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July 7, 2021

TO: Washington State Regulated Financial Institutions

RE: DFI Alert on Systemic Risk of Climate Change and Related Financial Risks

Message from DFI Director Charlie Clark

Our financial systems operate in an increasingly complex world in which systemic risks magnify threats to our economic stability and vitality. Amongst these risks is climate change, which poses an unparalleled threat to all of us. DFI has been monitoring climate change risk and initiatives by our federal government, sister states, and across the world. The Biden administration recently issued its Executive Order on Climate-Related Financial Risk, which recognizes the serious threat that the climate crisis poses to our economy and financial systems.[1] The order is intended to "help the American people better understand how climate change can impact their financial security"; "strengthen the U.S. financial system"; "and inform concrete decisions that the federal government can take to mitigate the risks of climate change."[2] Similarly, the Federal Reserve has identified climate change as a threat to financial stability,[3] and the Commodity Futures Trading Commission (CFTC) warned that "[c]limate change poses a major risk to the stability of the U.S. financial system and its ability to sustain the US economy."[4]

[1] "Executive Order on Climate-Related Financial Risk" (2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/20/executive-order-on-climate-related-financial-risk/

[2] "Fact Sheet: President Biden Directs Agencies to Analyze and Mitigate the Risk Climate Change Poses to Homeowners and Consumers, Businesses and Workers, and the Financial System and Federal Government Itself" (2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/20/fact-sheet-president-biden-directs-agencies-to-analyze-and-mitigate-the-risk-climate-change-poses-to-homeowners-and-consumers-businesses-and-workers-and-the-financial-system-and-federal-government/

[3] "Financial Stability Report," Board of Governors of the Federal Reserve System, November 2020, https://www.federalreserve.gov/publications/files/financial-stability-report-20201109.pdf

[4] "Managing Climate Risk in the U.S. Financial System," Commodity Futures Trading Commission, September 2020, https://www.cftc.gov/sites/default/files/2020-09/9-9-20%20Report%20of%20the%20Subcommittee%20on%20Climate-Related%20Market%20Risk%20-%20Managing%20Climate%20Risk%20in%20the%20U.S.%20Financial%20System%20for%20posting.pdf

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The purpose of this alert is to provide background information on climate change, to emphasize and affirm the importance of responding to climate change as a systemic risk, and to begin discussions with stakeholders on how DFI can support its regulated entities in efforts to better understand and address climate change. While DFI is not today announcing new rules or guidance, we ask that Washington State financial institutions, and state chartered depositary institutions in particular, begin discussions about how to integrate climate change risks into their governance, risk management, and strategic plans. During upcoming examinations, DFI will begin talking to our regulated financial institutions about whether they are contemplating climate change and if so, what steps they are taking to begin to address the risks and opportunities climate change brings. I hope you will closely review the remainder of this alert to gain valuable information about this important issue.

-Charlie Clark

Director, Department of Financial Institutions

Climate Change is a Severe and Unprecedented Risk, the Cost of Which is Increasing

Climate change presents unprecedented challenges to both the Washington State and global economy. Record high global temperatures are becoming the norm, and the frequency and severity of extreme weather events including wildfire, hurricanes, heatwaves, droughts, and floods are increasing. While the full scope and impact of climate change is not yet fully understood or appreciated, Washington State will experience significant impacts as extreme weather events increase in frequency and severity.

The risk and impact of wildfires and droughts to Washington State and its economy is likely to increase due to climate change. In 2015, the state experienced its worst wildfire season in which over 1 million acres burned—more than doubling the previous record set the prior year.[5] Last year saw over 812,000 acres burned,[6] making it second only to 2015.[7] Suppression costs alone are

[5] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climaterresilienceplan_feb2020.pdf?r5qt4w

[6] Forest Health and Wildfires-Various Provisions, Laws of 2021, ch. 298, § 1,http://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1168-S2.SL.pdf?q=20210528084204

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considerable: State agencies spent more than $342 million in 2015; nearly $150 million annually from 2014 – 2019; and over $172 million in 2019.[8] Further, these costs may represent "only nine percent of the total cost of wildfires when factoring in disaster recovery, lost business, lost infrastructure, and timber damage."[9] Public health impacts are also significant, with Washington State having the worst air quality in the world for the second time in the last three years."[10] To mitigate these costs, Washington State has allocated up to an additional $328 million by 2027 for fire prevention measures.[11]

While 2015 was notable for wildfires, it was also the hottest year on record causing water shortages and $733 million in agricultural losses.[12] Globally, 2010 – 2019 represents the hottest decade on record, with every decade since the 1960s being hotter than the one before it.[13] For Washington State and many areas, the record setting temperatures of 2015 will become the norm by the mid to late century, with a projected average annual increase of 4.3°F – 5.8°F relative to 1950-1999.[14] The warm season is projected to be drier, while the wet season is projected to be wetter with heavy

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[7] "How 2020 compares to historic Washington wildfire seasons," KREM2, September 25, 2020, https://www.krem.com/article/news/local/wildfire/how-2020-washington-wildfire-season-compares-historically/293-50b373ea-6a16-4e99-9a5d-906a42e813a4

[8] Forest Health and Wildfires-Various Provisions, Laws of 2021, ch. 298, § 1, http://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1168-S2.SL.pdf?q=20210528084204

[9] Forest Health and Wildfires-Various Provisions, Laws of 2021, ch. 298, § 1, http://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1168-S2.SL.pdf?q=20210528084204

[10] Forest Health and Wildfires-Various Provisions, Laws of 2021, ch. 298, § 1, http://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1168-S2.SL.pdf?q=20210528084204

[11] Levi Pulkkinen, "Inside Washington's $328M push to prevent disastrous wildfires," Crosscut, April 16, 2021, https://crosscut.com/politics/2021/04/inside-washingtons-328m-push-prevent-disastrous-wildfires

[12] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climateresilienceplan_feb2020.pdf?r5qt4w

[13] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climateresilienceplan_feb2020.pdf?r5qt4w

[14] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climateresilienceplan_feb2020.pdf?r5qt4w

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downpours.[15] This will cause reduced snowpack with higher winter and conversely lower summer stream outflows, resulting in increased flood risk.[16] Coastal flooding and associated damage to infrastructure, communities, and geography are also projected to increase due to sea level rise.[17]

Beyond Washington State, the last year has revealed climate change for the immense and imminent threat that it is. Overall, 2020 saw $95 billion worth of damages resulting from natural disasters in the United States.[18] These losses occurred during a year that was one of the warmest on record, causing these disasters to be more frequent and intense. The year saw 30 named storms, 12 of which made landfall.[19] Both figures set new records. [20] Wildfires caused approximately $16 billion in damages, with approximately 4,000 homes lost in Oregon alone.[21] California experienced its worst wildfire season on record, burning over four million acres, which doubled the previous record set in 2018.[22] Damages in the billions resulted from widespread evacuations, power outages, loss of property and business disruptions.[23] Similarly, Texas, Florida and other Southeast states experienced the busiest

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[15] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climaterresilienceplan_feb2020.pdf?r5qt4w

[16] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climaterresilienceplan_feb2020.pdf?r5qt4w

[17] "Safeguarding our Lands, Waters, and Communities: DNR's Plan for Climate Resilience," Department of Natural Resources, February, 2020, https://www.dnr.wa.gov/publications/em_climaterresilienceplan_feb2020.pdf?r5qt4w

[18] Adam Smith, "2020 U.S. billion-dollar weather and climate disasters in historical context," Climate.gov, January 8, 2021, https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical

[19] "Record-breaking Atlantic hurricane season draws to an end," National Oceanic and Atmospheric Administration, November 24, 2020, https://www.noaa.gov/media-release/record-breaking-atlantic-hurricane-season-draws-to-end

[20] "Record-breaking Atlantic hurricane season draws to an end," National Oceanic and Atmospheric Administration, November 24, 2020, https://www.noaa.gov/media-release/record-breaking-atlantic-hurricane-season-draws-to-end

[21] Christopher Flavelle, "U.S. Disaster Costs Doubled in 2020, Reflecting Costs of Climate Change," The New York Times, January 7, 2021, https://www.nytimes.com/2021/01/07/climate/2020-disaster-costs.html

[22] Priya Krishnakumar and Swetha Kannan, "The worst fire season ever. Again," Los Angeles Times, September 15, 2020, https://www.latimes.com/projects/california-fires-damage-climate-change-analysis/

[23] Christopher Flavelle, "U.S. Disaster Costs Doubled in 2020, Reflecting Costs of Climate Change," The New York Times, January 7, 2021, https://www.nytimes.com/2021/01/07/climate/2020-disaster-costs.html

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hurricane season on record.[24] Texas also faced a devastating winter storm in February 2021, which left thousands of people without power and millions without access to safe water.[25] Many swaths of the country experienced record heat. California's Death Valley saw 129.9 degrees Fahrenheit on August 16, 2020, while Phoenix eclipsed 100 degrees on a record 144 days.[26] Thunderstorms pummeled the Midwest, causing $6.8 billion in losses and damaging millions of acres of corn and soybeans.[27] The Southeast saw record levels of tidal flooding[28], which is leading to higher insurance premiums and declining property values.[29]

These risks are projected to get worse, with assessments of climate risk painting a dire picture. According to 427, a leading publisher and provider of data, market intelligence, and analysis related to physical climate and environmental risks, the U.S. is the third most exposed country to climate risks, behind China and the Philippines.[30] Ceres, a sustainability focused nonprofit organization, explains that "wide-ranging physical impacts, combined with expected transitions to a net-zero carbon economy and other socio-economic ripples, are likely to manifest in both cumulative and unexpected ways that present clear systemic risks to financial markets and the economy. These risks could have

[24] "30 named storms: Record hurricane season comes to a close," Associated Press, November 30, 2020, https://apnews.com/article/storms-hurricanes-united-states-3f03614af9a1dc5ca5f13bf394f47a28

[25] Steve Holland and Andrea Shalal, "UPDATE 3-White House says Texas winter storm likely due to climate change," Reuters, February 18, 2021, https://www.msn.com/en-us/news/us/update-2-white-house-says-severe-winter-storm-freezing-texas-likely-due-to-climate-change/ar-BB1dO0l9

[26] Ian Livingstone, "Phoenix has hit 100 degrees on record-breaking half of the days in 2020," The Washington Post, October 14, 2020, https://www.washingtonpost.com/weather/2020/10/14/phoenix-record-heat-100-degrees/

[27] Emma Newburger, "Disasters caused $210 billion in damage in 2020, showing growing cost of climate change," CNBC, January 7, 2021, https://www.cnbc.com/2021/01/07/climate-change-disasters-cause-210-billion-in-damage-in-2020.html

[28] Thomas Frank, "With Sea Level Rise, High-tide Flooding Spikes Along U.S. Coasts," Scientific American, https://www.scientificamerican.com/article/with-sea-level-rise-high-tide-flooding-spikes-along-u-s-coasts/

[29] Laurel Wamsley, "Is The Risk Of Sea Level Rise Affecting Florida Home Prices? A New Study Says Yes," NPR, October 15, 2020, https://www.npr.org/2020/10/15/924239753/is-the-risk-of-sea-level-rise-affecting-florida-home-prices-a-new-study-says-yes

[30] "Measuring What Matters: A New Approach to Assessing Sovereign Climate Risk," Four Twenty Seven, December 2020, http://427mt.com/wp-content/uploads/2020/12/Measuring-What-Matters-Sovereign-Climate-Risk-427_12.2020.pdf

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significant, disruptive consequences on asset valuations, global financial markets and global economic stability. Low- and moderate-income communities are especially at risk."[31]

State Financial Institutions Face Significant Risk to Their Operations

Financial institutions face risk due to climate change primarily in the form of physical risk and transition risk. Financial institutions should thoroughly evaluate these risks as failure to do so may threaten the long-term viability of their operations, asset portfolios and weaken the financial markets at large.

Physical Risk

Physical risks due to climate change are a result of the frequency and severity of weather events and shifts in broad climate patterns, including higher trending temperatures that may cause rising sea levels, changing flood zones, heat waves, or droughts, which then cause damage to property or assets. Physical risk is also significant in the form of supply chain and business disruption, increased recovery and insurance costs (including potential noncoverage), reduction in revenues, and migration costs. These risks are likely to lead to lower household wealth and stability, in addition to lower corporate profitability. And while Washington's financial institutions have demonstrated resiliency and responsiveness in the face of considerable risk associated with disruption to households and small businesses through the COVID-19 pandemic, similar risks posed by the impact of an extreme weather event causing significant property damage or interruption to commerce may pose an even greater challenge. Now is the time to be proactive and ensure risk management frameworks are sound.

Depositary institutions, in particular, have numerous types of assets at risk due to weather events including mortgage loans, commercial real estate loans, agricultural loans, and investment portfolios. Adverse weather related events are likely to impair economic output, reduce already limited household income and wealth, and reduce access to capital, all of which can cause an increase in default rates, a reduction in lending, impaired asset values, and other losses. Flood and fire risk may

[31] "Addressing Climate as a Systemic Risk," Coalition for Environmentally Responsible Economies, June, 2020, https://www.ceres.org/resources/reports/addressing-climate-systemic-risk

be of particular concern to regional and community financial institutions, as they tend to have more regionally concentrated physical risk in relation to sudden extreme weather events. Trust companies and trust departments of banks face very similar risk to those seen in the depository space, as clients of trusts tend to be invested in many of the same asset classes.

Finally, the cumulative impacts are not necessarily limited to one community or asset class. For example, one ‘hot’ year could bring devastating wildfires in dry regions, and heavy flooding in wet regions. Even a single event has the potential to ripple across otherwise diverse holdings due to correlated risks that would otherwise be isolated geographically or within an asset class. Similarly, an extreme event has the potential to send a shock from one financial institution to another, creating a ripple that spreads through our financial systems thereby affecting the broader economy and financial system.

Transition Risk

Evidence is suggesting that a transition to a low or net-zero carbon economy is critical to mitigating the impact of climate change, with many already working towards this goal. Changes in consumer and investor sentiment, infrastructure spending, advancing technology, and changing policy and regulations will all contribute to driving this transition. It is likely these factors will result in a historic shift in economic and market forces – some believing it will occur in a disorderly and unpredictable manner – which will create risk to financial institutions and their clients due to impact on certain asset classes, as well as from potential legal and reputational risks arising from the transition. For example, assets may become “stranded” and turn out to be worth less than expected as a direct result of the transition—particularly those assets with a significant carbon footprint or those tied to carbon-heavy industries. According to Ceres, current views of the transition risk to financial institutions are incomplete, focusing primarily on direct loans to the fossil-fuel sector. However, “[a] full assessment must take into account a bank’s financing of industries that rely heavily on fossil fuels as inputs as well—including agriculture, manufacturing, construction, transportation and the financial sector itself.”[32]

[32] “Financing a Net-Zero Economy,” Coalition for Environmentally Responsible Economies, October, 2020, https://www.ceres.org/resources/reports/financing-net-zero-economy-measuring-and-addressing-climate-risk-banks

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While there is considerable risk, financial institutions have an opportunity to proactively confront climate change as leaders in their communities by closely evaluating their transition risk and embracing the path toward a net-zero carbon economy. The transition will require considerable investment to rebuild infrastructure, transportation, and other segments to move to a net-zero carbon economy based on renewable energy and lending portfolio decarbonization. Financial institutions will play a role in advancing these technologies and investments by extending much of the credit to these emerging sectors.

Vulnerable and Disenfranchised Communities are Most Likely to be Affected

While climate change will continue to affect all of us, it will have a disproportionate impact on economically vulnerable people, which often consist of marginalized communities and people of color. These communities are likely to be the hardest hit by extreme weather events and other effects of climate change.[33] Due to historic redlining practices, these communities already face an increased climate burden.[34] These communities are also less likely to receive aid and financial assistance after natural disasters, which only serves to increase the racial wealth gap.[35] Financial regulators and financial institutions must view the threats of climate change, systemic racism, and historic inequality as intertwined. They cannot be addressed in isolation.

The Path Forward

Climate change presents critical, complicated, and dynamic threats to not only our economy and financial markets, but to our society and culture. Financial institutions face significant physical and transition risks, but have an opportunity to take a proactive approach by evaluating their own

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33 Stephanie Gagnon, “The Link Between Systemic Racism and Climate Change in the US,” Climate Scorecard, September 5, 2020, https://www.climatescorecard.org/2020/09/the-link-between-systemic-racism-and-climate-change-in-the-us/

34 Daniel Cusick, “Past Racist ‘Redlining’ Practices Increased Climate Burden on Minority Neighborhoods,” Scientific American, January 21, 2020, https://www.scientificamerican.com/article/past-racist-redlining-practices-increased-climate-burden-on-minority-neighborhoods/

35 Amy McCaig, “Natural disasters widen racial wealth gap.” Rice University August 20, 2018, https://news.rice.edu/2018/08/20/natural-disasters-widen-racial-wealth-gap-2/

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contributions to activities that may be negatively impacting climate change. If we fail to prepare and adjust our practices, climate change may be the catalyst for the next financial crisis.

Climate change represents a potential threat to the safety and soundness of our financial institutions, and requires that DFI, in collaboration with its depositary institutions and other regulated entities, begin the process of evaluating current strategic plans and risk management systems. DFI recognizes that financial institutions may not all have the same resources available to respond to the threat of climate change, and that risks from climate change and severe weather impacts will not impact all financial institutions commensurately. Therefore, as we approach these risks, we will do so knowing that our financial institutions are leaders and understand risks in their communities and portfolios. We anticipate a robust and collaborative approach to better understanding and discussing these risks.

Conclusion

The decisions we make today will affect our children, grandchildren, and numerous generations beyond them in ways that we cannot fully foresee. While the risks to our economy and financial system are uncertain, we have an opportunity to take action to mitigate the worst of those risks by acting now.