

**Testimony of Dr. Rachel Cleetus,
Policy Director, Climate and Energy Program, Union of Concerned Scientists**

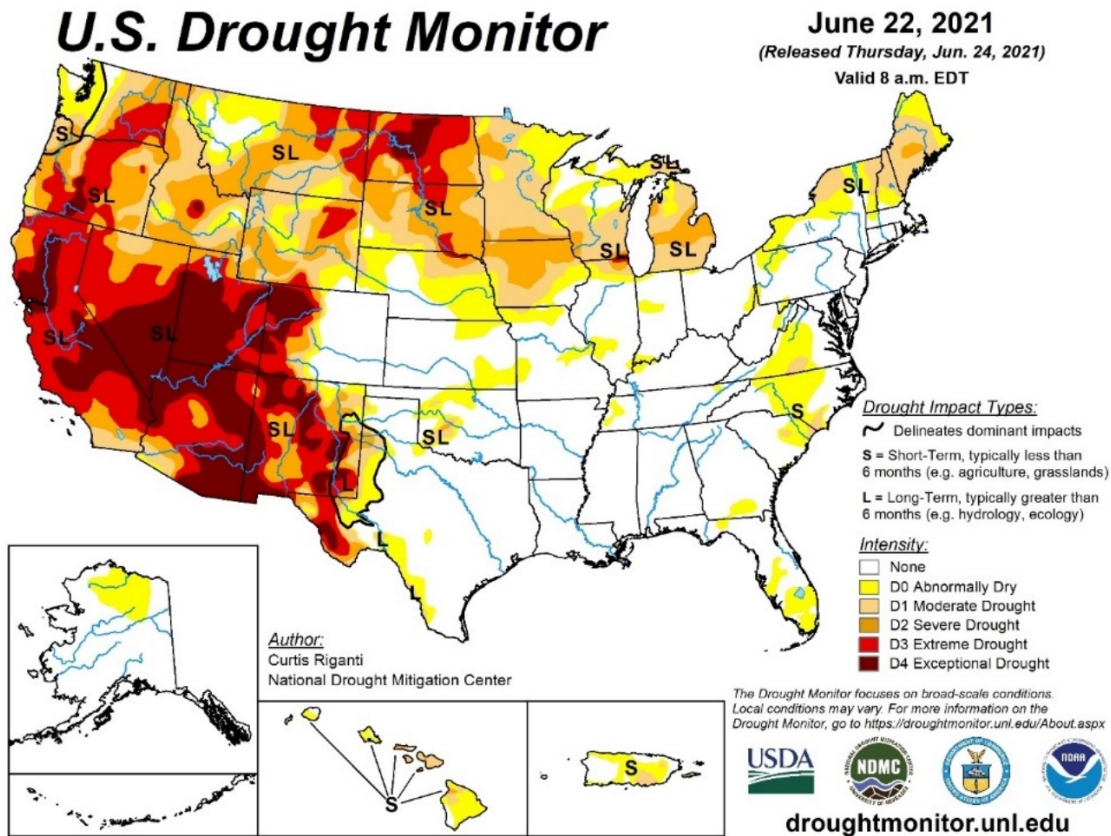
“Addressing Climate as a Systemic Risk: The Need to Build Resilience within Our Banking and Financial System”

**House Financial Services Subcommittee on Consumer Protection and Financial Institutions hearing
June 30, 2021**

Hello and thank you, Chairman Perlmutter, Ranking Member Luetkemeyer, and Members of the Subcommittee, for providing me the opportunity to testify remotely today. My name is Rachel Cleetus, and I am the policy director and lead economist for the climate and energy program at the Union of Concerned Scientists. I am here today to share my perspectives on the threat climate change poses to our economy, our financial system, and our well-being, including disproportionate harms to low-income communities and communities of color. I also want to highlight some vital, urgent steps Congress and the federal government must take to limit these harms, including passage of the *Addressing Climate Financial Risk Act of 2021* and the *Climate Change Financial Risk Act of 2021*.

The impacts of climate change are already manifesting around us. Summer has barely begun this year, and we are already in the midst of a stunning drought in much of the western US (see figure 1) and have already seen record-setting heatwaves, including the blisteringly intense heat wave that hit the Pacific Northwest just this past weekend. Simultaneously, heavy rain and flash flooding are hitting the Midwest. The wildfire season is also underway and is unfortunately setting up to be yet another intense one. And this year’s hurricane season is also forecast to be an above-normal one, following on last year’s very active season. Meanwhile, the COVID-19 pandemic and the economic crisis it unleashed are far from over. All of this means that many communities and businesses around the country are being forced to cope with a complex set of compounding risks.

Figure 1: Map of drought conditions in the U.S. as of June 22, 2021



Meanwhile, the heat-trapping emissions that are fueling climate change continue to rise—with just a brief dip due to the COVID-19 pandemic. The science is clear: to help limit some of the worst impacts of climate change, here in the U.S. and around the world, global carbon emissions must be cut approximately in half by 2030 and to net zero emissions by mid-century. The U.S. has a responsibility to reduce its emissions at least 50-52 percent below 2005 levels by 2030 and to net zero no later than 2050.

Today, our economic and financial systems are not yet sufficiently accounting for the grave risks posed by climate change, nor are they doing enough to help drive the rapid shift to a net zero economy we need. Major fossil fuel companies, enabled by investment banks and the lack of a strong federal climate policy framework, continue to double down on fossil fuel investments despite claiming to acknowledge the reality of climate change and touting their commitment to achieving the goals of the Paris climate agreement. These failures are putting more assets, more investments, more retirement and savings portfolios—and more people—in harm’s way and locking in long-lived high-carbon infrastructure. If we fail to take action, the potential for severe shocks to our financial system will grow—and, as with previous crises, the impacts will be especially severe for those who can least afford it, low-middle and fixed-income households.

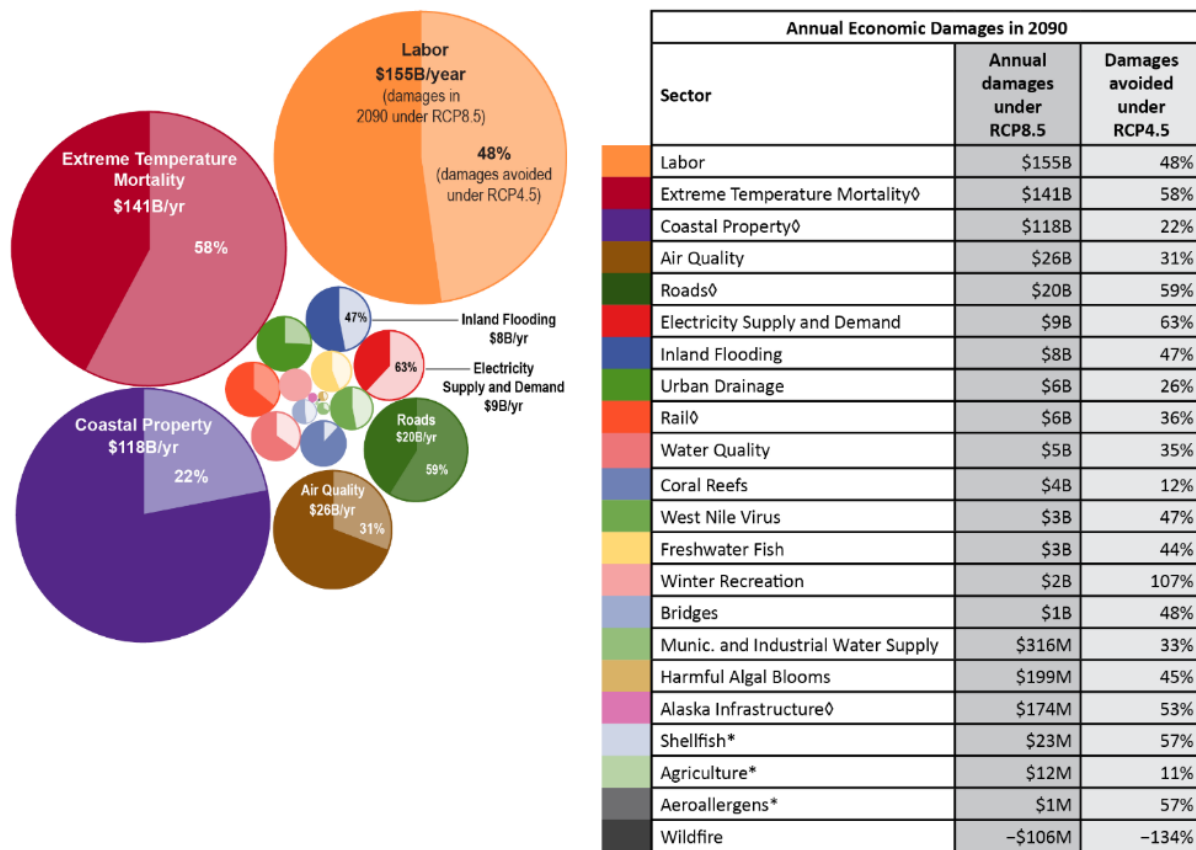
Instead, we have an opportunity now to ensure that our economy and our financial system are more climate-resilient and that the choices we make today help put us on a path to a more equitable, secure and prosperous future. Congress must pass legislation to set up an Advisory Committee on Climate Risk on the Financial Stability Oversight Council (FSOC), require climate risk disclosure in the marketplace, and

take steps to prioritize the well-being of households and communities that bear disproportionate harms from climate change and the transition away from fossil fuels.

1. What we know from the latest science

The 2018 National Climate Assessment, an authoritative report from the federal government, clearly underscores that the impacts of climate change are already here—and will get significantly worse if we fail to sharply curtail global warming emissions.¹ Under high emissions scenarios with little or no adaptation, the report found that annual losses in some sectors are projected to exceed \$100 billion by the end of the century and surpass the gross domestic product of many states (see Figure 2). Another recent study estimated that national damages for the contiguous U.S. from nine sectors range from \$600 million annually per degree of national warming for winter recreation to \$8 billion annually per degree of national warming for labor impacts.²

Figure 2: Projected damages and potential for risk reduction by sector



Source: Fourth National Climate Assessment,³ adapted from EPA 2017⁴

¹ <https://nca2018.globalchange.gov/>

² <https://link.springer.com/article/10.1007/s10584-021-03048>

³ Fourth National Climate Assessment, Chapter 29: Reducing risks through emissions mitigation.

<https://nca2018.globalchange.gov/chapter/29/>

⁴ EPA. 2017. Multi-Model Framework for Quantitative Sectoral Impacts Analysis: A Technical Report for the Fourth National Climate Assessment. U.S. Environmental Protection Agency, Washington, D.C.

https://cfpub.epa.gov/si/si_public_record_Report.cfm?Lab=OAP&dirEntryId=335095

The total area of each circle represents the projected annual economic damages (in 2015 dollars) under a higher scenario of climate change (RCP8.5) in 2090 relative to a no-change scenario. The decrease in damages under a lower scenario (RCP4.5) compared to RCP8.5 is shown in the lighter-shaded area of each circle. Adaptation was shown to reduce overall damages in sectors marked by the diamond symbol. Asterisks denote sectors with annual damages that may not be visible at the given scale.

Data from NOAA and NASA show that we are continuing to see a relentless rising trend in global average temperatures, with 2020 ranking as the warmest or second warmest year on record (tied with 2016 or just behind it).⁵ The summer of 2020 was the warmest on record for the Northern Hemisphere.⁶ The seven warmest years in the 1880–2020 record have all occurred since 2014. The 10 warmest years have occurred since 2005. 2020 is the 44th consecutive year (since 1977) above the 20th century average, meaning that no one under the age of 44 has ever experienced a cooler-than-average year. The global average temperature has risen over 2 degrees Fahrenheit (1.2C) since the Industrial Revolution began in the late 1800s. Along with rising temperatures, we are also seeing an increase in frequency or severity of heat waves, flooding, hurricanes, droughts, wildfires and extreme precipitation in the US and around the world. Human-caused climate change is the dominant driver of these changes.

Growing scientific evidence shows a trend of hurricanes intensifying faster, and becoming wetter, slower and more destructive—which is linked to climate change.^{7,8,9,10} In the early 1980s, hurricanes had a roughly 1-in-100 chance of undergoing rapid intensification. Those odds increased to 1-in-20 by 2005.¹¹ In 2020, there were a record-breaking 30 tropical storms in the Atlantic, of which 12 made landfall in and seven were billion dollar plus disasters.¹² The 2020 hurricane season saw 10 storms that intensified rapidly, a trend that scientists link to climate change.¹³

Hotter, drier conditions in the western US are driving longer and more intense wildfire seasons.^{14,15} Recent studies have attributed over half of the observed trends in the dryness of wildfire fuels and forest fire areas directly to climate factors.¹⁶ A history of mismanagement of forests and wildfires, along with growing development in wildfire prone areas, is also raising risks to people, property and ecosystems.

⁵ 2020 is tied with 2016 as the warmest year, according to NASA: <https://www.giss.nasa.gov/research/news/20210114/>, and is the second warmest, behind 2016 by a slight margin, according to NOAA: <https://www.ncdc.noaa.gov/sotc/global/202013>

⁶ <https://www.noaa.gov/news/northern-hemisphere-just-had-its-hottest-summer-on-record>

⁷ Holland, G., Bruyère, C.L. Recent intense hurricane response to global climate change. *Clim Dyn* **42**, 617–627 (2014). <https://doi.org/10.1007/s00382-013-1713-0>

⁸ Patricola, C.M., Wehner, M.F. Anthropogenic influences on major tropical cyclone events. *Nature* **563**, 339–346 (2018). <https://doi.org/10.1038/s41586-018-0673-2>

⁹ Hall, T.M., Kossin, J.P. Hurricane stalling along the North American coast and implications for rainfall. *npj Clim Atmos Sci* **2**, 17 (2019). <https://doi.org/10.1038/s41612-019-0074-8>

¹⁰ Aslak Grinsted, Peter Ditlevsen, Jens Hesselbjerg Christensen. Normalized US hurricane damage estimates using area of total destruction, 1900–2018. Proceedings of the National Academy of Sciences Nov 2019, 116 (48) 23942–23946; DOI: 10.1073/pnas.1912277116.

¹¹ <https://journals.ametsoc.org/jcli/article/31/20/8281/92614/Projected-Response-of-Tropical-Cyclone-Intensity>

¹² <https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical>

¹³ <https://blog.ucsusa.org/astrid-caldas/rapid-intensification-unprecedented-number-of-storms-make-2020-a-record-hurricane-season/>

¹⁴ <https://www.ucsusa.org/resources/climate-change-and-wildfires>

¹⁵ UCS Infographic: Wildfires and Climate Change. <https://www.ucsusa.org/resources/infographic-wildfires-and-climate-change>

¹⁶ <http://www.pnas.org/content/113/42/11770.short>

In 2020, the nation experienced nearly 59,000 wildfires which burned approximately 10.12 million acres, the second highest total area affected in single year, just behind 2015.¹⁷ About 40 percent of the burned area was in California alone.¹⁸ Five of California's six largest fires on record occurred in 2020.¹⁹ Engulfing approximately 1 million acres, the 2020 August Complex fire became California's largest ever wildfire, doubling the previous record. In Alaska, where temperatures are increasing twice as fast as the rest of the country, wildfires have been increasing in frequency and size.²⁰ While Alaska's boreal forests evolved with fire, current fire regimes surpass those of the previous 3,000 years.²¹ Four of the 10 largest fire years on record have occurred in the past 15 years, with each burning over 2 million acres. Fire patterns and behavior are also changing in the southeastern United States, where drought, pathogens, and insect infestations are changing ecosystems and raising fire risks.²²

Communities are experiencing compound risks from the overlap of the COVID-19 pandemic, the economic crisis it triggered, and ongoing climate and extreme-weather related disasters.^{23,24} Unfortunately, the future is likely to bring more of these types of situations. The current crises also are laying bare all the fundamental inequities in our society, including racism, the wealth and income gap, unaffordable healthcare, and economic disparities faced by rural communities. Recent studies and CDC data show that COVID-19 is inflicting a disproportionately deadly toll on African Americans, Latinos and Indigenous communities, for example.^{25,26} We also know that climate change and the economic crisis are exacerbating these inequities.^{27,28}

2. Physical risks to the US economy and financial sector

It is undeniable that climate change is already imposing significant costs to the economy, and to people. In 2020, the nation experienced a record-breaking 22 extreme weather and climate related disasters that each cost at least one billion dollars (see Figure 3).²⁹ This was the sixth year in a row where 10 or more billion dollar-plus extreme events occurred. These disasters are not just costly in economic terms, they take a profound toll on people, including causing death, injury and other lasting harms. Just last year, Hurricane Laura caused at least 42 deaths and the western wildfires resulted in at least 46 deaths.³⁰

¹⁷ Data from the NIFC: <https://www.nifc.gov/fire-information/statistics/wildfires>. NICC data show that 2020 had the second highest annual total of area burned. <https://fas.org/sgp/crs/misc/IF10244.pdf>

¹⁸ <https://fas.org/sgp/crs/misc/IF10244.pdf>

¹⁹ https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf

²⁰ <https://science2017.globalchange.gov/chapter/11/>

²¹ <https://www.pnas.org/content/110/32/13055>

²² <https://www.ucsusa.org/resources/climate-change-and-wildfires>

²³ Phillips, C.A., Caldas, A., Cleetus, R. *et al.* Compound climate risks in the COVID-19 pandemic. *Nat. Clim. Chang.* **10**, 586–588 (2020). <https://doi.org/10.1038/s41558-020-0804-2>

²⁴ Sen Pei, Kristina A. Dahl, Teresa K. Yamana, Rachel Licker, Jeffrey Shaman. Compound risks of hurricane evacuation amid the COVID-19 pandemic in the United States. medRxiv 2020.08.07.20170555; doi: <https://doi.org/10.1101/2020.08.07.20170555>

²⁵ Yancy CW. COVID-19 and African Americans. *JAMA.* 2020;323(19):1891–1892. doi:10.1001/jama.2020.6548. <https://jamanetwork.com/journals/jama/fullarticle/2764789>

²⁶ <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>

²⁷ <https://blog.ucsusa.org/adrienne-hollis/african-americans-are-disproportionately-exposed-to-extreme-heat>

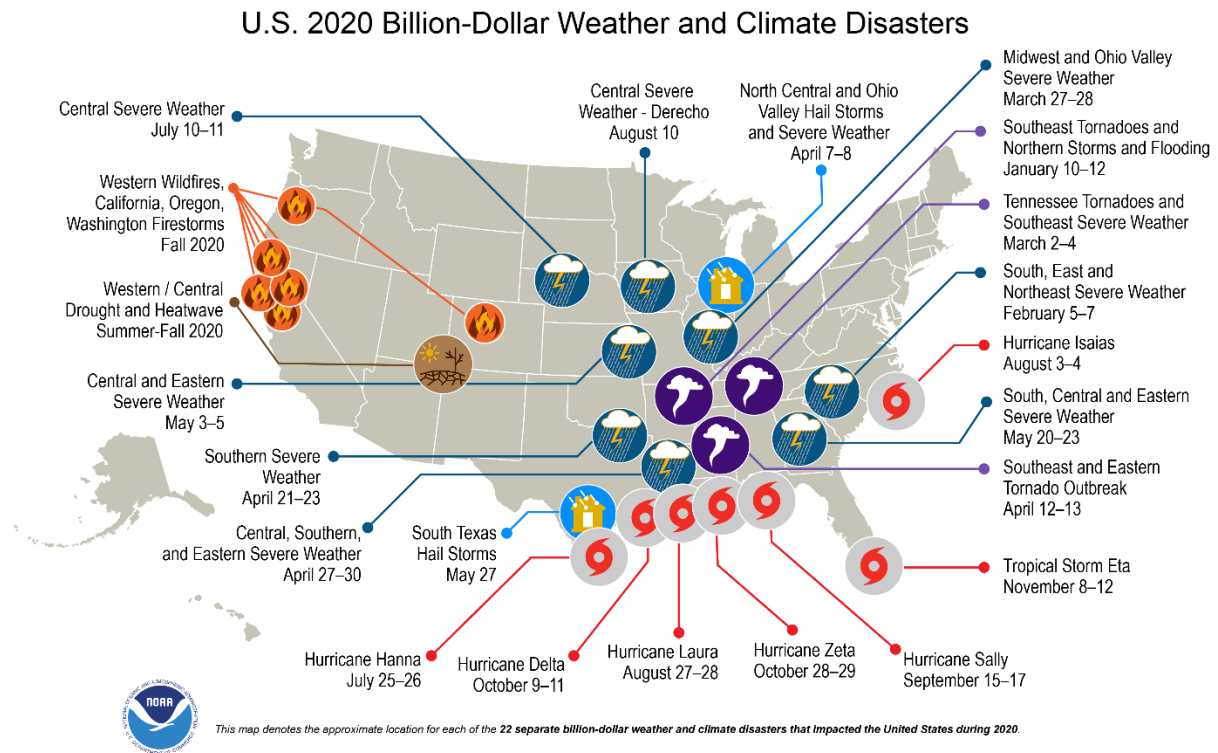
²⁸ <https://blog.ucsusa.org/rachel-cleetus/economic-recovery-depends-on-controlling-the-covid-19>

²⁹ NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). <https://www.ncdc.noaa.gov/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

³⁰ <https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical>

Firefighters and other first responders and hard-hit communities are face a steep mental toll from repeated and extended disasters. It's no longer tenable to assume that current and future climate conditions will resemble the recent past: all economic sectors and communities must be better prepared for a climate-altered future, and policymakers have a vital role in making that a reality.

Figure 3: U.S. 2020 Billion-dollar Weather and Climate Disasters



In addition to extreme events, slower moving disasters like sea level rise and ocean acidification are also big threats. These types of physical risks of climate change pose challenges for many facets and sectors of the economy, including infrastructure, agriculture, fisheries, insurance, real estate and tourism. The impact on the health, safety and productivity of workers, especially those who work outdoors, is also significant.

Take the risks to the coastal real estate market posed by accelerating sea level rise, for example. Recent research from the Union of Concerned Scientists shows that more 300,000 coastal homes and commercial properties with a collective market value of about \$136 billion today, are at risk of chronic inundation by 2045.³¹ By the end of the century, that number jumps to more than \$1 trillion. Every coastal state faces this risk to some extent, with Florida, New Jersey, New York, California, Louisiana and South Carolina among the most exposed.³² Louisiana, North Carolina, New Jersey, and Maryland also have significant numbers of highly exposed communities with above-average rates of poverty, creating hotspots of heightened risk. Many experts in risk assessment, credit rating, real estate markets, insurance markets, affordable housing and flood policy recognize that the risk of sea level rise to coastal real estate is

³¹ <https://www.ucsusa.org/resources/underwater>

³² For information by congressional district, please see this online searchable map: <https://ucsusa.maps.arcgis.com/apps/MapJournal/index.html?appid=b53e9dd7a85a44488466e1a38de87601>

significant and growing— and yet, for the most part, financial markets do not currently account for these risks.

Real estate in the western U.S. is also increasingly at risk from longer, more intense wildfire seasons. Research from CoreLogic has found that nearly 2 million homes in the United States—worth nearly \$640 billion in total—have an elevated risk of wildfire damage.³³

The potential loss in value of homes that may be exposed to these kinds of risks is firstly of great harm and consequence to homeowners, especially low- and fixed-income homeowners for whom this is likely to be their single biggest asset. It is also a risk for the local property tax base. It's a risk for anyone with a retirement portfolio that includes real estate. It's a risk to the federal government if federally backed mortgages or federally backed flood insurance is implicated. And thus it is a risk to the taxpayer at large.

Extreme heat is one of the most harmful and deadly hazards we face. A 2019 analysis from UCS provides a detailed view of how extreme heat events caused by dangerous combinations of temperature and humidity are likely to become more frequent and widespread in the United States over this century as a result of climate change (see Table 1 and figure 4). Without global action to reduce heat-trapping emissions, the number of days per year when the heat index—or “feels like” temperature—exceeds 100 degrees Fahrenheit would more than double from historical levels to an average of 36 across the country by midcentury and increase four-fold to an average of 54 by late century. The number of days per year when the heat index exceeds 105 degrees Fahrenheit would quadruple from historical levels (1970-2000) such that more than 150 of our larger cities across the country (cities with a population greater than 50,000) would experience an average of 30 or more days per year with a heat index above 105. That is compared to 3 such cities today.

By the end of the century, with no action to reduce global emissions, about 120 million people across the US—more than one-third of today's population—would experience the equivalent of a week or more of conditions so hot they exceed the upper limit of the National Weather Service's current heat index scale and a heat index would be incalculable. Such “off-the-charts” conditions could pose unprecedented health risks. Among those most vulnerable to the impacts of extreme heat include the elderly, the very young, outdoor workers, those with pre-existing health conditions, low or fixed-income households that may not have access to air conditioning or may not be able to afford paying higher electric bills to run it, people living in urban areas where the heat island effect can exacerbate extreme heat, the homeless, and incarcerated people.

³³ <https://www.corelogic.com/press-releases/insights/wildfires-threaten-the-west-nearly-2-million-homes-at-elevated-risk-of-wildfire-damage-according-to-corelogic/>

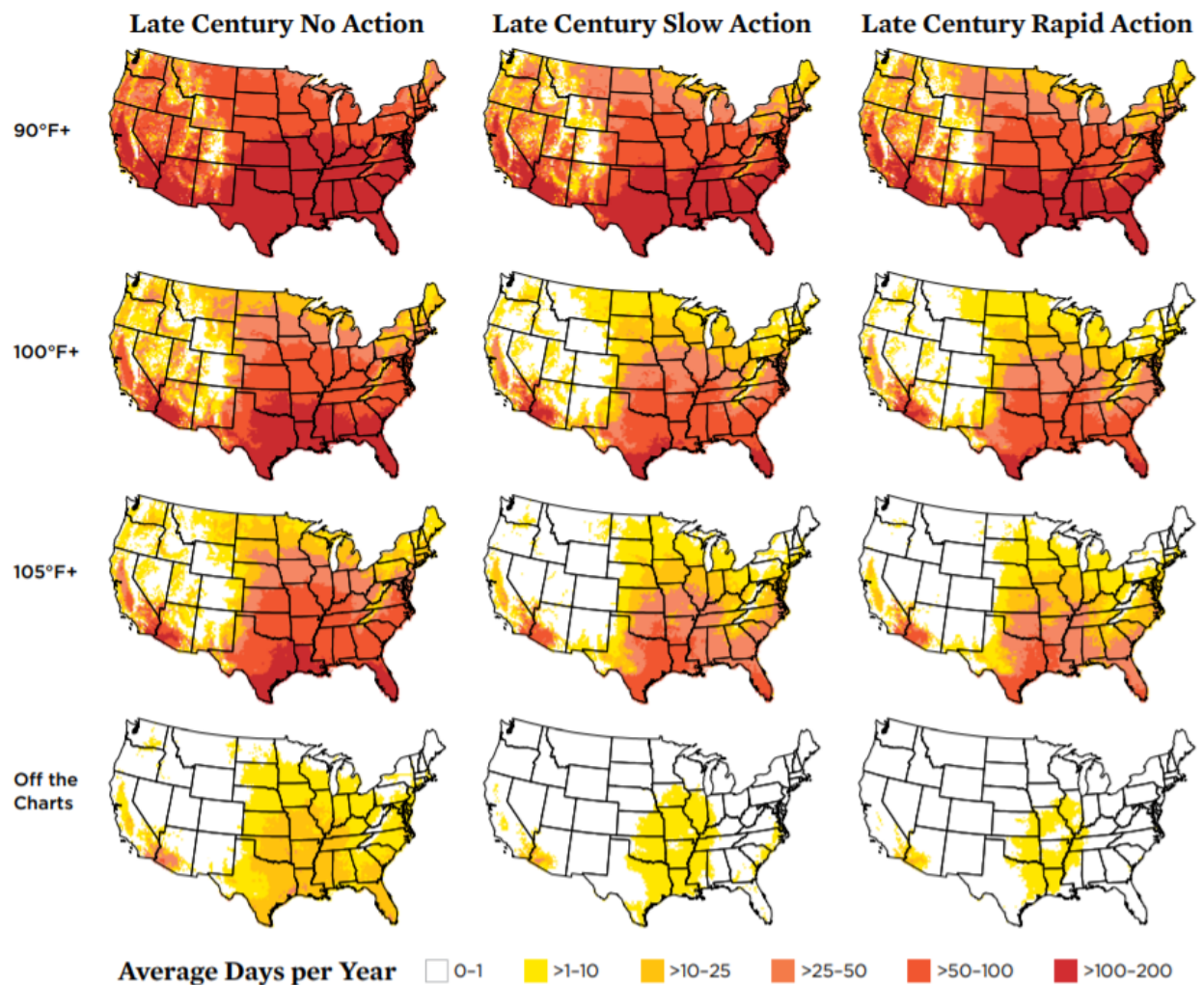
Table 1: Extreme heat will become more severe and frequent in every region of the country

Time Period	Scenario	Heat Index Threshold	Mid-west	North-east	N. Plains	North-west	South-east	S. Plains	South-west	US
Historical	-	90°F	25	13	13	6	69	71	37	41
Midcentury	No Action	90°F	62	40	36	20	113	109	60	69
Midcentury	Slow Action	90°F	54	32	31	16	105	102	54	63
Late Century	No Action	90°F	90	70	57	37	140	134	84	93
Late Century	Slow Action	90°F	63	39	37	21	113	109	60	70
- ⁹	Rapid Action	90°F	56	34	32	17	107	104	56	65
Historical	-	100°F	6	3	3	1	15	21	23	14
Midcentury	No Action	100°F	30	14	12	4	65	61	24	36
Midcentury	Slow Action	100°F	22	10	8	3	51	51	22	30
Late Century	No Action	100°F	53	32	24	11	96	88	35	54
Late Century	Slow Action	100°F	27	12	10	4	60	57	24	34
-	Rapid Action	100°F	22	10	8	3	52	52	22	31
Historical	-	105°F	3	2	2	0	4	7	13	5
Midcentury	No Action	105°F	17	8	6	2	40	39	17	24
Midcentury	Slow Action	105°F	12	5	4	1	27	30	17	18
Late Century	No Action	105°F	38	20	14	5	73	66	22	40
Late Century	Slow Action	105°F	15	7	5	2	34	35	17	22
-	Rapid Action	105°F	12	5	4	1	27	30	18	19
Historical	-	Off the Charts	0	0	0	0	0	0	2	0
Midcentury	No Action	Off the Charts	2	1	1	1	3	3	8	3
Midcentury	Slow Action	Off the Charts	2	1	1	0	2	2	6	2
Late Century	No Action	Off the Charts	7	3	3	2	12	12	10	9
Late Century	Slow Action	Off the Charts	2	1	1	1	2	3	7	3
-	Rapid Action	Off the Charts	2	1	1	0	2	2	7	2

As heat-trapping emissions rise, each region of the country is projected to experience an increase in the average number of days per year with heat above the thresholds analyzed in this study.

The report also shows how actions taken, or not taken, within the next few years to reduce global emissions will help determine how hot and humid our future becomes. If the goal of the Paris Agreement is met and future global average warming is limited to 2 degrees Celsius, by late century the United States would see half the number of days per year, on average, with a heat index above 105 degrees Fahrenheit, and almost 115 million fewer people would experience the equivalent of a week or more of “off-the-charts” heat days. The longer the U.S. and other countries wait to drastically reduce emissions, the less feasible it will be to realize the “rapid action scenario” analyzed.

Figure 4: Frequency of extreme heat depends on the choices we make



The emissions choices we make in the coming decades will profoundly shape the frequency and severity of extreme heat later this century. With no action to reduce global emissions, the contiguous United States would face an average of twice as many days with a heat index above 105°F in late century as it would with rapid action.

Infrastructure disruptions due to climate impacts—such as roads, bridges, rail lines, air travel and power infrastructure disrupted or damaged by extreme heat, floods, storms and wildfires, or barge traffic on major waterways affected by drought—are also very costly, and these costs are mounting.³⁴ The electricity system, for example, underpins multiple critical services as well as basic fundamentals of daily living, and has repeatedly faltered and failed in the face of worsening climate impacts. Such impacts include heatwaves, which put enormous pressure on the power grid, decreasing the efficiency and availability of some electricity resources at the same time as demand for cooling increases electricity use;

³⁴ <https://www.mckinsey.com/business-functions/sustainability/our-insights/climate-risk-and-response-physical-hazards-and-socioeconomic-impacts>; <https://www.mckinsey.com/business-functions/sustainability/our-insights/will-infrastructure-bend-or-break-under-climate-stress>; <https://www.sciencedirect.com/science/article/pii/S0020768316300634>

drought, which threatens hydropower supplies as well thermogenerators that rely on water for cooling;³⁵ wildfires, which can be both sparked by and cause the destruction of electricity infrastructure; and worsening floods and severe storms, which expose critical grid infrastructure to inundation.³⁶ Resulting power outages can trigger cascading effects, such as business interruptions, loss of critical services like healthcare, and shutdown of other infrastructure that depends on electricity such as water treatment systems and gas pumps. During power outages, major oil refineries, petrochemical plants and other industrial facilities have also released enormous amounts of toxic pollution, with disproportionate impacts on Black and Latino communities.³⁷ A recent study showed that the incidence of major grid failures is on the rise and could pose serious health risks if they occur during heatwaves.³⁸ If power losses occur during heatwaves (as has happened during the summer wildfire season and summer hurricane season) or during extreme cold snaps (as the one that hit Texas earlier this year), they can be extremely costly and life-threatening.³⁹ The Government Accountability Office (GAO) has released recent reports citing the need for more investments in grid resilience, including more assertive actions from DOE and FERC.⁴⁰

The impact on the insurance market is serving as an early warning sign of the systemic and growing risks of climate change. The federally backed National Flood Insurance Program (NFIP), vital to millions of homeowners, is struggling with growing debt triggered by extreme flooding disasters and has been repeatedly cited by the Government Accountability Office (GAO) as a growing source of risk to the federal government.^{41,42} The federal crop insurance program, also affected by floods and droughts, has been similarly cited by the GAO. Worsening wildfire seasons in the western U.S. are causing private insurance companies to raise insurance rates and/or drop policyholders, in some cases triggering temporary stop-gap actions by state regulators to help protect consumers. Major reinsurers like Munich Re, Swiss Re and Zurich Re, have repeatedly highlighted the growing risks of climate change globally—with the U.S. ranking high in terms of the dollar value of losses.

Unfortunately, instead of taking into account the latest scientific projections and incorporating the risks into market decisions in a proactive way, the financial system is still largely operating in a reactive, one-off way when disasters strike. A combination of short-sightedness, maladaptive policies and business-as-usual inertia is getting in the way of the transformative resilience we need to build.

3. Transition risks to the economy and financial system

The financial sector, and individual companies, also face risks because the current fossil fuel-dominated economy is simply incompatible with our climate goals. We must cut carbon emissions swiftly and deeply—and that means fossil fuel companies and their investors will have to change their business model or risk major losses. Delaying this inevitable transition will only increase the exposure of these

³⁵ <https://www.eenews.net/energywire/2021/06/28/stories/1063735943>

³⁶ <https://blog.ucsusa.org/jamesine-rogers-gibson/as-the-san-joaquin-valley-grows-hotter-questions-arise-about-future-power-grid-reliability/>; <https://www.ucsusa.org/resources/lights-out/>; <https://blog.ucsusa.org/julie-mcnamara/california-wildfires-power-outages-and-climate-ambition/>; <https://blog.ucsusa.org/julie-mcnamara/hurricane-irma-power-outage/>

³⁷ <https://www.edf.org/media/millions-pounds-air-pollution-released-because-grid-failure-freeze-texas>

³⁸ According to the study, “Major electrical grid failure or “blackout” events in the United States, those with a duration of at least 1 h and impacting 50,000 or more utility customers, increased by more than 60% over the most recent 5 year reporting period.” <https://pubmed.ncbi.nlm.nih.gov/33930272/>

³⁹ <https://blog.ucsusa.org/astrid-caldas/the-polar-vortex-has-killed-24-in-texas-so-far-whos-to-blame/>; <https://blog.ucsusa.org/julie-mcnamara/texas-power-outages-wake-up-call/>

⁴⁰ <https://www.gao.gov/assets/gao-21-346.pdf>; <https://www.gao.gov/assets/gao-21-274.pdf>

⁴¹ <https://www.gao.gov/highrisk/limiting-federal-governments-fiscal-exposure-better-managing-climate-change-risks>

⁴² <https://www.gao.gov/highrisk/national-flood-insurance-program>

companies. Transitioning away from fossil fuels quickly will require proactive policies and investments, including investments in ensuring that workers and communities who depend on fossil fuels are not left behind.⁴³

4. Addressing climate risks to the financial sector

A coordinated and comprehensive approach is required

Addressing the risks of climate changes will take a robust and coordinated approach from the national to the international level, and from the national to the local level. In terms of the financial sector, Congress, financial regulators and the federal government will each need to play their part. UCS strongly supports mandatory disclosure rules for climate risk to avoid untenable growth of climate and ESG risk within our markets that harms investors, spurs the improper allocation of capital, and may increase the cost of capital for U.S. companies. Mandatory disclosures should address companies' stewardship of a just and equitable transition to a low-carbon economy; human capital management; impacts on and strategies related to racial, economic, environmental, and climate justice; accounting of country-by-country tax payments; and disclosure of political activity including direct and indirect spending on elections and lobbying.

We are encouraged to see growing support from several quarters for taking steps to evaluate climate risks and create a framework for risk disclosure.

- The Commodity Futures Trading Commission (CFTC) issued a first-ever report last year, *Managing Climate Risk in the U.S. Financial System*, and in March this year established an interdivisional Climate Risk Unit (CRU) to assess the risks to US financial stability posed by climate change.⁴⁴
- The Federal Housing Finance Agency (FHFA) recently held a public listening session and issued a Request for Information on current and future climate and natural disaster risk to the housing finance system and to the regulated entities: Fannie Mae and Freddie Mac and the Federal Home Loan Banks.⁴⁵
- The Securities and Exchange Commission recently requested public input on climate change risk disclosure.⁴⁶
- The U.S. Department of the Treasury recently announced a Coordinated Climate Policy Strategy with a New Treasury Climate Hub and a Climate Counselor.
- The Federal Reserve recently issued a note outlining an approach to evaluating the financial risks of climate change and potential avenues to include it in the Federal Reserve's financial stability monitoring framework.⁴⁷
- President Biden recently issued an Executive Order on Climate-Related Financial Risks and calling for a report outlining a comprehensive whole-of-government [Climate-Related Financial Risk Strategy](#).⁴⁸

⁴³ <https://www.ucsusa.org/resources/support-coal-workers>

⁴⁴ <https://www.cftc.gov/PressRoom/PressReleases/8234-20>
<https://www.cftc.gov/PressRoom/PressReleases/8368-21>

⁴⁵ <https://www.fhfa.gov/Media/PublicAffairs/Documents/Climate-and-Natural-Disaster-RFI.pdf>

⁴⁶ <https://www.sec.gov/news/public-statement/lee-climate-change-disclosures>

⁴⁷ <https://www.federalreserve.gov/econres/notes/feds-notes/climate-change-and-financial-stability-20210319.htm>

⁴⁸ <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/20/executive-order-on-climate-related-financial-risk/>

- Legislation has been put forward in Congress to help advance climate risk disclosure, including the *Climate Risk Disclosure Act of 2021* and the *Climate Change Financial Risk Act of 2021*. At the international level, important initiatives are underway, including through The Taskforce on Climate-Related Financial Disclosures and The Network for Greening the Financial System. The U.S. Federal Reserve is a member of the latter and Treasury Secretary Janey Yellen has indicated an interest in also having the U.S. Treasury participate.

UCS has submitted comments to the Securities and Exchange Commission, the Commodity Futures Trading Commission⁴⁹ and the Federal Housing Finance Agency⁵⁰ to highlight each body's role in ensuring these outcomes. We have also endorsed Congressional action, including organizing a letter of support for the Climate Risk Disclosure Act of 2021 (introduced by Rep. Sean Casten, D-IL) signed by 82 environmental and social justice groups, faith-based and public interest organizations and socially responsible investors.⁵¹ Given the existential threat posed by climate change, concurrent and complementary administrative, regulatory, and legislative actions to strengthen disclosures are urgently needed.

Mandatory Risk Disclosure Will Help Correct Market Failures

Climate change is a systemic and growing risk to our economy, yet is not priced into most market decisions today because of multiple market failures including a lack of information and a mismatch in time horizons for assessing risks considered material. This has the potential to increasingly creating an unstable financial system with broader implications for the economy and the public. The financial system requires transparent, uniform disclosure of climate risks, based on the best available science, to evaluate which companies are best prepared to weather the physical and transition risks of climate change. Yet many companies don't mention—or even downplay—the effects of climate change in their publicly available information, misleading investors into overconfidence about long-term returns, and propping up the oil and gas industries, which operate as though the status quo is sustainable when they are fully aware they should be moving toward a clean-energy business model. The lack of standardization of data for climate risk disclosure creates additional hurdles, even for companies that are seeking to be more transparent about climate risks but may find that regulators or investors may not be able to easily understand or compare such data within or across industries.

Despite efforts by some lawmakers, the White House, and domestic financial bodies, US public companies—particularly those in the fossil fuel industry—currently lack sufficient incentives to disclose accurate, standardized, and comparable metrics regarding their climate risks. The statement “what is measured is managed” applies here, as the lack of consistent, accurate, and comparable measurement of climate-related financial metrics suggests a lack of management of climate-related financial risks.

Furthermore, accurate disclosure of climate risks is also important to create a fuller accounting of the benefits of low and zero-carbon sources of energy relative to the costs of fossil fuels, helping to accelerate their deployment to meet global goals of achieving net zero emissions by 2050.

⁴⁹ Pinko, N., R. Cleetus, and K. Mulvey. 2020. Union of Concerned Scientists Submission to the Climate-Related Market Risk Subcommittee Under the Market Risk Advisory Committee of the CFTC. Online at <https://comments.cftc.gov/PublicComments/ViewComment.aspx?id=62482&SearchText=>.

⁵⁰ Cleetus, R. and S. Udvardy. 2021. Union of Concerned Scientists Response to the FHFA RFI on Climate Risk. Online at <https://www.fhfa.gov/AboutUs/Contact/Pages/input-submission-detail.aspx?RFID=1426>.

⁵¹ Letter in support of the Climate Risk Disclosure Act. 2021. Online at <https://casten.house.gov/sites/casten.house.gov/files/Climate%20Risk%20Disclosure%20Act%20Support%20051121.pdf>.

Lack of Disclosure Disproportionately Harms Working People and Communities of Color

Climate change is not just an environmental crisis, but one of social justice, wealth distribution, equity and human rights. Climate change is already imposing a harsh toll on these communities and our current disaster aid policies exacerbate these problems.⁵² ⁵³Much more is at stake than simply the fiscal well-being of US businesses. The public relies on these companies to grow and manage our savings, investments, pension funds, future energy choices, and other long-term portfolios. Currently, some large companies and investors are able to use proprietary datasets to help reduce their exposure to climate risks but the lack of widely available, standardized, comparable data means that the broader public is largely unaware and unprepared for the financial consequences of these risks. As we saw during the economic crisis generated by COVID-19, economic insecurity has a disproportionate, much harsher impact on low-income communities and communities of color.⁵⁴ Many of these communities have also been excluded from building generational wealth due to racist policies like mortgage redlining and lack of access to credit. Alongside climate risk disclosure, we must also invest in a comprehensive suite of policies to avoid harms like climate gentrification that reinforce existing disparities.

Realigning market incentives to reflect the latest science is necessary but not sufficient; we also need a transformative climate resilience strategy that addresses underlying systemic challenges like structural racism and socioeconomic inequities so as to better protect all communities as we grapple with the near and long-term threats of climate change.

Standardized Requirements Are Necessary for Climate Accountability

Burning fossil fuels for electricity, heat, and transportation is the largest source of global warming emissions. Scientists can now quantify the global warming emissions, global average temperature increase, sea level rise, and ocean acidification attributable to the product-related emissions of particular fossil fuel companies.⁵⁵ Due to the impact of burning its oil, gas, and coal products—and also to its past and ongoing campaigns to deceive the public and policymakers about climate science and solutions⁵⁶—the fossil fuel industry bears an outsize responsibility for climate change.⁵⁷

The fossil fuel industry faces a unique mix of climate-related financial risks, such as potential regulations to reduce emissions, market competition from renewable energy technologies, climate damages lawsuits,

⁵² A recent investigative report from NPR using Federal Emergency Management Agency data shows that with more funding going to richer communities than poorer ones <https://www.npr.org/2019/03/05/688786177/how-federal-disaster-money-favors-the-rich>

⁵³ <https://journals.sagepub.com/doi/full/10.1177/2378023118816795>

⁵⁴ <https://www.lancetcountdownus.org/2020-lancet-countdown-u-s-brief/>

⁵⁵ Licker, R., B. Ekwurzel, S. C. Doney, S. R. Cooley, I. D. Lima, R. Heede, and P. C. Frumhoff. 2019. Attributing ocean acidification to major carbon producers. *Environmental Research Letters* 14 124060. <https://iopscience.iop.org/article/10.1088/1748-9326/ab5abc>. Ekwurzel, B., J. Boneham, M. W. Dalton, R. Heede, R. J. Mera, M. R. Allen, and P. C. Frumhoff. 2017. The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers. *Climatic Change* 144(4): 579–590. <https://doi.org/10.1007/s10584-017-1978-0>.

⁵⁶ Mulvey, K., and S. Shulman. 2015. *The climate deception dossiers: Internal fossil fuel industry memos reveal decades of corporate misinformation*. Cambridge, MA: Union of Concerned Scientists. Online at <http://www.ucsusa.org/global-warming/fight-misinformation/climate-deception-dossiers-fossil-fuel-industry-memos>.

⁵⁷ Shue, H. 2017. Responsible for what? Carbon producer CO₂ contributions and the energy transition. *Climatic Change* 144(4): 591–596. <https://link.springer.com/article/10.1007/s10584-017-2042-9>. Frumhoff, P., R. Heede, and N. Oreskes. 2015. The climate responsibilities of industrial carbon producers. *Climatic Change* 132:157. <https://link.springer.com/article/10.1007/s10584-015-1472-5>.

and reputational damage for knowingly deceiving⁵⁸ the public and shareholders⁵⁹ about the climate risks of its products.⁶⁰ The industry is also particularly vulnerable to physical damages to infrastructure and disruption of operations due to acute climate impacts.⁶¹

In recent years, several shareholder proposals calling for publicly listed oil and gas companies to disclose how they are managing the risks and opportunities of climate change and the energy transition have won majority support. In response to investor pressure, companies such as ExxonMobil and Chevron now publish annual climate risk reports. But the woeful inadequacy of these voluntary (and unaudited) climate risk disclosures has contributed to shareholder rebellions by asset owners and managers dissatisfied with how both companies are aligning their business models and policy advocacy with the goals of the Paris Agreement. If climate risk reporting is to have any value to investors, it must be connected to companies' financial reports and subject to an auditor's review. In addition, it is vital that banks that are funding fossil fuel investments also be required to be more transparent about their lending policies and practices for fossil fuel clients, including client banks with significant oil and gas exposures.⁶²

In closing, thank you for this opportunity to testify today and for your efforts to help ensure our economy and financial systems are better protected from climate risks and better able to help contribute to the climate solutions we so urgently need. Our future economic prosperity and the well-being of communities around the nation depends on these kinds of vital efforts.

⁵⁸ Brief of Amici Curiae Robert Brulle, Center for Climate Integrity, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, Geoffrey Supran, and the Union of Concerned Scientists in Support of Plaintiff-Appellee and Affirmance, *State of Rhode Island v. Shell Oil, LLC*, Case No. 19-1818. 2020. Online at http://climatecasechart.com/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2020/20200102_docket-19-1818_amicus-brief-3.pdf.

⁵⁹ *Commonwealth of Massachusetts v. ExxonMobil Corporation*, No. 19-3333, Mass Super. Ct. Online at <https://www.mass.gov/doc/october-24-2019-massachusetts-complaint-exxon/download>.

⁶⁰ Pinko, N., K. Mulvey, B. Ekwurzel, and P. Frumhoff. 2018. *The 2018 Climate Accountability Scorecard: Insufficient Progress from Major Fossil Fuel Companies*. Cambridge, MA: Union of Concerned Scientists. Online at <https://www.ucsusa.org/resources/climate-accountability-scorecard-0#ucs-report-downloads>.

⁶¹ Carlson, C., G. Goldman, and K. Dahl. 2015. *Stormy Seas, Rising Risks: What Investors Should Know About Climate Change Impacts at Oil Refineries*. Cambridge, MA: Union of Concerned Scientists. Online at <https://www.ucsusa.org/resources/stormy-seas-rising-risks#ucs-report-downloads>.

⁶² See letter to JP Morgan to request information from JPMorgan Chase & Co. (JPMC) regarding its lending policies for oil and gas clients, including client banks with significant oil and gas exposures.

<https://oversight.house.gov/sites/democrats.oversight.house.gov/files/2021-06-21.Khanna%20KP%20to%20Dimon-JPMC%20re%20Oil%20and%20Gas%20Lending.pdf>