

**BEFORE THE STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION**

DG 17-152

Liberty Utilities (EnergyNorth Natural Gas) Corp., dba Liberty Utilities

Least Cost Integrated Resource Plan

**INTERVENOR, TERRY CLARK’S, MOTION TO DISMISS  
AND FOR A MORATORIUM ON GAS EXPANSION PLANS**

Intervenor, Terry Clark (“Clark”), by and through undersigned counsel, Richard M. Husband, Esquire, hereby respectfully moves that the Public Utilities Commission (“Commission”) dismiss this proceeding based upon the Commission’s inability to approve the Least Cost Integrated Resource Plan (“LCIRP”) submitted by Liberty Utilities (EnergyNorth Natural Gas) Corp., dba Liberty Utilities (“Liberty”), as Liberty’s gas infrastructure and customer expansion plans under the LCIRP are inconsistent with New Hampshire law, and that the Commission place a moratorium on such plans as consistent with state law. In support of this motion, Clark states as follows:

1. The background of this matter is set forth in the February 8, 2018 [Order of](#)

[Notice:](#)

“Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities (Liberty) is a public utility pursuant to RSA 362:2, that provides natural gas service to customers in southern and central New Hampshire and in Berlin. On October 2, 2017, Liberty filed a petition for approval of its 2017 Least Cost Integrated Resource Plan (LCIRP) pursuant to RSA 378:38 and Order No. 25,762 (Feb. 9, 2015), as updated by a secretarial letter dated June 26, 2017, which set the due date for Liberty's LCIRP filing as October 1, 2017 (a Sunday). Liberty also filed a motion for protective order and confidential treatment regarding the LCIRP.”

*Id.* Since the Order of Notice issued, a prehearing conference and technical session were held on March 9, 2018, a schedule was approved on April 5, 2018, and petitions to intervene, including Clark’s petition, were just granted by the Commission’s May 11, 2018 order.

2. This proceeding, seeking approval of Liberty’s 2017 LCIRP for the forecast period 2017/2018 - 2021/2022, is a part of Liberty’s aggressive plans to expand its natural gas infrastructure, supply commitments and customer base, as is evidenced by Commission approvals it has recently obtained for Concord, *see* [Commission Order No. 25,965 \(November 10, 2016\)](#), Pelham/Windham, *see* [Commission Order No. 25,987 \(February 8, 2017\)](#) and Lebanon/Hanover, *see* [Commission Order No. 26,109 \(March 5, 2018\)](#), and is seeking for Keene, *see* [Commission Docket No. DG 17-068](#) (the “Keene case”) and the Granite Bridge Project. *See* [Commission Docket No. DG 17-198](#) (the “Granite Bridge Project case”). In the Granite Bridge Project case, Liberty avers that a moratorium on all of its expansion plans will be necessary if the project is not approved. *See* [Granite Bridge Project case petition, ¶ 4](#). Clark opposes Liberty’s expansion plans and asserts that, under the circumstances, a moratorium on growth—not increasing and extending our fracked gas fuel commitment for decades, as is called for under Liberty’s plans—is, indeed, the proper course under New Hampshire law.

3. On information and belief, much, if not the vast majority, of natural gas that Liberty distributes in New Hampshire is hydraulically fractured (“fracked”) natural gas. As is noted in his petition to intervene, Clark is an approximately 40-year resident of Keene, in his third term as a city councilor representing Ward 3. While he has intervened in this matter solely in his individual capacity and not as a city councilor, Clark believes that a rapid transition to sustainable energy sources is necessary to address the climate change crisis, is working with many citizens from within and outside of his ward who are concerned with climate change

and/or the health and safety concerns related to fracked gas use to make solar and other sustainable energy sources available to the city, and is concerned that the approval sought by Liberty to expand its fracked gas services in Keene under the Keene case, as possibly supported by an approval in this proceeding, will likely impede the development and availability of sustainable alternatives in the city for at least another generation. Clark, has also intervened in the Keene case, and opposes Liberty's expansion plans under that case and through this proceeding as largely creating, not addressing, demand, as being contrary to the public interest, and as not presenting the lowest reasonable cost option for addressing any real demand.

4. Clark moves to dismiss this proceeding for the reason the Commission dismissed the petition in [Commission Docket No. DE 16-241](#): Liberty's plans are inconsistent with New Hampshire law. See [Commission Order No. 25,950 \(October 6, 2016\)](#).

5. The Commission must act consistent with the public interest and has broad discretion in carrying out this obligation. See, e.g., *Waste Control Systems, Inc. v. State*, 114 N.H. 21, 24 (1974); *Boston & Maine R.R. v. State*, 102 N.H. 9, 10 (1959); *Harry K. Shepard, Inc. v. State*, 115 N.H. 184, 185 (1975); *Browning-Ferris Industries of New Hampshire, Inc. v. State*, 115 N.H. 190, 191 (1975).<sup>1</sup> This requires consideration of not only the needs of the persons and utility directly involved, but also "the needs of the public at large." See *Waste Control Systems, Inc. v. State, supra*, 114 N.H. at 24)(citing *Boston & Maine R.R. v. State, supra*, 102 N.H. at 10). To meet its charge, the Commission must weigh asserted public benefits against actual costs, including environmental costs. See *Public Service Company of New Hampshire d/b/a Eversource Energy*, [Commission Docket No. DE 16-241, Order of Notice, at 3-4](#).

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<sup>1</sup> Of course the Commission must act in the public interest: it would be irrational for the legislature to create a state agency that did not carry such a charge.

6. The “needs of the public at large” are obvious: the public demands climate action, particularly energy decision-making that results in fewer greenhouse gas emissions, and has for years, as is shown by:

- the 2001 issuance of "[The New Hampshire Clean Power Strategy](#)" to address, in part, state greenhouse gas emissions and climate change;
- a 2007 state referendum whereby [more than a two-thirds majority of New Hampshire cities and towns \(160+ out of 234\)](#) voted for [strong federal climate initiatives](#);<sup>2</sup>
- the state’s 2008 enactment of the Regional Greenhouse Gas Initiative program under [R.S.A. 125-O:20-29](#) to lower greenhouse gas emissions from large power plants to address climate change;
- the 2009 "[New Hampshire Climate Action Plan](#)", which reflects the input of public comment sessions, *see id.* at iv, calling for state reductions in greenhouse gas emissions. *See id.* at 1-2;
- the 2014 "[New Hampshire 10-Year State Energy Strategy](#)", which also reflects the public will through public comments, *see id.* at “Acknowledgments,” and emphasizes efficiency, promoting sustainable energy and otherwise diversifying our (gas and other fossil fuel heavy) fuel portfolio, and emissions mitigation, going forward;

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<sup>2</sup> For readers of a non-pdf version of this motion not having blue URL links to sources, please see: [http://www.newhampshirelakesandmountains.com/Articles-c-2010-04-15-151000.113119\\_Plymouth\\_leads\\_the\\_way\\_to\\_new\\_energy\\_future.html](http://www.newhampshirelakesandmountains.com/Articles-c-2010-04-15-151000.113119_Plymouth_leads_the_way_to_new_energy_future.html); and [http://www.nytimes.com/2007/03/19/us/19climate.html?\\_r=1](http://www.nytimes.com/2007/03/19/us/19climate.html?_r=1).

- the 2016 entry of the United States into the [Paris Climate Accord](#), with emission pledges that including cutting U.S. emissions by 26-28% compared to 2005 levels by 2025;<sup>3</sup>
- a June 2017 *Washington Post*-ABC News poll, conducted just after President Trump announced his intention to withdraw from the [Paris Climate Accord](#), indicating that an overwhelming majority of registered voters opposed the decision—nearly 60% against to less than half that in favor.<sup>4</sup> Grounded in steady emissions mitigating goals, the terms of the [Paris Climate Accord](#) have been accepted by every nation among the nearly 200 in the world, including the United States—the United States is a current signatory and therefore committed to its terms until such time as it may actually withdraw from the agreement, with the earliest possible time for withdrawal not until November, 2020.<sup>5</sup> Even then, *should* the nation formally withdraw from the [Paris Climate Accord](#), most Americans, including New Hampshire residents, want to abide by the commitments of the agreement, as just noted, New Hampshire

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<sup>3</sup> See September 6, 2016 online article “U.S. and China Formally Commit to Paris Climate Accord,” by Jean Chemnick (ClimateWire), available in the online edition of the *Scientific American* at <https://www.scientificamerican.com/article/u-s-and-china-formally-commit-to-paris-climate-accord/>.

<sup>4</sup> This poll is discussed in the June 6, 2017 online article “Washington Post/ABC poll: Nearly 60% of registered US voters oppose Trump’s decision to leave the Paris agreement,” by Madeleine Sheehan Perkins, in the online edition of the *Washington Post* at <http://www.businessinsider.com/trump-paris-climate-accord-opposition-support-poll-2017-6>. The poll itself is at [https://www.washingtonpost.com/page/2010-2019/WashingtonPost/2017/06/05/National-Politics/Polling/question\\_18757.xml?uuiid=4yijsEohEeeYfEKrV0XbLg](https://www.washingtonpost.com/page/2010-2019/WashingtonPost/2017/06/05/National-Politics/Polling/question_18757.xml?uuiid=4yijsEohEeeYfEKrV0XbLg).

<sup>5</sup> See [https://en.wikipedia.org/wiki/Paris\\_Agreement](https://en.wikipedia.org/wiki/Paris_Agreement).

Millennials, in particular, are clamoring for it (see below), and our state cities are taking the initiative on their own (see below);<sup>6</sup>

- a 2017 nationally representative survey conducted by the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication , which shows that [a majority of registered voters believe that government, industry and society as a whole should be doing more to address global warming, and two-thirds of registered voters say the U.S. should reduce its greenhouse gas emissions, regardless of what other countries do;](#)<sup>7</sup>
- a March 1-5, 2017 Gallop poll finding that [a clear majority of Americans prioritize environmental protection over measures designed to grow our energy supplies or economy;](#)<sup>8</sup>
- the 2017 Annual Report from the Governor’s Millennial Advisory Council, which concludes, in relevant part, that:

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<sup>6</sup> Whether the United States ultimately withdraws from the [Paris Climate Accord](#) or not, its standard cannot be ignored here, both because we are “in” until we are actually “out” of the agreement and because so many New Hampshire and other American citizens have committed, or want to commit, to its goals, either way, and because the agreement establishes an objective standard for determining reasonableness, as is discussed below. Dereliction of a world standard of propriety does not create its own lesser standard. As Justice Oliver Wendell Holmes noted:

“What usually is done may be evidence of what ought to be done, but what ought to be done is fixed by a standard of reasonable prudence, whether it usually is complied with or not.”

*Texas & Pacific Railway v. Behymer*, 189 U.S. 468, 470 (1903).

<sup>7</sup> See Leiserowitz, A., Maibach, E., Roser-Renouf, C. Rosenthal, S. & Cutler, M. (2017) *Politics & Global Warming, May 2017*. Yale University and George Mason University, New Haven, CT: Yale Program on Climate Change Communication, “Key Findings,” at 4, available at <http://climatecommunication.yale.edu/wp-content/uploads/2017/07/Global-Warming-Policy-Politics-May-2017.pdf>.

<sup>8</sup> See <http://news.gallup.com/opinion/polling-matters/207608/public-opinion-context-trump-environmental-actions.aspx>.

“It is overwhelmingly clear through polls and studies that a progressive and proactive stance on Climate Change and Climate Policy is important to members of the Millennial Generation. Regardless of background, political affiliation, or other personally-held beliefs, a large majority of Millennials believe that climate change is happening and that the earth's warming is due to human activity.

Millennials are particularly in favor of sustainable energy generation. Approximately 71% of Millennials believe we should prioritize alternative energy generation over oil, gas, and coal exploration, and 82% favor increased funding for wind, solar, and hydrogen technologies ...

**The State of New Hampshire should demonstrate its leadership and dedication to a healthy and viable climate by ... committing to meeting the emissions targets agreed upon in the Paris Climate Accord ...”<sup>9</sup>**

- the fact that over 40% of Americans, through their states or otherwise—including the citizens of Nashua, Portsmouth, Keene, Lebanon and Concord, New Hampshire—have now adopted the emissions reduction goals of the [Paris Climate Accord](#). *See* [https://en.wikipedia.org/wiki/United\\_States\\_Climate\\_Alliance](https://en.wikipedia.org/wiki/United_States_Climate_Alliance); <http://hippopress.com/read-article/mayors-vs-climate-change>;
- the [strong public support in New Hampshire for environmental protection in general](#);<sup>10</sup>
- the state’s commitment to reduce greenhouse gas emissions to near net-zero by 2050 as a member of the [Under2Coalition](#);
- the public comments in recent Commission proceedings;

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<sup>9</sup> See p. 14 (emphasis added) at [http://mediad.publicbroadcasting.net/p/nhpr/files/201712/governor\\_s\\_millennial\\_advisory\\_council\\_2017\\_annual\\_report\\_0.pdf](http://mediad.publicbroadcasting.net/p/nhpr/files/201712/governor_s_millennial_advisory_council_2017_annual_report_0.pdf).

<sup>10</sup> See February 17, 2017 online NHPR article “UNH Poll: There’s Strong Support for Environmental Protections in New Hampshire,” by Jason Moon, at <http://nhpr.org/post/unh-poll-theres-strong-public-support-environmental-protections-new-hampshire#stream/0>.

- the public comments submitted in response to the state’s recent request for public comments on revisions to the [“New Hampshire 10-Year State Energy Strategy”](#). See generally comments posted on the New Hampshire Office of Strategic Initiatives website at <https://www.nh.gov/osi/energy/programs/energy-strategy-revision.htm>.

7. The public demands climate action because it is one of the all-time greatest “needs of the public at large.” *Waste Control Systems, Inc.*, 114 N.H. at 24. The situation is truly dire, with a rapidly closing window for action. In 2013, the Intergovernmental Panel on Climate Change (“IPCC”), the world’s leading international body for the assessment of climate change,<sup>11</sup> issued its Fifth and most recent assessment report,<sup>12</sup> which found that the world’s “carbon budget,” *i.e.*, the total amount of greenhouse gases that can be burned before we risk increasing, dangerous climate impacts associated with post-industrial global warming exceeding two degrees, will run out about 2040.<sup>13</sup> However, last June, 2017, climate change experts, including former United Nations climate chief Christiana Figueres and Hans Joachim Schellnhuber of the IPCC, published a [letter](#) in the journal *Nature* warning that an immediate, monumental acceleration in climate change efforts is needed between now and 2020 to ensure

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<sup>11</sup> See IPCC website at <http://ipcc.ch/organization/organization.shtml>.

<sup>12</sup> IPCC, 2013: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp, doi:10.1017/CBO9781107415324, available at [http://www.climatechange2013.org/images/report/WG1AR5\\_ALL\\_FINAL.pdf](http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf).

<sup>13</sup> See October 23, 2013 online article “Carbon Briefing: Making Sense of the IPCC’s New Carbon Budget” at <https://www.carbonbrief.org/carbon-briefing-making-sense-of-the-ipccs-new-carbon-budget> and September 27, 2013 (updated November 18, 2013) World Resources Institute online article “World’s Carbon Budget to Be Spent in Three Decades” at <http://www.wri.org/blog/2013/09/world%E2%80%99s-carbon-budget-be-spent-three-decades#fn:2>.



that we do not exhaust the budget much sooner.<sup>14</sup> Similarly, two different studies published in the journal *Nature Climate Change* on July 31, 2017, [one using a statistical analysis](#), the [other relying on an analysis of past greenhouse gas emissions](#), conclude that only a rapid escalation in climate action may keep us within the two degree warming goal and prevent rising seas, mass extinctions, super droughts, increased wildfires, more intense hurricanes, decreased crops and freshwater, and the melting of the Arctic.<sup>15</sup> Consistently, “The Emissions Gap Report 2017,” published by the United Nations only five months ago, urges the implementation of more ambitious national emissions cutting targets by 2020, *spurred by local action*, finding it [“clear that if the emissions gap is not closed by 2030, it is extremely unlikely that the goal of holding global warming to well below 2°C can still be reached ... \[as\] the carbon budget for limiting global warming to below 2°C will be about 80 percent depleted by 2030.”](#) “The Emissions Gap Report 2017” (UNEP, Nov. 2017), p. xiv, available at [https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR\\_2017.pdf](https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf).

We are running out of time to cut emissions; the United States is, in fact, already falling short of its goals under the [Paris Climate Accord](#), and a major reason is that we use too much methane.<sup>16</sup>

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<sup>14</sup> See June 28, 2017 online article “Three Years to Safeguard Our Climate,” by Christiana Figueres, Hans Joachim Schellnhuber, et. al., in the online edition of *Nature* at <https://www.nature.com/news/three-years-to-safeguard-our-climate-1.22201>. See also June 28, 2017 online article “World has three years left to stop dangerous climate change, warn experts,” by Fiona Harvey in the online U.S. edition of *The Guardian* at <https://www.theguardian.com/environment/2017/jun/28/world-has-three-years-left-to-stop-dangerous-climate-change-warn-experts>.

<sup>15</sup> These studies are discussed in the July 31, 2017 CNN/cnn.com online article “Earth to warm two Degrees by the end of this century, studies say,” by Ashley Strickland at <https://www.cnn.com/2017/07/31/health/climate-change-two-degrees-studies/index.html>.

<sup>16</sup> Please see September 26, 2016 online article “The U.S. is on course to miss its emission goals, and one reason is methane,” by Chris Mooney, in the online edition of the *Washington Post* at [https://www.washingtonpost.com/news/energy-environment/wp/2016/09/26/the-u-s-is-on-course-to-miss-its-emissions-goals-and-one-reason-is-methane/?utm\\_term=.779077ebc886](https://www.washingtonpost.com/news/energy-environment/wp/2016/09/26/the-u-s-is-on-course-to-miss-its-emissions-goals-and-one-reason-is-methane/?utm_term=.779077ebc886).

8. The crisis is not debatable. We cannot continue to ignore all of the warning signs: record-breaking global temperatures year after year,<sup>17</sup> New Hampshire's own prolonged recent drought, the Santa Rosa wildfires—[the U.S. was hit by three Category 4 hurricanes last year!](#)<sup>18</sup> In records going back to 1851, [the contiguous U.S. states had never been struck by two Category 4 hurricanes in one year before.](#)<sup>19</sup> Understandably, as noted by NASA:

"... 97 percent or more of actively publishing climate scientists agree: Climate-warming trends over the past century are extremely likely due to human activities. In addition, most of the leading scientific organizations worldwide have issued public statements endorsing this position."

See NASA website at <https://climate.nasa.gov/scientific-consensus/>. [A 13-agency U.S. government report](#)<sup>20</sup> recently released by the Trump Administration plainly acknowledges that climate change is real and largely caused by Man:

"This assessment concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th Century. For the warming over the last century, there is no convincing

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<sup>17</sup> 17 of the 18 warmest years on record have occurred since 2001. See January 18, 2018 online article "2017 Was One of the Hottest Years on Record. And That Was Without El Niño," by Henry Fountain, Jugal K. Patel and Nadja Povovich, in the online edition of *The New York Times* at <https://www.nytimes.com/interactive/2018/01/18/climate/hottest-year-2017.html>.

<sup>18</sup> For readers of a non-pdf version of this brief, please see: <https://weather.com/storms/hurricane/news/hurricane-maria-irma-harvey-three-united-states-category-4-landfalls#/>.

<sup>19</sup> For readers of a non-pdf version of this brief, please see: <https://twitter.com/bhensonweather/status/904868150298021888>.

<sup>20</sup> USGCRP, 2017: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp., doi: 10.7930/J0J964J6. For readers of a non-pdf version of this brief unable to access the full report by the provided blue URL link, please see [https://science2017.globalchange.gov/downloads/CSSR2017\\_FullReport.pdf](https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf).

alternative explanation ..."<sup>21</sup>

If Man is causing climate change by his greenhouse gas producing activities, Man can likewise ameliorate it by cutting back on greenhouse gas emissions. Again, the report acknowledges this:

“The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse gases (especially carbon dioxide) emitted globally.”<sup>22</sup>

These facts should be administratively noticed by the Commission under [Puc 203.17](#).

9. Of course, as emissions of methane, which typically comprises 87-97% of natural gas,<sup>23</sup> are a potent greenhouse gas<sup>24</sup> causing about 25% of the global warming we are experiencing,<sup>25</sup> any sincere effort to climate change must include curtailing reliance on gas to reduce methane emissions. Indeed, as stated on page 10 of former President Obama’s Climate Action Plan from *five years ago*: [“curbing emissions of methane is critical to our overall effort to address global climate change.”](#)<sup>26</sup> *Increasing*, rather than reducing, methane emissions, as New Hampshire is doing by continually approving more gas use through Commission

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<sup>21</sup> *Id.* at 10 at [https://science2017.globalchange.gov/downloads/CSSR2017\\_FullReport.pdf](https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf). For further discussion of the report and its release, please see the November 3, 2017 CNN/cnn.com online article “Trump Administration report attributes climate change to ‘human activities,’” by Gregory Wallace at <https://www.cnn.com/2017/11/03/politics/trump-climate-change-report/index.html> and August 7, 2017 online article “Scientists Fear Trump Will Dismiss Blunt Climate Report,” by Lisa Friedman, in the online edition of *The New York Times* at <https://www.nytimes.com/2017/08/07/climate/climate-change-drastic-warming-trump.html>.

<sup>22</sup> *Id.* at 11.

<sup>23</sup> See <https://www.uniongas.com/about-us/about-natural-gas/Chemical-Composition-of-Natural-Gas>.

<sup>24</sup> See ["Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking \(Unconventional Gas and Oil Extraction\)" by Physicians for Social Responsibility \(Fifth Edition, March 2018\), p. 21 \(and sources cited therein\)](#).

<sup>25</sup> See discussion on Environmental Defense Fund website at <https://www.edf.org/methane-other-important-greenhouse-gas>.

<sup>26</sup> For readers of a non-pdf version of this brief, please see <https://www.scribd.com/document/149809454/President-Obama-s-Climate-Action-Plan>.

proceedings, brings us that much closer, that much faster, to the edge. Gas is not the “bridge fuel” to carry us to clean, sustainable energy that everyone had hoped. [Original EPA estimates drastically underestimated the impact of the use of gas on climate change](#)<sup>27</sup> and it is not better than using oil or coal, despite cutting back on their greenhouse gas (CO2) emissions: [methane warms the planet 86 times as much as carbon dioxide for the first couple of decades after its use, and 34 times as much for a century.](#)<sup>28</sup> Whatever good natural gas may have done in reducing CO2 emissions to date, we are far too low on our carbon budget to be swapping one greenhouse gas for another and must eliminate methane use as well as CO2 fossil fuel use as soon as possible.

10. Yet, despite the clear public clamor and need for climate action emphasizing greenhouse gas emissions mitigation, from now through 2038, just 12 years before New Hampshire has pledged to achieve near net-zero greenhouse gas emissions as a member of the [Under2Coalition](#) and while the nations of the world (hopefully still including the United States) are [ratcheting up their efforts](#)<sup>29</sup> to meet a similar mid-century zero emissions goal under the [Paris Climate Accord](#), Liberty’s LCIRP and overall expansion plans call for it to *increase* its use of

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<sup>27</sup> For readers of a non-pdf version of this brief, please see: <http://www.theenergycollective.com/david-lewis/48209/epa-confirms-high-natural-gas-leakage-rates>.

<sup>28</sup> For readers of a non-pdf version of this brief, please see ["Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking \(Unconventional Gas and Oil Extraction\)" by Physicians for Social Responsibility \(Fifth Edition, March 2018\), p. 21](#) (citing, per its footnote 780, the Intergovernmental Panel on Climate Change. (2013). *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T. F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex & P. M. Midgley (eds.)]. Cambridge, United Kingdom and New York, NY, USA: Cambridge University Press. doi: 10.1017/CBO9781107415324). See also EPA discussion “Understanding Global Warming Potentials” at <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials> (methane has 20-year GWP of 84-87 and 100-year GWP of 28-36).

<sup>29</sup> For readers of a non-pdf version of this motion, please see the online article “Timeline: the Paris Agreement’s ‘ratchet mechanism,’” by Sophia Yeo (Jan. 19, 2016) at <https://www.carbonbrief.org/timeline-the-paris-agreements-ratchet-mechanism>.

methane gas use—a potent greenhouse gas, as discussed below—by nearly 50%, from a current Design Day demand of 156,822 to a Design Day demand of 229,590 for 2037/2038. This increase is shown by the following table presented by Liberty in the Granite Bridge Project case:<sup>30</sup>

Liberty Utilities (EnergyNorth Natural Gas) Corp.  
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**Table 7: EnergyNorth Design Day Resource Shortfall (Dth)<sup>63</sup>**

Split-Year (Nov-Oct)	Design Day Demand	Design Day Resources, including Propane	Reserve / (Deficiency) including Propane	Reserve / (Deficiency) excluding Propane
2017/18	156,822	162,033	5,211	(29,389)
2018/19	160,989	155,033	(5,956)	(40,556)
2019/20	164,640	155,033	(9,607)	(44,207)
2020/21	168,934	155,033	(13,901)	(48,501)
2021/22	173,917	155,033	(18,884)	(53,484)
2022/23	179,382	155,033	(24,349)	(58,949)
2023/24	184,432	155,033	(29,399)	(63,999)
2024/25	188,856	155,033	(33,823)	(68,423)
2025/26	192,933	155,033	(37,900)	(72,500)
2026/27	196,785	155,033	(41,752)	(76,352)
2027/28	199,954	155,033	(44,921)	(79,521)
2028/29	203,491	155,033	(48,458)	(83,058)
2029/30	206,790	155,033	(51,757)	(86,357)
2030/31	210,016	155,033	(54,983)	(89,583)
2031/32	212,972	155,033	(57,939)	(92,539)
2032/33	215,843	155,033	(60,810)	(95,410)
2033/34	218,828	155,033	(63,795)	(98,395)
2034/35	221,631	155,033	(66,598)	(101,198)
2035/36	224,148	155,033	(69,115)	(103,715)
2036/37	226,863	155,033	(71,830)	(106,430)
2037/38	229,590	155,033	(74,557)	(109,157)

11. The Granite Bridge Project alone renders the LCRIP unapprovable.

<sup>30</sup> The table is found at [page 59 of 104 of the Pre-filed Direct Testimony of William R. Killeen and James M. Stephens, submitted in DG 17-198.](#)

12. The Granite Bridge Project calls for the outrageously expensive<sup>31</sup> huge *future* development of, and commitment to, fracked gas infrastructure and supplies—including approximately 27 miles of 16-inch diameter pipeline, a 2 billion cubic feet LNG facility and a 22 year gas supply contract—at a time when the climate crisis and our own energy policies and greenhouse gas reduction commitments compel a freeze on expansion and a reduction in emissions.<sup>32</sup> Liberty’s cost analysis for the project proposes a 55-year life span for the pipeline and 40-year life span for the LNG facility. See [Pre-filed Directory Testimony of Timothy S. Lyons submitted in the Granite Bridge Project case, Commission Docket No. DG 17-198, at pp. 15 and 19 of 22](#). Consequently, if approved, the pipeline will have to be used until at least 2076 and the facility will have to be used until at least 2062 for ratepayers to avoid stranded costs,<sup>33</sup> while at least one government projection, admitted in evidence just over six months ago in

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<sup>31</sup> Over \$310 million to be passed on to ratepayers. See pp. 15 and 18 of the [Pre-filed Directory Testimony of Timothy S. Lyons, submitted in the Granite Bridge Project case, Commission Docket No. DG 17-198](#). Some estimates, including one by Liberty, place the total cost of the project at \$340 million or more. See, e.g., Slide 4 of Liberty’s presentation at [http://www.biaofnh.com/uploads/5/9/9/2/59921097/final\\_infrastructure\\_updates\\_120617.pdf](http://www.biaofnh.com/uploads/5/9/9/2/59921097/final_infrastructure_updates_120617.pdf); the online WMUR article and newscast at <http://www.wmur.com/article/liberty-utilities-proposes-dollar340-million-underground-natural-gas-pipeline-project/14109140>; the online seacoast.com article at <http://www.seacoastonline.com/news/20180208/340m-gas-pipeline-planned-along-route-101>; and the online article at <https://manchesterinklink.com/a-look-at-liberty-utilities-proposed-underground-gas-pipeline/>.

<sup>32</sup> Climate concerns aside, the project is still a huge overbuild: Epping’s 2 Bcf LNG facility would have roughly half of the LNG storage capacity of all of New Jersey, see [http://www.northeastgas.org/about\\_lng.php](http://www.northeastgas.org/about_lng.php), which serves a far greater population (approximately 9 million) than New Hampshire (approximately 1.4 million). Contemplated similar facilities in Keene and Lebanon would have only a fraction of the storage capability of the Epping facility: whereas the Keene facility would only be capable of fueling a 30 MW electric generating facility for approximately 2.2 days, and the Lebanon facility would only be capable of fueling a 30 MW electric generating facility for roughly 5.2 days, the Epping facility will be able to fuel a 30 MW electric generating facility for approximately **77 weeks!** See Liberty’s responses to discovery in [Exhibit “C”](#) to [Initial Brief of Intervenor, Terry Clark](#) filed in the Keene case. Yet, Liberty claims that the Epping facility will be largely for just potential customers along the Granite Bridge Pipeline. See *id.*

<sup>33</sup> The pipeline is not projected to be operational until late 2021, while the facility will not be running before 2022, at the earliest (both likely subject to the usual project specific and general construction delays). See [Pre-filed Direct Testimony of William R. Killeen and James M. Stephens submitted in the Granite Bridge Project Case, Commission Docket No. DG 17-198, at p. 11 of 104](#).

[Commission Docket No. DG 16-852](#), shows the price of gas starting to spike about the time the project first becomes operational and continuing to rise into the distant future (as sustainable energy prices almost certainly decrease). [See Exhibit 14 admitted in Commission Docket No. DG 16-852](#). If New Hampshire intends to abide by its commitments as a member of the [Under2Coalition](#) and (through the United States) [Paris Climate Accord](#) to reduce greenhouse gas emissions to near net-zero by 2050 and otherwise act responsibly in the face of climate change, and adhere to the requirements of [R.S.A. 378:37](#) to make the “lowest reasonable cost” energy choices, protect the environment and health and safety of citizens in the state’s energy choices and diversify our energy portfolio, *see* discussion, *infra*, the Granite Bridge Project pipeline and LNG facility should never be built to begin with—but, if they are, they will have to be abandoned long before the end of their projected lifetimes.

13. A recent opinion from the Court of Appeals for the District of Columbia Circuit last fall establishes that the Commission not only has the authority to consider climate change in its public interest analysis, but the obligation. In *Sierra Club v. Federal Energy Commission*, 867 F.3d 1357 (Cir. 2017), the Court vacated and remanded a Federal Energy Regulatory Commission (“FERC”) decision approving a gas pipeline project under FERC’s analogous 15 U.S.C. § 717f(e) public interest analysis for failure to consider the downstream climate impacts of the project. The Court concluded that FERC’s analysis was deficient, noting, in pertinent part:

“... greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate ...”

*Id.* at 1374.

14. The reasoning of *Sierra Club* applies equally here. The Commission has the legal authority—and obligation—under its required public interest analysis to consider the impacts

that Liberty’s expansion plans will have on greenhouse gas emissions and the state’s commitments and obligations to address climate change, largely through emissions mitigation, and conclude that a moratorium on Liberty’s expansion plans is called for, accordingly.

15. Even assuming *arguendo* that the public demand and need for climate action, emphasizing emissions mitigation, were not sufficient to invoke the Commission’s obligation to consider the climate crisis, and thus compel a determination that Liberty’s expansion plans are contrary to the public interest, Section VI of [R.S.A. 378:38](#) leads to the same result under its requirement that the LCIRP include:

“An assessment of the plan's long- and short-term **environmental**, economic, and energy price and supply impact on the state.”

*Id.* (emphasis added). The climate crisis plainly falls within an “environmental ... impact” required to be considered under the statute. While the LCIRP states that the requirement is inapplicable, [see id. at 57](#), it expressly applies to “each ... natural gas utility,” without exception, there is no rational support for such an exception, and the LCIRP fails to cite any persuasive authority for its position. The statutory requirement cannot be ignored, and does not require a complicated analysis: increasing methane use for decades contrary to emission mitigation goals will come with an enormously negative environmental impact, the exacerbation of climate change, which is not in the public interest. The Commission cannot stand idly by, holding the button on the breaks to a runaway train, blaming the job description or lack of clarity in orders for not doing the obviously **only** right thing—not when it *must* act in the public interest and the button is in its hand. *See, e.g., Waste Control Systems, Inc.* at 24; *Boston & Maine R.R., supra*, 102 N.H. at 10; *Harry K. Shepard, Inc. v. State, supra*, 115 N.H. at 185; *Browning-Ferris Industries of New Hampshire, Inc. v. State, supra*, 115 N.H. at 191. Besides, again, to meet its charge, the Commission *must* weigh asserted public benefits against actual costs, including



environmental costs, *see Public Service Company of New Hampshire d/b/a Eversource Energy, Commission Docket No. DE 16-241, Order of Notice, at 3-4*, and climate change is a well-established environmental cost of methane use.

16. Nor is the expansion of fracked gas use and extension of our reliance on it for decades, as called for under Liberty's LCRIP and associated future plans, in the public interest from health and safety standpoints.

17. Study after study warns us that fracked gas releases, from gas drilling, production, compressor station, pipeline and other infrastructure leaks and emissions, cause respiratory, heart and other health problems. *See, e.g.*, the following online sources: "[Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking \(Unconventional Gas and Oil Extraction\)](#)" by Physicians for Social Responsibility (Fifth Edition, March 2018), pp. 17-20, 198-210; "[California's Fracking Fluids: the Chemical Recipe,](#)" by Tasha Stoiber, et. al. (EWG; August 2015); "[Potential Hazards of Air Pollutant Emissions from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants](#)" by Ellen Webb, et. al. (2014; published in *Reviews on Environmental Health*, 2016); "[Madison County, New York Department of Health Comments to the Federal Energy Regulatory Committee,](#)" prepared for Madison County Department of Health by Thimble Creek Research (September 30, 2014), pp. 14-28; "[Gas Patch Roulette: How Shale Gas Development Risks Public Health in Pennsylvania,](#)" by Nadia Steinzor, et. al. (October 2012); "[Human Health Impacts Associated with Chemicals and Pathways of Exposure from the Development of Shale Gas Plays,](#)" by Wilma Subra Subra Company (January 9, 2012); "[Gas Compressors and Nose Bleeds,](#)" by Jessica Cohen (Fall 2015).

18. Nor should it be surprising if health problems are linked to fracked gas releases

as fracked natural gas is, unfortunately, *not* the same as conventional, relatively “clean” natural gas,<sup>34</sup> at least not in all stages of the manufacturing and distribution process: rather, fracked gas samples have been found to contain hundreds of chemicals, many of which the industry refuses to disclose. See <https://insideclimatenews.org/news/31032015/fracking-companies-keep-10-chemicals-secret-epa-says>; see also [“Analysis of Hydraulic Fracturing Fluid Data from the FracFocus Chemical Disclosure Registry 1.0,”](#) by the EPA (March 2015); generally [“California’s Fracking Fluids: the Chemical Recipe,”](#) by Tasha Stoiber, et. al. (EWG; August 2015); and [“Madison County, New York Department of Health Comments to the Federal Energy Regulatory Committee,”](#) prepared for Madison County Department of Health by Thimble Creek Research (September 30, 2014), pp. 19-20.

19. In fact, studies and data have associated as many as two dozen or more of the New Hampshire regulated toxic air pollutants (“RTAPs”) identified in [Env-A 1450.01](#) with fracked gas tested at one or more stages of the manufacturing and distribution process, either as additives or a product of its combustion (Volatile Organic Compounds, or “VOCs”). See Liberty’s responses to discovery in [Exhibit “C”](#) to [Initial Brief of Intervenor, Terry Clark](#) filed in the Keene case, identifying 22 such ingredients.<sup>35</sup> From its recent response to Clark’s discovery, the various forms of gas Liberty distributes in New Hampshire “come from a variety of different geographic locations and extraction methods,”<sup>36</sup> Liberty cannot or will not articulate

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<sup>34</sup> Although fracked gas has been around for decades, it has only replaced conventional gas as the market’s “gas” of choice in recent years. See “Summary” and p. 1 of [Tiemann and Vann, “Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues,” Introduction \(Congressional Research Service\)\(2015\)](#).

<sup>35</sup> Additional potential RTAPs identified subsequent to compilation of the list include cadmium, (radioactive) lead, barium, PCBs (polychlorinated biphenyls) and mercury.

<sup>36</sup> See Liberty’s response to Clark Data Request No. 1-3 included within [Exhibit “B”](#) to Clark’s [initial brief](#) filed in the [Keene case](#).

the approximate percentages of the gas that is derived from fracking versus conventional methods<sup>37</sup> (although 90% of new wells are fracked gas<sup>38</sup>), and Liberty would not be able to tell you the chemical composition of the gas it distributes until it had purchased it and had it in its possession.<sup>39</sup> This is not comforting, especially given the long list of chemicals that apparently may be found in just the sulfur Liberty uses to odorize its gas, some of which, *i.e.*, Hydrogen sulfide, Carbon disulfide, Dimethyl disulfide, are themselves [RTAPs](#), and all of which may have a combined cumulative health impact that transcends the individual low limits of these chemicals.<sup>40</sup>

20. Moreover, it is not clear that Liberty's gas analyses<sup>41</sup> identify all of the chemicals in its gas, as it is undersigned counsel's understanding from communications with the New Hampshire Department of Environmental Services that analyses will only cover those chemicals that a laboratory is specifically requested to test for, and that a complete identification of all fracked gas components would likely require more than was undertaken for Liberty's analyses given that, as is discussed in [Exhibit "D" to Clark's initial brief in the Keene case](#):

- “No single laboratory has the capability of analyzing natural gas for all of the constituents of interest. This means each class of analyte may require

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<sup>37</sup> See Liberty's responses to Clark Data Request No. 1-1 and Clark Data Request No. 1-2 included within [Exhibit "B"](#) to Clark's [initial brief](#) filed in the [Keene case](#).

<sup>38</sup> See “Summary” of [Tiemann and Vann, "Hydraulic Fracturing and Safe Drinking Water Act Regulatory Issues," Introduction \(Congressional Research Service\)\(2015\)](#).

<sup>39</sup> See Liberty's response to Clark Data Request No. 1-3 included within [Exhibit "B"](#) to Clark's [initial brief](#) filed in the [Keene case](#).

<sup>40</sup> See Attachment Clark 1-4, Attachment Clark 1-6 and Attachment Clark 1-8 included within [Exhibit "B"](#) to Clark's [initial brief](#) filed in the [Keene case](#).

<sup>41</sup> See Liberty's response to Clark Data Request No. 1-10, included within [Exhibit "C"](#) to Clark's [initial brief](#) filed in the [Keene case](#).

collection of multiple containers to be sent to multiple laboratories. In addition, the gas volumes needed for some analyses may require multiple containers per sample.” It does not appear that Liberty’s analyses derive from multiple samples sent to multiple laboratories.

- “Samples of natural gas cannot be analyzed directly for metals or for Formaldehyde, Acetaldehyde, Gluteraldehyde, and Propionaldehyde (aldehydes) but must be collected in a sampling media.” It does not appear that this testing method was employed for Liberty’s analyses.
- Chemicals could be included in a “vague” component found in fracked gas called “C6+,” which is not identified as a component of the gas covered by Liberty’s analyses.

21. In any event, particulates, including PM2.5, are a well-established component of fracked gas emissions.<sup>42</sup> See, e.g., [“Madison County, New York Department of Health Comments to the Federal Energy Regulatory Committee,” prepared for Madison County Department of Health by Thimble Creek Research \(September 30, 2014\), pp. 19-20](#); see also generally ["Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking \(Unconventional Gas and Oil Extraction\)" by Physicians for Social Responsibility \(Fifth Edition, March 2018\)](#). PM2.5 causes serious health problems. From [“Madison County, New York Department of Health Comments to the Federal Energy Regulatory](#)

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<sup>42</sup> If Liberty denies using and intending to use fracked gas in New Hampshire, it should stop equivocating, as it has in its discovery responses, flat out deny that it uses it and agree that it will never use it as a condition on all of its various franchise rights going forward—although this would, of course, strain credulity, given how fracked gas dominates the market and seemingly would have to be the “cheap” gas that Liberty proposes to purchase for its customers (the small amount of non-fracked gas left out there would, presumably, go for a premium, given its desirability over fracked gas). Indeed, if Liberty is not concerned that fracked gas is a problem, why is it not touting its use, rather than apparently attempting to conceal it?

“In addition to the VOC exposure presented above, PM<sub>2.5</sub> also poses a significant health concern and interacts with the airborne VOCs increasing their impact. In fact, at a compressor station PM<sub>2.5</sub> may pose the greatest threat to the health of nearby residents ...

The size of particles determines the depth of inhalation into the lung; the smaller the particles are, the more readily they reach the deep lung. Particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub> and ultrafine PM), in conjunction with other emissions, are at the core of concern over potential effects of [fracked gas development sites].

High particulate concentrations are of grave concern because they absorb airborne chemicals in their midst. The more water soluble the chemical, the more likely it is to be absorbed onto a particle. Larger sized particles are trapped in the nose and moist upper respiratory tract thereby blocking or minimizing their absorption into the blood stream. The smaller PM<sub>2.5</sub> however, is more readily brought into the deep lung with airborne chemicals and from there into the blood stream. As the particulates reach the deep lung alveoli the chemicals on their surface are released at higher concentrations than they would in the absence of particles. The combination of particles and chemicals serves, in effect, to increase in the dose of the chemical. The consequences are much greater than additivity would indicate; and the physiological response is intensified. Once in the body, the actions between particles and chemicals are synergistic, enhancing or altering the effects of chemicals in sometimes known and often unknown ways.

Reported clinical actions resulting from PM<sub>2.5</sub> inhalation affect both the respiratory and cardiovascular systems. Inhalation of PM<sub>2.5</sub> can cause decreased lung function, aggravate asthma symptoms, cause nonfatal heart attacks and high blood pressure. Research reviewing health effects from highway traffic, which, like [unconventional natural gas development], has especially high particulates, concludes, “[s]hort-term exposure to fine particulate pollution exacerbates existing pulmonary and cardiovascular disease and long-term repeated exposures increases the risk of cardiovascular disease and death.” PM<sub>2.5</sub>, it has been suggested, “appears to be a risk factor for cardiovascular disease via mechanisms that likely include pulmonary and systemic inflammation, accelerated atherosclerosis and altered cardiac autonomic function. Uptake of particles or particle constituents in the blood can affect the autonomic control of the heart and circulatory system.

Ultrafine particles (<0.1) get less attention in the literature than PM<sub>2.5</sub> but is found to have high toxic potency. These particles readily deposit in the airways and centriacinar region of the lung. Research

suggests increases in ultrafine particles pose additional risk to asthmatic patients ...

There is an abundance of research on the health effects of short term PM2.5 exposure ... health effects can occur within 6 hours of elevated PM2.5 exposures, the strongest effects occurring between 3 and 6 hours. Such an acute effect of PM2.5 may contribute to acute increase in the risk of cardiac disease, or trigger the onset of acute cardiac events, such as arrhythmia and sudden cardiac death ...

In addition to short term exposures and associated effects, there is evidence of health impacts from long-term exposures. An [health impact assessment] reviewing data from a number of European cities found that nearly 17,000 premature deaths from all causes, including cardiopulmonary deaths and lung-cancer deaths, could be prevented annually if long-term exposure to PM2.5 levels were reduced ...”

From the [EPA website](#):

“Particulate matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets that get into the air. Once inhaled, these particles can affect the heart and lungs and cause serious health effects.”

From [ATSDR/CDC Health Consultation Report \(Jan. 29, 2016\), p. ii](#):

“Particulate Matter (PM2.5) - The World Health Organization notes that when annual mean concentrations are in the range of 11-15  $\mu\text{g}/\text{m}^3$ , health effects can be expected (WHO 2006 ...”

*See also* [“PA expands particulate monitoring as federal study finds high level in one location,”](#)

[May 5, 2016 online article](#); and [ATSDR/CDC Health Consultation Report \(Apr. 22, 2016\), pp.](#)

[ii-iii](#) (short term exposures “to maximum levels of PM2.5 may be harmful to unusually sensitive

populations, such as those with respiratory or heart disease” and chronic exposures in

“concentration of 15 to 16  $\mu\text{g}/\text{m}^3$  may be harmful to the general population and sensitive

subpopulations, including the elderly, children, and those with respiratory or heart disease.”).

22. Keene has a pollution/particulate problem. Specifically: [pollution, including PM2.5 particulates, can be trapped in the Keene valley by air inversions, sometimes rising to a](#)

[level which may cause respiratory and other health problems](#).<sup>43</sup> Keene does not need more particulate emissions, it needs a utility which relies on clean energy sources.

23. Moreover, New Hampshire, as a whole, has an enormous number of asthma sufferers. In fact, "New Hampshire's asthma rate is among the highest in the nation. Approximately 110,000 NH adults and 25,000 NH children have asthma." See page 22 of "Greater Manchester, New Hampshire Health Improvement Plan" online at <https://www.manchesternh.gov/Portals/2/Departments/health/GManCHIP.pdf>.

24. Keene and New Hampshire do not need more gas and potentially more of a pollution/particulate problem, which Liberty's expansion plans may bring.

25. The climate issue aside, a moratorium should be placed on gas expansion until the contents of the gas that Liberty distributes in New Hampshire are completely, unequivocally disclosed, the potential health impacts of its use are analyzed and better understood, and clear standards are established for the content of the gas Liberty may distribute in New Hampshire.

26. Then, there are the safety issues. Perhaps all concerns can be explained away, but it should not be overlooked that the Granite Bridge Project proposal calls for its pipeline to be largely constructed within the NHDOT's right-of-way along one of the busiest conduits of traffic (Route 101) in our state, which itself serves as an emergency evacuation route in the event of an

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<sup>43</sup> For readers of a non-pdf version of this brief, please see the January 22, 2018 online *Keene Sentinel* article "Efforts to raise awareness about fine particle pollution continue in Keene," by Meghan Foley, at [http://www.sentinelsource.com/news/environment/efforts-to-raise-awareness-about-fine-particle-pollution-continue-in/article\\_f4631c0f-06db-507c-9b10-509168924ced.html](http://www.sentinelsource.com/news/environment/efforts-to-raise-awareness-about-fine-particle-pollution-continue-in/article_f4631c0f-06db-507c-9b10-509168924ced.html). This problem is further discussed in a 2014 Keene State College environmental studies report titled "Characterizing the Spatial and Temporal Variability of Particulate Matter in Keene- Results and Findings," overseen by Dr. Nora Traviss (Rachel Guerin, Alex Olson, William Lorenzen, Austin Conran, William Heitsmith, (Environmental Studies Senior Seminar: Spring 2014), as supplemented by a 2017 data update, which, unfortunately, is not available online and too voluminous to attach as an exhibit. It should be online soon, though, on the [www.nhscienceforcitizens.org](http://www.nhscienceforcitizens.org) website. While the study largely discusses the problem in relation to woodstove emissions (from users not complying with city standards), a substantial increase in fracked gas particulate emissions could only exacerbate it.

incident at Seabrook, and that some residences and businesses along the pipeline’s route will undoubtedly be in its danger zone, as well. Pipelines do explode.<sup>44</sup> Nor may the risk associated with the proposed 2 billion cubic feet LNG storage facility in Epping be underestimated: an explosion at a far smaller LNG facility near the town of Plymouth, Washington in 2014 is reported to have propelled 250-pound pieces of steel up to 300 yards through the air, injuring five, and resulting in an initial two-mile evacuation radius.<sup>45</sup> [Gas utilities, including Liberty, do not always follow safety regulations.](#)<sup>46</sup> [Accidents happen,](#)<sup>47</sup> as do just plain [leaks.](#)<sup>48</sup>

27. If the climate crisis, health and safety issues, and the potential for enormous stranded costs are properly considered, Liberty’s expansion plans cannot be approved, as they are not in the public interest, but, on their face, irresponsibly responsive to “the needs of the

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<sup>44</sup> Like the one in New Mexico discussed at <http://abcnews.go.com/US/story?id=96090&page=1>; the one in Illinois discussed at <http://www.chicagotribune.com/news/nationworld/midwest/ct-nachusa-gas-pipeline-explosion-20171206-story.html>; or, the one in California discussed at <http://www.kcra.com/article/pg-e-no-leaks-found-in-fresno-county-gas-line-that-exploded/6421851>—and their “incineration zones” may extend for hundreds of feet. See page 14 chart of explosions at <http://www.pipelinesafetytrust.com/docs/C-FerCircle.pdf>. Since 1987, the PHMSA has identified more than 3,200 gas pipeline accidents deemed serious or significant, with many involving fatalities. See generally [https://en.wikipedia.org/wiki/List\\_of\\_pipeline\\_accidents\\_in\\_the\\_United\\_States\\_in\\_the\\_21st\\_century](https://en.wikipedia.org/wiki/List_of_pipeline_accidents_in_the_United_States_in_the_21st_century).

<sup>45</sup> See April 2, 2014 online article “‘Miracle’ nobody died in blast at Eastern Washington LNG plant” by Jeff Barnard (Associated Press) in the online edition of the *The Seattle Times* at <https://www.seattletimes.com/seattle-news/lsquomiraclesquo-nobody-died-in-blast-at-eastern-washington-lng-plant/> and March 31, 2014 (updated August 24, 2015) online article “UPDATE: Evacuation radius near Plymouth plant to be reduced” in the online edition of *The Tri-City Herald* at <http://www.tri-cityherald.com/news/local/article32173386.html>.

<sup>46</sup> For readers of a non-pdf version of this motion, please see: <https://www.puc.nh.gov/Safety/Pipeline%20Safety%20Enforcement/CY%202017/PS1706LU.pdf>.

<sup>47</sup> For readers of a non-pdf version of this motion, please see the March 30, 2018 online *Nashua Telegraph* article “‘Significant’ Hudson gas leak caused by surveyor’s equipment,” by Dean Shalhoup at <http://www.nashuatelegraph.com/news/2018/03/30/significant-hudson-gas-leak-caused-by-surveyors-equipment/>.

<sup>48</sup> For readers of a non-pdf version of this motion, please see the April 24, 2018 online *Keene Sentinel* article “Gas leak on Keene’s West Street repaired,” by Sierra Hubbard at [http://www.sentinelsource.com/news/local/gas-leak-on-keene-s-west-street-repaired/article\\_30b6a32e-5e2b-535b-9400-a891b7233eb3.html?utm\\_source=Weekday+Newsletter&utm\\_campaign=373fe20f1b-EMAIL\\_CAMPAIGN\\_2018\\_04\\_24&utm\\_medium=email&utm\\_term=0\\_be271ac818-373fe20f1b-136251925](http://www.sentinelsource.com/news/local/gas-leak-on-keene-s-west-street-repaired/article_30b6a32e-5e2b-535b-9400-a891b7233eb3.html?utm_source=Weekday+Newsletter&utm_campaign=373fe20f1b-EMAIL_CAMPAIGN_2018_04_24&utm_medium=email&utm_term=0_be271ac818-373fe20f1b-136251925).



public at large.” *See, e.g., Waste Control Systems, Inc.* at 24. *See also Boston & Maine R.R., supra*, 102 N.H. at 10; *Harry K. Shepard, Inc. v. State, supra*, 115 N.H. at 185; *Browning-Ferris Industries of New Hampshire, Inc. v. State, supra*, 115 N.H. at 191. Indeed, [millions will die from climate change in just the next few decades](#).<sup>49</sup> Plainly, the asserted public benefits are outweighed by the actual costs. *See Public Service Company of New Hampshire d/b/a Eversource Energy, Commission Docket No. DE 16-241, Order of Notice, at 3-4.*

28. [R.S.A. 378:37](#), which sets forth New Hampshire’s official energy policy, mandates the rejection of Liberty’s plans, as well. Besides meeting the public interest requirement, Liberty must also satisfy this statute—as is acknowledged in the LCIRP. *See LCIRP at p. 55* (“The Commission’s charge in this docket, therefore, is to evaluate whether EnergyNorth’s LCIRP is consistent with the state’s energy policy as articulated in RSA 378:37.”).

29. However, Liberty’s expansion plans *do not comport* with [R.S.A. 378:37](#).

30. [R.S.A. 378:37](#) provides:

“378:37 New Hampshire Energy Policy. – The general court declares that it shall be the energy policy of this state to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost while providing for the reliability and diversity of energy sources; to maximize the use of cost effective energy efficiency and other demand side resources; and to protect the safety and health of the citizens, the physical environment of the state, and the future supplies of resources, with consideration of the financial stability of the state's utilities.”

*Id.* (emphasis added). Under this statute, the Commission is charged with considering the climate, health and safety concerns of fracked gas use as our state policy is to meet energy needs “at the lowest **reasonable** cost” while protecting our environment, safety, health and natural

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<sup>49</sup> *See* September 23, 2014 online article “Premature Deaths Multiply as Climate Changes,” by Daniel Cusick, available in the online edition of the *Scientific American* at <https://www.scientificamerican.com/article/premature-deaths-multiply-as-climate-changes/>.

resources. As with other fossil fuels, fracked gas use comes at anything but “the lowest **reasonable** cost” to the citizens and businesses of New Hampshire. Rather, it comes at enormous, largely hidden, costs not associated with sustainable energy:

- **to ratepayers in subsidizing huge infrastructure costs**, for example, the nearly one-third of a billion dollar price tag for the Granite Bridge Project. A study from the University of New Hampshire released last year, generally known as the “[Carsey report](#),” concludes that pipeline expansion projects bring an annual average bill of about \$66 million to ratepayers. *See* page 6 of Carsey report at <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1296&context=carsey>;
- **to one of our leading industries, tourism**, by the negative impacts of climate change on winter recreation, hunting (by the decimation of the moose population), fishing and foliage—threatening hundreds of millions in annual revenues. *See* 2008 DES Fact Sheet “Global Climate Change and its Impact on New Hampshire” at <https://www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-23.pdf>;
- **to our sugar industry**, again, due to climate change, as “[s]ugar maples are extremely susceptible to mid-winter thaws and summer droughts.” *See* 2008 DES Fact Sheet “Global Climate Change and its Impact on New Hampshire’s Fall Foliage and Maple Sugar Industry” at

<https://www.des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-25.pdf>;

- **to our moose and loon populations (also fueling tourism)**: Moose and loons are climate change “canaries in a coal mine.” *See* February 22, 2018 online NHPR article at <http://nhpr.org/post/moose-loons-are-climate-change-canaries-coal-mine-say-nh-conservationists#stream/0>. In fact, climate change is the leading cause of their decline. *See* August 1, 2017 online NHPR article “Climate Change is the Leading Cause of Moose and Loon Population Decline in New Hampshire” by The Exchange, at <http://nhpr.org/post/climate-change-leading-cause-moose-and-loon-population-decline-new-hampshire#stream/0>. Moose hunters and wildlife watchers inject over \$340 million a year into the New Hampshire economy. *See* June 1, 2015 *National Geographic* online article “What’s a Ghost Moose: How Ticks Are Killing an Iconic Animal,” by Christine Dell’Amore, at <https://news.nationalgeographic.com/2015/06/150601-ghost-moose-animals-science-new-england-environment/>;
- **to our dairy industry**, by [increasing, intensifying droughts](#) (associated with climate change). *See* August 30, 2016 “Concord Monitor” online article “Dying dairies: How drought, low milk prices lead to decline in N.H. farms” by Elodie Reed, at <http://www.concordmonitor.com/NH-Dairy-Farms-Struggle-Close-Because-of-Drought-Low-Prices-Yeaton-Farm-Epsom-NH-4346716>;

- **to agriculture**, an annual \$330 billion U.S. industry, from [climate change induced stresses ranging from extreme weather events to increased insect pests and diseases](#). *See* National Climate Assessment Report, summarized and available at <https://nca2014.globalchange.gov/report/sectors/agriculture#intro-section-2>;
- **to our health and health costs**, for example, by the increase in the tick population caused by climate change and associated increase in Lyme disease, and by all of the respiratory and other health problems caused by breathing the pollutants from fossil fuels. New Hampshire has experienced one of the largest state increases in Lyme diseases since 1991. *See* EPA online article “Climate Change Indicators: Lyme Disease” at <https://www.epa.gov/climate-indicators/climate-change-indicators-lyme-disease>, *see id.* Again, New Hampshire also has one of the highest asthma rates in the country, with approximately 110,000 adult and 25,000 child asthma sufferers. *See* page 22 of “Greater Manchester, New Hampshire Health Improvement Plan” online at <https://www.manchesternh.gov/Portals/2/Departments/health/GManCHIP.pdf>;
- **to seacoast towns and homes**: one study has determined that it will cost just three New Hampshire coastal towns between \$1.9 and \$2.9 billion to address the impacts of climate change. *See* p. 23 of “Changing Tides How Sea-Level Rise Harms Wildlife and Recreation Economies Along the U.S.

Eastern Seaboard” 2016 National Wildlife Federation, available at [http://www.nwf.org/~media/PDFs/Global-Warming/Reports/Changing-Tides\\_FINAL\\_LOW-RES-081516.ashx;another](http://www.nwf.org/~media/PDFs/Global-Warming/Reports/Changing-Tides_FINAL_LOW-RES-081516.ashx;another). Another concludes that over 7,000 New Hampshire homes could be under water by 2100 due to sea rise caused by climate change. See Nov. 30, 2016 *Union Leader* online article “Study: 7,000 Seacoast properties could be under water by 2100,” by Dave Solomon, at <http://www.unionleader.com/apps/pbcs.dll/article?AID=/20161130/NEWS11/161139963&template=printart;>

- **to taxpayers and ratepayers** in cleaning up from ice and other destructive storms caused by climate change, and addressing all of the above other harms.
- **to everyone’s cost of insurance** as the price of addressing all of the negatives rise for insurance companies.

31. Add to all of the above whatever price can be placed on all of the premature deaths caused by climate change, and the still-too-many premature deaths caused by gas safety “incidents,” and you approach the total *actual* environmental and other costs of using fracked gas. See *Public Service Company of New Hampshire d/b/a Eversource Energy*, [Commission Docket No. DE 16-241, Order of Notice, at 3-4](#).

32. The costs associated with fracked gas use are plainly not the “lowest reasonable cost” to meet the state’s energy needs, particularly given the availability of sustainable alternatives, which come without such costs—and they are especially not the “lowest reasonable

cost” to meet the energy needs of those targeted by the Granite Bridge Project, who currently clearly have no “need” for Liberty’s proposed new fracked gas infrastructure and supply sources, as they are not among its current customers.<sup>50</sup>

33. Then, of course, there are the astronomical stranded costs of gas projects, like those associated with the Granite Bridge Project—which should be considered *per se* unreasonable under [R.S.A. 378:37](#), as the only way to avoid them, *i.e.*, by committing to exacerbating the climate problem for decades with methane use when we should and could be working to ameliorate it right now, is morally repugnant: indeed, the entire cost of the project should be deemed *per se* unreasonable for compelling ratepayers to make that choice. Again, the Granite Bridge Project, alone, would come with an almost one-third of a billion dollar (or more) price tag, and the average *annual* gas infrastructure bill for ratepayers is roughly \$66 million, much of which will have to be stranded costs going forward, if we are to responsibly address climate change. As is shown by the table reproduced in paragraph 10 above, Liberty’s expansion plans will create continuing supply shortages over at least the next two decades which will, in turn, continue to create a demand for gas pipelines and other infrastructure.

34. Again, the touchstone of the “cost” analysis of [R.S.A. 378:37](#) is reasonableness: costs cannot just be the “lowest cost,” they must be the “lowest **reasonable** cost.” *Id.* (emphasis

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<sup>50</sup> Whether the gas contracts under consideration in the Granite Bridge Project case might provide *some* gas for current customers, and whether that gas could be provided without the project, is unclear from Liberty’s filings. But, it is clear from Liberty’s filings that the project is all about meeting Liberty’s expansion goals, not serving current customers. *See, e.g.*, [Granite Bridge Project petition, ¶¶ 2-4](#). Liberty’s spokesman, John Shore, further confirmed this in a 2017 interview with WMUR, in which he noted that the utility would have to decline *future* customers without the project:

“They’re looking at things like access to natural gas, and if we can’t get more capacity to our service area, **we would have to turn down customers who make requestsm [sic], probably just within a couple years ...**”

*See* December 5, 2017 online WMUR article “Liberty Utilities proposes \$340 million underground natural gas pipeline project,” by Mike Cronin, at <http://www.wmur.com/article/liberty-utilities-proposes-dollar340-million-underground-natural-gas-pipeline-project/14109140> (emphasis added).

added). While the statute does not provide a “reasonable cost” standard, such a standard plainly must be objective, not subjective, and can be drawn from jurisprudence. New Hampshire follows the Restatement (Second) of Torts, § 283 (1965). *See Shimkus v. Caesar*, 95 N.H. 286, 288 (1948); *Filip v. Gagne*, 104 N.H. 14 (1962). Section 283 provides the objective standard of the famous, hypothetical “reasonable *man*,” and its Comment b is often quoted as the definition of what makes the man reasonable:

“those qualities of attention, knowledge, intelligence and judgment which society requires of its members for the protection of their own interest and the interests of others.”

*Id.* *See also, e.g.*, “Law Dictionary, Second Edition,” by Steven H. Gifis (Barron’s Educational Series, Inc.; 1984), p. 388 (defining “reasonable man [person]” by quoting Comment b); *Berberian v. Lynn*, 179 N.J. 290, 297, 845 A.2d 122, 126 (N.J. 2004)(quoting Comment b in identifying the qualities of a “reasonable man”).

35. The Restatement (Second) of Torts, § 283 standard is instructive in two ways. First, by analogy: as a “reasonable *man*” is one who protects the interests of others, not just themselves, at the level society expects of its members, a “reasonable *cost*” must similarly be one that protects the interests of others in the manner society expects. As virtually the entire world has unequivocally rejected the hidden costs of fracked gas use as violative of that standard and is demanding less, not more, of it, the fracked gas fuel option cannot be deemed the “lowest” *reasonable* cost at this point because society clearly does not consider it a “reasonable” price to pay at all. Second, straight application of the standard leads to the same conclusion: again, the standard is not what Liberty or Clark or the Commissioners in the proceeding personally believe is reasonable—the standard must be objective, *i.e.*, what a “reasonable man” would consider a “reasonable” cost for fuel. As a reasonable member of society attentively, knowledgably and

intelligently protects “the interests of others” and not just themselves under the Restatement standard, a reasonable man would reject the climate change and other hidden costs of fracked gas use as an unreasonable cost to pay for the fuel since such costs are horrific to the point of potentially apocalyptic, well-established by mountains of studies, nearly all world scientists, leaders and countries condemn them, and everyone on the planet is being injured by them. Whether or not the United States as a nation ultimately remains in or withdraws from the [Paris Climate Accord](#)—and, again, until we actually withdraw, we are still a signatory—a world standard of reasonable prudence has been adopted under that agreement which cannot be ignored, and which establishes the price of Liberty’s future methane commitments as being patently unreasonable.

36. Moreover, our current overdependence on gas is already inconsistent with the energy source diversification requirement of [R.S.A. 378:37](#). [Our gas reliance is usually more than half of the total share of all of the available energy alternatives](#). *See* current use percentage at <https://www.iso-ne.com/>. Are we trying for 80% reliance? 100%? How “cheap” will gas be when all of the gas contracts term-out, and we have no alternative but to renew them, as everything depends on gas? Those arguing a gas “need” usually point to the gas shortages and price spikes of the winter of 2013-2014 as proof positive. However, the New Hampshire Office of Energy and Planning (“OEP”)<sup>51</sup> concluded that “increasing reliance on one fuel, namely natural gas, is what caused the wholesale price spikes in the winter of 2013-2014 in the first place ...” *See* [October 15, 2015 OEP letter to Commission, p. 2, filed in Commission Docket No. IR 15-124](#). Studies have shown that more large gas projects are not needed to lower energy rates and, indeed, provide no real benefit to ratepayers. *See* [http://www.masslive.com/news/index.ssf/2015/11/ag\\_healy\\_grid\\_reliability\\_fine.html](http://www.masslive.com/news/index.ssf/2015/11/ag_healy_grid_reliability_fine.html);

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<sup>51</sup> Now known as the New Hampshire Office of Strategic Initiatives.



<https://www.clf.org/blog/iso-forward-capacity-auction-results-show-in-venegy-plant-not-needed/>; <https://www.unh.edu/unhtoday/news/release/2017/03/07/unh-research-finds-increased-energy-use-not-needed-grow-economy>; <http://www.nhbr.com/February-20-2015/Will-NH-really-benefit-from-major-energy-projects/>.

37. The just released 2018 [“New Hampshire 10-Year State Energy Strategy”](#) provides no clear guidance on our expansion of gas use and gas infrastructure in general, beginning and ending the discussion by deeming it an open question subject to our “sensibilities and needs” and state determinations as to what energy options “best protect its citizens, economy, and natural resources”:

“New Hampshire’s energy policy must be realistic about the necessity of natural gas into the foreseeable future while ensuring that infrastructure projects or expansions are in keeping with natural resource protection ...

It is essential that any infrastructure improvements or expansions fit with New Hampshire sensibilities and needs. New Hampshire must answer the questions of what resources and infrastructure will best protect its citizens, economy, and natural resources ...”

[Id. at 7-8.](#)

“There is tension between the increasing demand for low-cost natural gas, the countervailing risk of dependence on the fuel, and production alternatives should natural gas supply infrastructure remain a chokepoint ...

New Hampshire energy policy must be realistic about the necessity of natural gas into the foreseeable future while ensuring that infrastructure projects or expansions are in keeping with natural resource protection ...

It is essential that any infrastructure improvements or expansions fit with New Hampshire sensibilities and needs ...

New Hampshire must answer the questions of what resources and infrastructure will best protect its citizens, economy, and natural resources ...”

[Id. at 31-32](#) (emphasis is original). However, being realistic about the necessity for gas now to meet **current customer demands** into the foreseeable future does not mean that we have to

commit current non-gas customers and **future generations** to dependency on the fuel—and we cannot as, for all of the reasons cited above, such a commitment is not in accord with our “sensibilities and needs” and does not “best protect [New Hampshire’s] citizens, economy, and natural resources ...”

38. Moreover, as specifically concerns the Granite Bridge Project, the 2018 [“New Hampshire 10-Year State Energy Strategy”](#) is wholly unresponsive, as the project does not comport with the energy policy goals set forth in pages 12-20 of the strategy, particularly the following:

“New Hampshire stakeholders should seek policies that limit economic waste, maximize the useful competitive lifespan of energy infrastructure, and avoid policy preferences that select for technologies or resources without regard to cost.”

[Id. at 20](#) (emphasis in original). If the State adheres to its climate change commitments and otherwise responsibly addresses the crisis, the Granite Bridge Project will result in decades of economic waste attributable to lost infrastructure use; if the project is approved to begin with, it is only because of an ill-informed holdover policy preference for gas which fails to take into account its true cost.

39. The burden is on Liberty to show that its expansion plans committing the state to increasingly more methane use for decades responsibly address the state’s climate action commitments and obligations, including greenhouse gas emissions mitigation targets, and that our commitments and obligations will still be met notwithstanding its plans. See [Commission Order No. 26,039 \(July 10, 2017\), at 6](#). Liberty has failed to show this, and cannot show this, most plainly because its plans would ensure that New Hampshire will continue to emit methane long after our commitments and obligations to responsibly address climate change require the complete elimination of such emissions.

WHEREFORE, for the reasons expressed, Clark respectfully requests that the

Commission:

- A. Grant this motion; and
- B. Reject Liberty's LCRIP and other gas infrastructure and customer expansion plans as inconsistent with New Hampshire law and dismiss this proceeding to approve the LCRIP accordingly; and
- C. Place an immediate moratorium on all gas infrastructure and customer growth in the state, including, but not limited to, all such growth associated with the approvals sought under [Commission Docket No. DG 16-852](#) (Lebanon/Hanover), [Commission Docket No. DG 17-068](#) (Keene) and [Commission Docket No. DG 17-198](#) (the Granite Bridge Project); or
- D. Schedule a hearing on this matter.

Respectfully submitted,

Terry Clark,

By his Attorney:

Dated: May 15, 2018

//s//Richard M. Husband, Esquire  
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**CERTIFICATE OF SERVICE**

I hereby certify that I have, on this 15<sup>th</sup> day of May, 2018, submitted seven copies of this motion to the Commission by hand delivery, with copies e-mailed to the petitioner and the Consumer Advocate. I further certify that I have, on this 15<sup>th</sup> day of May, 2018, served an electronic copy of this motion on every other person/party identified on the Commission's service list for this docket by delivering it to the e-mail address identified on the Commission's service list for the docket.

//s//Richard M. Husband, Esquire  
Richard M. Husband, Esquire