BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S CONSOLIDATED APPLICATION FOR APPROVALS FOR THE ABANDONMENT FOR SAN JUAN GENERATING STATION PRUSUANT TO THE ENERGY TRANSITION ACT	)	Case No. 19-00195-UT

DIRECT TESTIMONY AND EXHIBITS

OF

DAHR JAMAIL

ON BEHALF OF
NEW ENERGY ECONOMY

DECEMBER 13, 2019

BACKGROUND AND EXPERIENCE

Q. Please state your name and business address.

A. My name is Dahr Jamail, and my business address is 74 Silver Berry Place, Port Townsend, WA 98368.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of New Energy Economy, before the New Mexico Public Regulation Commission ("Commission" or "NMPRC").

Q. Please describe your professional experience?

A. I am a journalist and author with a B.A. in Speech Communications. I reported on the Iraq War for 10 years, and have authored four books. I started reporting on the environment and climate in 2010, and since then I've published more than one hundred articles about climate disruption and given many lectures and radio interviews on the subject. My most recent book, *The End of Ice*, focuses on the accelerating environmental effects of anthropogenic climate disruption. *The End of Ice*, was listed as one of the top 10 Best Science Books for 2019, Smithsonian Institute, https://www.smithsonianmag.com/science-nature/ten-best-science-books-2019-180973744/

My resume is attached and incorporated as Exhibit DJ-1.

Q. How does your experience relate to your testimony in this proceeding?

A. I have authored a book about the climate crisis, wherein I interviewed a large number of leading scientists, in addition to having written hundreds of articles about the climate crisis.

Q. Have you previously given testimony before regulatory and legislative bodies?

A. No.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to PNM's proposal to include natural gas in its replacement resource portfolio in this litigation.

Q. Why do you oppose including natural gas in the replacement resource portfolio for San Juan Generating Station?

A. As a species, we now hang over the abyss of a geoengineered future we have created for ourselves. Fossil fuel use is the leading cause of the climate crisis. For nations, the United States is second only to China in carbon dioxide emissions, followed by India, Russia, and Japan. For corporations (including state-owned entities), only one hundred of them are responsible for 71 percent of total global CO_2 emissions.[1] A relatively small group of fossil fuel producers (ExxonMobil, Shell, BP, and Chevron being the largest) are the worst investor-owned emitters, and if fossil fuels continue to be extracted over the next twenty-eight years as they were between 1988 and 2017, global average temperatures could be on course to increase by 4°C by 2100.[2]

Climate change is harmful. In the past, atmospheric CO_2 varied from roughly 180 to 280 parts per million (ppm) as the Earth shifted from glacial to interglacial periods. This 100-ppm fluctuation was linked with about a 100-foot change in sea level. Every 100-ppm CO_2 increase in the atmosphere gives us 100 feet of sea level rise.[3] Since the industrial revolution began,

[1] Paul Griffin, "The Carbon Majors Database: CDP Carbon Majors Report 2017," *Climate Accountability Institute* (Jul. 2017).
[2] *Id.*
[3] Gwynn Guilford, "The Last Time CO2 Levels Were This High, This Much Water Covered What's Now Brussels," *Quartz* (Apr. 30, 2014), available at https://qz.com/204598/carbon-dioxide-just-hit-levels-not-seen-since-mastodons-were-a-thing/.

atmospheric CO_2 has increased from 280 to 410 ppm. That's 130 feet of sea level rise that's already baked into Earth's climate system. Earth has not seen current atmospheric CO_2 levels since the Pliocene, some 3 million years ago. Three-quarters of that CO_2 will still be here in five hundred years. Given that it takes a decade to experience the full warming effects of CO_2, we are still that far away from experiencing the impact of all the CO_2 we are currently emitting.[4] Even if we stopped all greenhouse gas emissions, it would take another 25,000 years for most of what is currently in the atmosphere to be absorbed into the oceans. Most U.S. government projections (USGS, DOD, EPA, DOE, and the U.S. Army Corps of Engineers) estimate between 4.1 and 6.6 feet of sea level rise by 2100, which will bring higher seasonal tides and exponentially more devastating storm surges. Retired military experts have already warned that climate disruption, especially sea level rise, will create "millions or even billions of climate refugees."[5] Studies have predicted there will be as many as 2 billion refugees from sea level rise alone by 2100, with more than 13 million of those within the United States.[6]

Climate change is going to cause, and is in fact already causing huge natural habitat and resource loss. Climate disruption is already responsible for nearly half of the forest area burned across the western United States over the last thirty years, and the decade leading up to 2014 saw

[4] Katharine L. Ricke and Ken Caldeira, "Maximum Warming Occurs About One Decade After a Carbon Dioxide Emission," *Environmental Research Letters* 9, No. 12 (Dec. 2, 2014), available at https://iopscience.iop.org/article/10.1088/1748-9326/9/12/124002.
[5] Matthew Taylor, "Climate Change 'Will Create World's Biggest Refugee Crisis,'" *The Guardian* (Nov. 2, 2017), available at https://www.theguardian.com/environment/2017/nov/02/climate-change-will-create-worlds-biggest-refugee-crisis; "Beyond Borders. Our Changing Climate--Its Role in Conflict and Displacement," *The Environmental Justice Foundation*, available at http://ejfoundation.org//resources/downloads/BeyondBorders-2.pdf.
[6] Will Dunham, "Sea Level Rise Projected to Displace 13 Million in U.S. by 2100," *Reuters* (Mar.14, 2016), available at https://www.reuters.com/article/us-climatechange-usa/sea-level-rise-projected-to-displace-13-million-in-u-s-by-2100-idUSKCN0WG1VW; Charles Geisler and Ben Currens, "Impediments to Inland Resettlement Under Conditions of Accelerated Sea Level Rise," *Land Use Policy* 66 (July 2017).

five of the largest fires ever recorded in the Western United States.[7] 2018 was the fourth warmest year ever recorded, with the only warmer years being 2015, 2016, and 2017.[8] When I was researching my most recent book, 2017 was on track to be the third worst year of wildfires in U.S. history, following 2015 and 2012.[9] When I spoke to US Forest Service research biologist Dr. David Peterson, he said "The kinds of things we've seen in some of our big fire years will become the norm." NASA warned in 2015 that in a few decades, if the pace of climate disruption continues unabated, the Southwest and the Midwest could become locked into a "megadrought" that could last decades.[10]

Q. How does burning fossil fuels like natural gas affect the global climate?

A. Methane is the main component of fossil gas. Its warming effect is 87 times greater than CO_2 over a 20-year period and 36 times greater over a 100-year period.[11] Between 2017 and 2025, U.S. gas production is on track to increase by 40 billion cubic feet per day (cf/d), peaking at close to 100 billion cf/d.[12] Under the current trajectory, the Permian Basin could be the source of nearly 40 percent of the emissions enabled by the production of currently undeveloped oil and gas in the United States between now and 2050.[13] Most of this gas is extracted by fracking.

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[7] John T. Abatzgoglou and A. Park Williams, "Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests," *Proceedings of the National Academy of Sciences of the United States of America* 113, no. 42 (Oct. 18, 2016).
[8] "2018 Fourth Warmest Year in Continued Warming Trend, According to NASA, NOAA," *NASA* (Feb. 6, 2019), available at https://www.nasa.gov/press-release/2018-fourth-warmest-year-in-continued-warming-trend-according-to-nasa-noaa.
[9] Seth Borenstein, "Wildfires Worse Due to Global Warming, Studies Say," *Phys.org* (May 18, 2014); "Wildfire Season Among Worst in U.S. History: Here's Why," *Associated Press* (Sept. 7, 2017).
[10] "NASA Study Finds Carbon Emissions Could Dramatically Increase Risk of U.S. Megadroughts," *NASA* (Feb.12, 2015), available at https://www.nasa.gov/press/2015/february/nasa-study-finds-carbon-emissions-could-dramatically-increase-risk-of-us. A megadrought lasts ten times longer than a normal three-year drought.
[11] Kelly Trout and Lorne Stockman, "Drilling Toward Disaster," (January 2019), Oil Change International, at p. 12.
[12] "Drilling Toward Disaster," http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v2.pdf, at p. 18.
[13] *Id* p. 26.

Fracking involves injecting water, chemicals, and sand at high pressure into shale deposits to release the gas and oil trapped within the rock.[14] According to a U.S. Government Accountability Office report, shale oil and gas development poses risks to air quality, generally as the result of (1) engine exhaust from increased truck traffic, (2) emissions from diesel-powered pumps used to power equipment, (3) gas that is flared (burned) or vented (released directly into the atmosphere) for operational reasons, and (4) unintentional emissions of pollutants from faulty equipment or impoundment-temporary storage areas. Similarly, a number of studies and publications GAO reviewed indicate that shale oil and gas development poses risks to water quality from contamination of surface water and groundwater as a result of erosion from ground disturbances, spills and releases of chemicals and other fluids, or underground migration of gases and chemicals.[15] The drilling and extraction of natural gas from wells and its transportation in pipelines results in the leakage of methane, a primary component of natural gas. Preliminary studies and field measurements show that these so-called "fugitive" methane emissions range from 1 to 9 percent of total life cycle emissions.[16] One recent study found that methane losses must be kept below 3.2 percent for natural gas power plants to have lower life cycle emissions than new coal plants over short time frames of 20 years or fewer.[17]

Fracking also poses other environmental risks that compound climate problems. Unconventional oil and gas development may pose health risks to nearby communities through

[14] Christina Nunez, "How Has Fracking Changed Our Future?," *National Geographic*, available at https://www.nationalgeographic.com/environment/energy/great-energy-challenge/big-energy-question/how-has-fracking-changed-our-future/#close.
[15] GAO, "Information on Shale Resources, Development, and Environmental and Public Health Risks" (Sept. 2012), available at https://www.gao.gov/assets/650/647791.pdf.
[16] "Environmental Impacts of Natural Gas," *Union of Concerned Scientists* (Jun. 19, 2014), available at https://www.ucsusa.org/resources/environmental-impacts-natural-gas.
[17] Alvarez, R.A., S.W. Pacala, J.J. Winebrake, W.L. Chameides, and S.P. Hamburg, "Greater focus needed on methane leakage from natural gas infrastructure," *Proceedings of the National Academy of Sciences* 109:6435–6440 (2012).

contamination of drinking water sources with hazardous chemicals used in drilling the wellbore, hydraulically fracturing the well, processing and refining the oil or gas, or disposing of wastewater.[18] Naturally occurring radioactive materials, methane, and underground gases have sometimes leaked into drinking water from improperly cased wells. There have been documented cases of groundwater near oil and gas wells being contaminated with fracking fluids as well as with gases, including methane and volatile organic compounds. One major cause of gas contamination is improperly constructed or failing wells that allow gas to leak from the well into groundwater. Cases of contamination have been documented in Ohio and Pennsylvania.[19] The growth of hydraulic fracturing and its use of huge volumes of water per well may strain local ground and surface water supplies, particularly in water-scarce areas. The EPA estimates that 70 billion to 140 billion gallons of water were used nationwide in 2011 for fracturing an estimated 35,000 wells.[20] Unlike other energy-related water withdrawals, which are commonly returned to rivers and lakes, most of the water used for unconventional oil and gas development is not recoverable. The disposal of fracking wastewater by injecting it at high pressure into deep Class II injection wells has been linked to large earthquakes in the United States.[21] At least half of the 4.5 M or larger earthquakes to strike the interior of the United States in the past decade have occurred in regions of potential injection-induced seismicity.

Q. Why do we need to take climate change seriously?

[18] Theo Colborn, Carol Kwiatowski, Kim Schultz, and Mary Bachran, "Natural Gas Operations from a Public Health Perspective," *Human and Ecological Risk Assessment*, 17: 1039-1056 (2011), available at https://www.biologicaldiversity.org/campaigns/fracking/pdfs/Colborn_2011_Natural_Gas_from_a_public_health_perspective.pdf.

[19] "Report on the Investigation of the Natural Gas Invasion of Aquifers in Bainbridge Township of Geauga County, Ohio," *Ohio Department of Natural Resources, Division of Mineral Resources Management* (Sept 1, 2008), available at https://s3.amazonaws.com/propublica/assets/natural_gas/ohio_methane_report_080901.pdf.

[20] "Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources, Progress Report," *EPA* (Dec. 2012), available at https://www.epa.gov/hfstudy/hydraulic-fracturing-study-progress-report-2012.

[21] "Induced Seismicity Potential in Energy Technologies," *National Research Council* (2013).

A. The conservative International Energy Agency has predicted a possible worst-case scenario of a 3.5°C increase by 2035.[22] That would be a 412 percent temperature increase in less than two decades. A World Bank-commissioned report warned that we are on "track to a '4°C world' marked by extreme heat waves and life-threatening sea level rise."[23] Leading climate researchers believe there is a possibility that the world will even see a more than 6°C temperature increase by 2100, which would lead to "cataclysmic changes" and "unimaginable consequences" for human civilization.[24] As Dr. Dan Fagre, USGS research ecologist and director of the Climate Change in Mountain Ecosystems Project explained to me, the changes caused by climate change are "nonlinear changes that aren't based on a simple proportional relationship between cause and effect; they are usually abrupt, unexpected, and challenging to predict."

The Paris Agreement is a nonbinding agreement signed by 195 member countries of the United Nations Framework Convention on Climate Change with the goal of limiting planetary warming to below 2°C above preindustrial levels, with an effort to limit the increase to 1.5°C.[25] According to Dr. Ben Kirtman, a coordinating lead author of the IPCC's *Fifth Assessment Report*, projections indicate that by 2030 the current sea levels will rise by half a foot to one foot, depending on variables such as the quantity of freshwater that will enter the oceans and how

[22] Stephen Kurczy, "Global Temperatures to Rise 3.5 Degrees C. by 2035: International Energy Agency," *Christian Science Monitor*, (Nov. 11, 2010), available at https://www.csmonitor.com/World/Global-Issues/2010/1111/Global-temperature-to-rise-3.5-degrees-C.-by-2035-International-Energy-Agency.

[23] "Climate Change Report Warns of Dramatically Warmer World This Century," *World Bank* (Nov. 18, 2012), available at https://www.worldbank.org/en/news/feature/2012/11/18/Climate-change-report-warns-dramatically-warmer-world-this-century.

[24] Steve Connor, "Global Warming: Scientists Say Temperatures Could Rise by 6C by 2100 and Call for Action Ahead of UN Meeting in Paris," *The Independent* (Apr. 15, 2015), available at https://www.independent.co.uk/environment/climate-change/global-warming-experts-say-temperatures-could-rise-by-6c-by-2100-with-cataclysmic-results-10193506.html.

[25] World governments, including the United States, committed in 2015 in the Paris Agreement to pursue efforts to limit global average temperature rise to 1.5 degrees Celsius above pre-industrial levels and, at a maximum, to keep warming well below 2 degrees Celsius. Stockman & Trout, "Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible With Climate Limits" p. 3, *Oil change International* (Jan. 2019), *available at* http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v2.pdf.

much the oceans warm. He reiterates that there's "a lot of uncertainty." Still, we know that limiting carbon emissions to 1.5°C would reduce the number of people exposed to climate-related risks and poverty by up to several hundred million by 2050, it would reduce sea level rise risks for 10 million fewer people, would reduce the number of people exposed to climate change-induced water stress by *half*, and lower the amounts of species loss, forest fires, invasive species, and marine and coastal ecosystem loss.[26]

Q. Is continuing to burn fossil fuels a responsible direction to take at this juncture?

A. There has been evidence of dramatic climatic shifts in front of all of us for decades. Climate change was being discussed as a concern in the media as early as the 1950s, and in 1965, climate scientists warned President Lyndon Baines Johnson about the risks associated with rising carbon pollution in the atmosphere.[27] Most people in the so-called developed world are not connected enough to a place on the planet to notice. They are unaware of the dire ramifications of what this means, both for the planet to notice. They are unaware of the dire ramifications of what this means, both for the planet and for our species. Those of us who spend time in nature, whether as a climber, gardener, backpacker, herbalist, fisherperson, or hunter, have our own version of what Aldo Leopold referred to as an "ecological education." We are acutely aware of the changes already upon us. If global temperatures increase 0.24°C: an extreme acceleration of planetary warming that has been unmatched in 136 years of record-keeping.[28] The year 2017 ended up being the hottest year ever recorded for Earth's oceans, making that year and the four

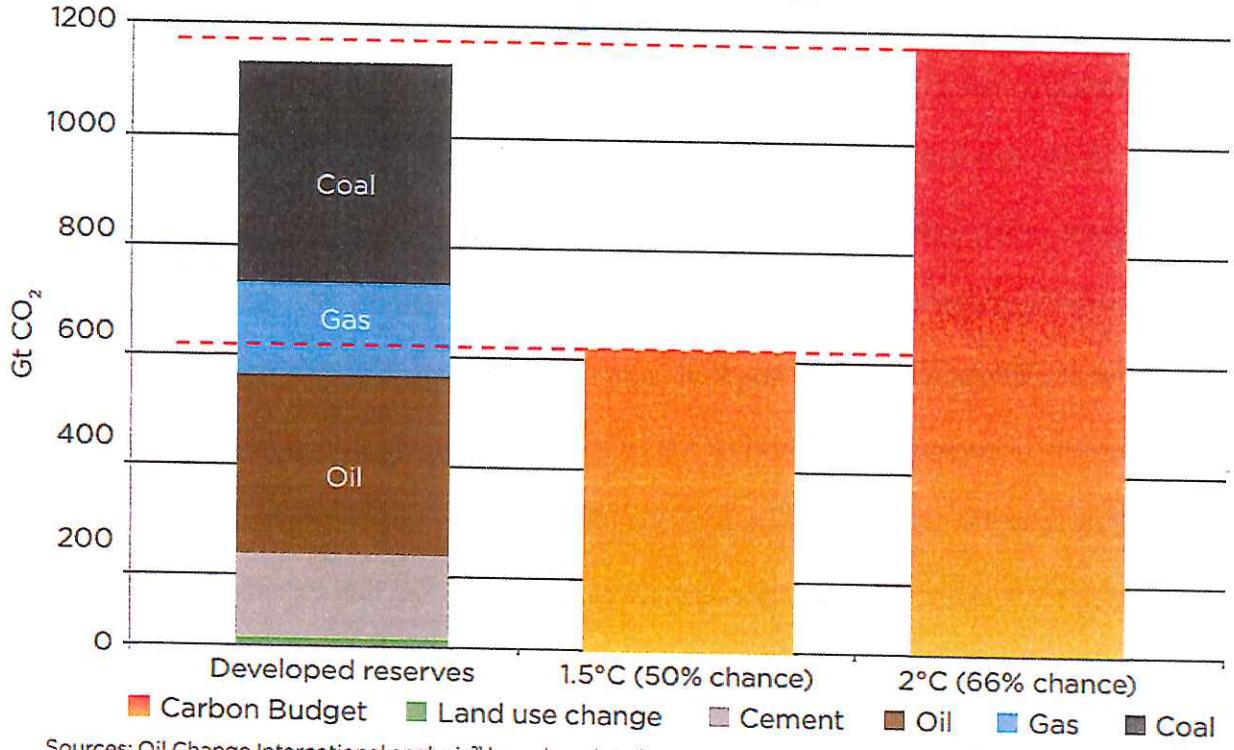
[26] "Drilling Toward Disaster," *supra*, p. 10.
[27] Dana Nuccitelli, "Scientists Warned the US President About Global Warming 50 Years Ago Today," *The Guardian* (Nov. 5, 2015).
[28] "NASA, NOAA Data Show 2016 Warmest Year on Record Globally," *NASA* (Jan. 18, 2017), available at https://climate.nasa.gov/news/2537/nasa-noaa-data-show-2016-warmest-year-on-record-globally/.

before it the top five hottest years on record.[29]

As Dr. Bren Kirtman said to me, "Are we going to continue burning fossil fuels on a business-as-usual type of trajectory or are we going to implement the Paris Accords and try to reduce our CO2 emissions? If we continue on the current trajectory we are going to be on the higher end." Current national policy pledges under the Paris Agreement would put the world on course for 2.4 to 3.8 degrees Celsius of warming, a catastrophic outcome.[30] Existing oil and gas fields and coal mines already contain enough carbon to push the world beyond the goals of the Paris Agreement.[31]

[29] John Abraham, "In 2017, the Oceans Were by Far the Hottest Ever Recorded," *The Guardian* (Jan. 26, 2018), available at https://www.theguardian.com/environment/climate-consensus-97-per-cent/2018/jan/26/in-2017-the-oceans-were-by-far-the-hottest-ever-recorded.
[30] "Drilling Toward Disaster," *supra*, p. 3.
[31] *Id* p. 5.

Figure ES-1: CO_2 Emissions from Developed Fossil Fuel Reserves, Compared to Carbon Budgets (as of Jan. 2018) within Range of the Paris Goals



Sources: Oil Change International analysis[21] based on data from Rystad Energy, International Energy Agency (IEA), World Energy Council, and IPCC

An Oil Change International report stated that "If not curtailed, U.S. oil and gas expansion will impede the rest of the world's ability to manage a climate-safe, equitable decline of oil and gas production," finding that "under an illustrative 1.5°C pathway for oil and gas taken from the Intergovernmental Panel on Climate Change, U.S. production would exhaust nearly 50 percent of the world's total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050."[32]

Q. How does this relate to PNM's filing in this case?

A. According to Ronald Darnell's direct testimony on pp. 1-2, this case is "all about the implementation of the Energy Transition Act [that] charts a new energy policy course for the

[32] *Id* at p. 6.

state to transition from traditional energy resources to a carbon-free environment. The Energy Transition Act does so by creating an innovative framework for New Mexico's public utilities to replace coal-fired generation facilities with renewable resources, like wind and solar, natural gas-fired peaking plants and cutting-edge energy storage technologies."

In order to achieve the "cleaner environment" Mr. Darnell says is the purpose of the ETA.[33] PNM must not be allowed to replace the San Juan coal generation with dangerous gas-fired plants that contribute to climate disruption. Luckily, today there are other replacement power renewable and storage alternatives that are consistent with the health and welfare of the public, including reduction in electrical usage, otherwise known as conservation.

It doesn't even make financial sense to continue to allow fossil fuel expansion. All mining, including oil and gas extraction, accounted for 1.4% of U.S. gross GDP in 2017.[34] Meanwhile, the latest National Climate Assessment warned that worsening climate destruction caused by fossil fuel pollution could destroy up to 10% of U.S. GDP by the end of this century from damaged infrastructure, lost work hours, pollution-induced deaths, and more.[35]

Q. What are the role of regulators?

A. Climate leadership must commit to: banning new leases, licenses, or permits that enable new fossil fuel exploration or infrastructure, rejecting existing proposals, phasing out fossil fuels in a way that prioritizes environmental justice for vulnerable communities, ending subsidies and other public finance for the fossil fuel industry, championing a green new deal that ensures a

[33] 19-00018-UT, Deposition of Ronald N. Darnell, November 26, 2019, pp. 11-12.
[34] U.S. Bureau of Economic Analysis, "GDP by Industry: Value Added by Industry as a Percentage of Gross Domestic Product," (November 1, 2018), *available at* https://apps.bea.gov/iTable/iTable.cfm?ReqID=51&step=1.
[35] Jeremy Martinich et al., "Chapter 29: Reducing Risks Through Emissions Mitigation," In: Fourth National Climate Assessment, U.S. Global Change Research Program, 2018, Figures 29.2 and 29.3, https://nca2018.globalchange.gov/chapter/29/.

rapid and just transition to 100 percent renewable energy, and rejecting the influence of fossil fuel industry money.[36] Investment in new fossil fuel extraction and infrastructure projects is a commitment to future emissions, because companies are "locked in" to trying to extract profits from their investments. Every decision around a new fossil fuel lease or fossil fuel energy generation is an opportunity for politicians and regulators to stop fossil fuel expansion and champion a just transition to an economy powered by clean energy. This transformation will be challenging, but it might be manageable. By allowing continued expansion of the fossil fuel economy, governments not only enable new pollution, they also entangle more workers and communities in an industry that has no viable future on a livable planet.

The vast majority of known fossil fuel reserves must stay in the ground to keep global warming below 2°C.[37] Limiting carbon emissions to 1.5°C would reduce the number of people exposed to climate-related risks and poverty by up to several hundred million by 2050, it would reduce sea level rise risks for 10 million fewer people, would reduce the number of people exposed to climate change-induced water stress by *half*, and lower the amounts of species loss, forest fires, invasive species, and marine and coastal ecosystem loss.[38]

Q. Do you think that carbon capture and sequestration technology will significantly reduce carbon emissions in the near future?

A. No, I do not. Reliance on negative emissions technologies like carbon capture and storage would come with significant social and ecological risks and governance challenges. Scientists

[36] The International Trade Union Confederation (ITUC), which fought for inclusion of just transition in the preamble to the Paris Agreement, defines a just transition as "an economy-wide process that produces the plans, policies and investments that lead to a future where all jobs are green and decent, emissions are at net zero, poverty is eradicated, and communities are thriving and resilient." Just Transition - Where Are We Now and What's Next?, ITUC (2017), p. 6, https://www. ituc-csi.org/IMG/pdf/ituc_climate_justice_ frontline_briefing_2017.pdf.
[37] "Drilling Toward Disaster," *supra*, p. 11.
[38] *Id* p. 10.

Kevin Anderson and Glen Peters write in regard to CCS that it faces "major and perhaps insurmountable obstacles."[39]

Q. Is a moratorium on gas appropriate?

A. Yes. This has actually already been done. In an unprecedented move, the Arizona Corporation Commission (ACC) voted against the 2017 IRP proposed by Arizona Public Service Corporation and Tucson Electric Power. Their proposed "MCEP" was comprised mostly of gas and nuclear, and the ACC rejected it and issued an Order that created a moratorium on gas plants because renewables plus storage reduce "potential unnecessary capital improvements in the near future and stranded asset costs in the long-term." Order, Arizona Corporation Commission, DOCKET NO.: E-00000V-15-0094, 3/13/2018. Exhibit DJ-02.

Q. What standards apply to PNM's request for new resources?

A. Section 62-9-1 of the New Mexico Public Utility Act says that "[n]o public utility shall begin the construction or operation of any public utility plant or system or of any extension of any plant or system without first obtaining from the commission a certificate that public convenience and necessity require or will require such construction or operation." According to PNM witness Mark Fenton,[40] the Commission has historically applied four criteria to determine if a Certificate of Convenience and Necessity (CCN) should be issued: (1) there is a need for the facility; (2) the facility is the most economical choice among the feasible alternatives; (3) *no environmental violations are noted*; and (4) no valid public opposition is received or the applicant is able to mitigate valid public concerns and impacts, thus making the project in the

[39] Peter Erickson, Michael Lazarus, and Georgia Piggot, "Limiting fossil fuel production as the next big step in climate policy," Nature Climate Change 8, November 26, 2018, Figure 1, p. 1038, https://doi.org/10.1038/s41558-018-0337-0.

[40] NMPRC Case No. 19-00018-UT/19-00195-UT, Direct Testimony of Mark A. Fenton, pp. 11-12. (emphasis added)

public interest. I would like to say in the strongest terms that building a gas plant cannot possibly be in the public interest. I have discussed at length throughout my testimony the numerous environmental violations associated with natural gas extraction and burning. For that reason, I do not think PNM could satisfy these requirements and receive a CCN for building a gas plant at this point with the knowledge we have about how dire the state of our climate is.

Q. Do you have any final thoughts?

A. The climate crisis is the single largest existential threat of our time. We cannot rely on the same failed technologies that have brought us to these potential catastrophic calamities. Essentially, my testimony is asking the Commission to exhibit courage and forward thinking, not reliance on the status quo. I request that the Commission take a bold stance and initiate a moratorium on all new gas plants. The time is now. Reject PNM's request for gas. Invest instead in renewables plus storage, which is ultimately less expensive for ratepayers in the long run, both from an economic and environmental perspective. I am learning from the wisdom of Indigenous leaders that if we don't take care of our only home we may well cause the annihilation of our own species, as well as many, many others. When considering the well-being of the future generations of all species, it makes no sense whatsoever to continue with any further oil and gas development of any kind, anywhere in the world.

The New Mexico Public Regulation Commission will be a national leader if it institutes a moratorium on gas.

Q. Does this conclude your testimony?

A. Yes, at this time.

EXHIBIT DJ-1

DAHR JAMAIL independent journalist / author

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RESUME

Born December 11, 1968, Houston, Texas, USA.

EDUCATION

1991	B.A in Speech Commuications. Texas A & M University, College Station, Texas. Minors: Psychology, Sociology, Philosophy.

RESIDENCIES & AWARDS

2017	Wallace Action Fund grant recipient
2016	Wallace Action Fund grant recipient
2015	Lannan Foundation Writing Residency Fellowship
2015	Wallace Action Fund grant recipient
2014	Project Censored Journalism Award
2010	Blue Mountain Center Writer's Residency
2009	Connecticut Independent Journalism Award
	Project Censored Journalism Award
2008	Martha Gellhorn Award for Investigative Journalism
	Lannan Foundation Writing Residency Fellowship
	James Aronson Award for Social Justice Journalism
	Project Censored Journalism Award
2007	Joe A. Callaway Award for Civic Courage
	Project Censored Journalism Award
2006	Project Censored Journalism Award

PROFESSIONAL EXPERIENCE

2013-present	Staff Reporter, Truthout.org
2011-2013	News Producer, Al Jazeera English
2010-2013	Reported on BP oil spill in Gulf of Mexico. Also reported on US soldiers refusing to serve in Iraq and Afghanistan.
2003-2013	Reported from Iraq
2007	Reported on aftermath of 2006 Israel/Lebanon War
2006	Reported on Israel/Lebanon War, and reported on Iraqi refugee crisis in Syria.
2003-2005	Reported independently and unembedded from Iraq.

SELECTED TELIVISION & RADIO APPEARANCES

2009-2016	Al-Jazeera English, Riz Khan Show, Democracy Now! Russia Today, Grit TV (Laura Flanders)
2008	BBC World Service, Democracy Now!
2007	Al-Jazeera English, Riz Khan Show, National Public Radio, Danish National Television, Democracy Now!
2006	Democracy Now!, BBC World Service
2005	BBC Newsnight, Sky TV Turkey, Democracy Now!
2004	National Public Radio, BBC World Service, Democracy Now!

MOUNTAINEERING EXPERIENCE

2000-2016	Mountaineering Rescue Volunteer, Denali National Park (Includes helicopter training)
2001	Alaskan Broad Peak Expedition, (successful summit)

1998-2000	Mountain Guide (Denali), Mountain Trip (Gary Bocarde's service, Anchorage)
2000	Taught Glacier Travel/Crevasse Rescue classes
1999	Wilderness First Responder Certification
1996-2015	Summits: Denali x3 (West Buttress x2, West Rib), Aconcagua, Broad Peak (Pakistan), El Pico de Orizaba and Iztaccihuatl (Mexico), Mount Rainier, dozens of peaks in the Chugach, Mt Baker, Mt Adams, Mt Crosson, Mt Deception, Mt Carrie, Mt Constance, The Brothers

SELECTED PRINT & ONLINE PUBLICATIONS

Inter Press Service, Le Monde Diplomatique, Le Monde, The Nation, The Sunday Herald Scotland, The Guardian, The Independent, Foreign Policy in Focus

BOOKS

2019 *The End of Ice: Bearing Witness and Finding Meaning in the Path of Climate Disruption.* The New Press. *The Best Science Books for 2019, Smithsonian Institute,* https://www.smithsonianmag.com/science-nature/ten-best-science-books-2019-180973744/

2014 *The Mass Destruction of Iraq: Who's Responsible?* Truthout.

2009 *The Will to Resist: Soldiers Who Refuse to Fight in Iraq and Afghanistan*. Chicago. Haymarket Books.

2007 *Beyond the Green Zone: Dispatches from an Unembedded Journalist in Occupied Iraq*. Chicago. Haymarket Books.

WEBSITE

http://www.dahrjamail.net

Exhibit DJ-2

ANDY TOBIN'S PROPOSED AMENDMENT NO. 4

TIME/DATE PREPARED: **3/12/2018**

COMPANY: **Arizona Corporation Commission** AGENDA ITEM NO.: **22**

DOCKET NO.: **E-00000V-15-0094** OPEN MEETING DATE: **3/13/2018**

In an effort to protect ratepayers from potential unnecessary capital improvements in the near future and stranded asset costs in the long-term, this amendment places a temporary moratorium on new natural gas infrastructure pending Commission review and approval on a case by case basis.

Page 49, Line 24 – INSERT New Ordering Paragraph:

"IT IS FURTHER ORDERED that a Load Serving Entity may not procure by purchase, acquisition, or construction a generating facility of natural gas energy of 150 MW of capacity or more unless all of the following conditions are met: (a) all ordering paragraphs, conditions, and additional compliance items required by this Decision have been fully satisfied, as determined by a future order of the Commission; (b) the Load Serving Entity has conducted an independent analysis comparing the present and future costs between the specific natural gas procurement and alternative energy storage options and Staff reviewed that analysis; and (c) the Load Serving Entity filed a petition under R14-2-704(E) that seeks approval for the specific procurement, and the Commission approved the petition. This ordering paragraph and the requirements it establishes shall expire automatically on January 1, 2019.

** **Make all conforming changes**

THIS AMENDMENT:		
_____ Passed	_____ Passed as amended by	_____
_____ Failed	_____ Not Offered	_____ Withdrawn

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S CONSOLIDATED APPLICATION FOR APPROV ALS FOR THE ABANDONMENT, FINANCING, AND RESOURCE REPLACEMENT FOR SAN JUAN GENERATING STATION PURSUANT TO THE ENERGY TRANSITION ACT	)))))))	19-00195-UT

AFFIDAVIT OF DAHR JAMAIL

STATE OF WASHINGTON)
) **ss**
JEFFERSON COUNTY)

1. My name is Dahr Jamail. I am an investigative reporter and author.

3. I wrote the attached testimony and I believe it is true and accurate to the best of my knowledge.

Further Affiant sayeth naught.

Dahr Jamail
DAHR JAMAIL

12-6-19
DATE

Subscribed and sworn to before me by Dahr Jamail on this the 6th day of DECEMBER 2019.

Diana L Kenyon
Notary Public

My Commission Expires: 2/25/2020

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF PUBLIC SERVICE COMPANY OF NEW MEXICO'S CONSOLIDATED APPLICATION FOR APPROVALS FOR THE ABANDONMENT FOR SAN JUAN GENERATING STATION PRUSUANT TO THE ENERGY TRANSITION ACT	)	Case No. 19-00195-UT

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the foregoing:

Testimony and Exhibits of Dahr Jamail

was sent on December 13, 2019, was sent by me on the same date as indicated below to the following individuals:

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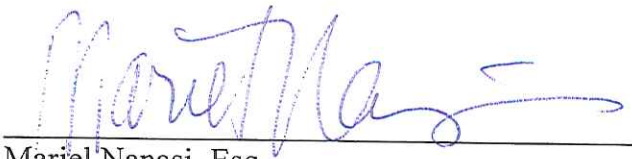
DATED this December 13, 2019.

New Energy Economy



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