts, and in some cases, it is absent.”<sup>24</sup> This seems illogical given the size of the U.S. capital markets, which are the largest in the world. Indeed, “[t]he largest futures exchange in the world is based in the United States.... Four of the five largest asset managers are based in the United States, and the United States represents the largest insurance market globally by premium volume. Without active leadership by U.S. regulators and financial institutions, the mission of prudent climate risk management will remain incomplete at best.”<sup>25</sup>

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<sup>19</sup>See *Externalities- The Economic Lowdown Video Series Episode 5*, FEDERAL RESERVE BANK OF ST. LOUIS, <https://www.stlouisfed.org/education/economic-lowdown-video-series/episode-5-externalities> (last visited Sept. 28, 2020).

<sup>20</sup> Report at 4.

<sup>21</sup> *Id.* at xix.

<sup>22</sup> *Id.* at 4.

<sup>23</sup> *Id.* at 120.

<sup>24</sup> *Id.* at 121.

<sup>25</sup> *Id.* at 8.

Perhaps my favorite chapter is the last, which focuses on opportunities in financing the net-zero transition. Unlike many existing reports, the Report does not just focus on the downside risks. It makes the case that structural changes and market innovations can expand capital flows to sustainable finance solutions.<sup>26</sup> And in the process, create significant employment opportunities. By one estimate, the total worldwide investment needed in energy infrastructure to meet the Paris Agreement goal by 2050 (limiting warming to “well below” 2 degrees Celsius) is \$110 trillion. That’s roughly 2% of average global GDP per year. That could translate to enormous economic opportunities, according to the Report.

I’ll end my remarks with an observation from the Report that captures the seriousness and urgency at hand: “A world racked by frequent and devastating shocks from climate change cannot sustain the fundamental conditions supporting our financial system.”<sup>27</sup>

The good news, though, is that we have virtually all of the tools we need to start our work. With the exception of a price on carbon, according to the Report, “existing legislation already provides U.S. financial regulators with wide-ranging and flexible authorities that could be used to start addressing financial climate-related risk now.”<sup>28</sup> As this Committee’s Majority Staff Report<sup>29</sup> has called for the Report to be provided to various congressional committees, I strongly believe all congressional committees with relevant oversight jurisdiction should consider the policy recommendations.

As one observer noted, we missed the subprime mortgage crisis which led to the Great Recession; we missed the COVID-19 crisis which has led to catastrophic loss of human life and economic shock; let us not miss the climate crisis.

Thank you for your time. I am happy to take any questions.

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<sup>26</sup> Report at 103.

<sup>27</sup> *Id.* at 2.

<sup>28</sup> *Id.* at iii.

<sup>29</sup> SELECT COMM. ON THE CLIMATE CRISIS, 116<sup>TH</sup> CONG., REP. ON SOLVING THE CLIMATE CRISIS: THE CONGRESSIONAL ACTION PLAN FOR A CLEAN ENERGY ECONOMY AND A HEALTHY, RESILIENT, AND JUST AMERICA (Majority Staff Rep. JUNE 2020), <https://climatecrisis.house.gov/sites/climatecrisis.house.gov/files/Climate%20Crisis%20Action%20Plan.pdf>