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## THE LEAGUE OF WOMEN VOTERS *of New York State*

May 22, 2014

2014 Draft State Energy Plan Comments  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

Dear Ladies and Gentlemen

The following comments to the New York State Energy Planning Board's Draft 2014 New York State Energy Plan (the "Draft Plan") are submitted on behalf of the League of Women Voters of New York State ("League of Women Voters"). Our comments are responsive to the Draft Plan's overall design as outlined in the press release from NYSERDA, dated January 7, 2014, namely, "*to put New York on a track to contribute to long-range global emissions reductions that reduce the impact of climate change.*" Our comments also address energy supply, a topic discussed in Volume Two of the Draft Plan.

### The Weather Effect of Climate Disruption

As the report dated April 2014 released by New York State Research and Development Authority (NYSERDA) titled *New York State Greenhouse Gas Inventory and Forecast: Inventory 1990 – 2011 and*

*Forecast 2012 – 2030* (the "Greenhouse Gas Report") states,

"In North America, extreme heat and drought events are becoming more frequent and prolonged. Although total precipitation is increasing only slightly, intense and damaging storms like Sandy and Irene are occurring more often. A changing climate affects human health, society and the economy both directly and indirectly, through its effects on agriculture, sea level, fisheries, and other natural resources. The rate and extent of climate change depend on the amount of greenhouse gases (GHGs) present in, and delivered to, the atmosphere."

During Governor Andrew Cuomo's administration, New York has experienced three extraordinary weather events. Hurricane Irene and Tropical Storm Lee in 2011 caused 390,000 ordered evacuations, 1,065,000 power outages and significant damage to water systems and critical infrastructure, including numerous bridges and roads, with an estimated \$1.5 billion dollars in FEMA public assistance

costs.<sup>1</sup> Super-storm Sandy in 2012 was the deadliest U.S. cyclone outside of the southern states since Hurricane Agnes of 1972 causing 117 deaths here, as well as 69 more in Canada and the Caribbean. Sandy cost New York state \$41.9 billion; \$32.8 billion in repair and restoration costs and \$ 9.1 billion in mitigation and prevention costs.<sup>2</sup> Because of the link between greenhouse gas emissions and climate disruption, the toll associated with these forces of nature demand uncompromising planning when determining how to source energy for New York in the future. The human and financial costs are too high to do otherwise.

According to a New York Times report, which announced the *National Climate Assessment* prepared by a team of more than 300 science experts overseen by a 60 member federal advisory committee summarizing the current and projected effects of climate change on the United States, "If greenhouse gases like carbon dioxide and methane continue to escalate at a rapid pace...the warming could conceivably exceed 10 degrees by the end of this century...." "There is mounting evidence that harm to the nation will increase substantially in the future unless global emissions of heat-trapping gases are greatly reduced," the report warned"<sup>3</sup>

### Educating People about Energy Conservation

New York, America's third most populous state consisting of approximately 19.6 million residents, a 1 million-plus out-of-state workforce and its tens of millions of annual tourists (including in excess of 52 million visitors in 2012 in New York City alone), contributes significantly to our state and country's greenhouse gas emissions.

The League of Women Voters applauds NYSERDA for undertaking the Greenhouse Gas Report which establishes itemized baselines of the environmental burden created by human and industrial activities within New York State. The League notes that

"[t]his report provides a detailed accounting of emissions in New York State from 1990 to 2030, with historical figures from 1990 – 2011 and a future baseline through 2030 based on State policies and economic conditions as of 2013. The forward look does not represent a prediction of GHG emissions, but rather serves as a baseline to help inform future policy and program decision-making."

To ensure that policymaking results in effective *outcomes* in the context of commercial enterprises and unregulated individual consumption habits, the League of Women Voters supports designated personnel in the State to track, analyze and support (through enforced policy) which activities

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<sup>1</sup> New York State Responds-Hurricane Irene and Tropical Storm Lee One Year Later August 2012  
<http://www.governor.ny.gov/assets/documents/Irene-Lee-One-Year-Report.pdf>

<sup>2</sup> Hurricane Sandy Fast Facts, CNN, July 13, 2013. <http://www.cnn.com/2013/07/13/world/americas/hurricane-sandy-fast-facts/>

<sup>3</sup> See U.S. Climate Has Already Changed, Study Finds, Citing Heat and Floods, New York Times, By Justin Gillis, May 6, 2014  
[http://www.nytimes.com/2014/05/07/science/earth/climate-change-report.html?\\_r=0](http://www.nytimes.com/2014/05/07/science/earth/climate-change-report.html?_r=0) This article explains keys aspects of, and links to, the *National Climate Assessment*.

to target as priorities for reduction and ultimate elimination. The inclusion in the Greenhouse Gas Report of all greenhouse gases (not just CO<sub>2</sub>) can also facilitate aggressive attention paid to reducing and eliminating production and consumption of those greenhouse gases which will have the most adverse (and potentially irreversible) environmental impacts in the near term.

State government has a critical role to carry out by engaging New York residents, the commercial sector and visitors to take personal responsibility for our individual greenhouse gas footprints. With the greenhouse gas baselines now established, benchmarks can be monitored and adjusted which target reductions by parties in all sectors. Energy policy designed “*to put New York on a track to contribute to long-range global emissions reductions that reduce the impact of climate change*” can succeed only if the residents, the commercial sector and visitors of the state have the education and tools to carry out the evolving public policy.

Consideration should be given to start as early as possible educating people on the role of energy conservation, beginning in the pre-school classrooms and cafeterias, and continuing through all stages of life. For example, supporting education efforts which help people to understand the interconnections between and among energy, water and food can potentially help to significantly reduce greenhouse gas emissions. Consider the following: “Energy is required to treat wastewater and transport drinking water; water is required to make electricity and produce transportation fuels, energy and water are required to grow food; an increasing portion of certain crops is being used for fuel instead of food; and water quality can be adversely impacted by food and energy production.”<sup>4</sup> Consider also that Americans annually throw away 40% of the food we produce valued at approximately \$165 million, with the average family responsible for an annual average of 20 pounds a month or two-thirds of a pound per person each day, which translates into annual, per family, waste totaling \$2,275.<sup>5</sup> Further, in America, food waste has increased by 50% since the 1970s and currently constitutes the single largest component of solid waste sent to America’s landfills and incinerators.<sup>6</sup> Americans pay for garbage pick-up on property tax bills or through private carting contracts. Thus, to the extent we discard what we don’t eat, we are paying twice. By educating or creating policy which incentivizes others to educate each New Yorker to grasp these and other basics involving consumption and the benefits of conservation, state government would facilitate the foundation needed for successfully carrying out an energy plan which benefits all New Yorkers.<sup>7</sup>

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<sup>4</sup> See Scott Cullen, *Forward to Peter Hanlon Et. Al., James Rose, Food, Water And Energy: Know The Nexus* 5 (2013).

<sup>5</sup> Dana Gunders, *Wasted: How America Is Losing Up To 40 Percent Of Its Food From Farm To Fork To Landfill* (2012).

See also Peter Hanlon et al., *Food, Water And Energy: Know The Nexus* 5 (2013).

<sup>6</sup> Id

<sup>7</sup> See generally, *The Road to Energy Conservation: Climate Smart Steps Which Begin at Home*, By Elisabeth N. Radow NYSBA Government, Law and Policy Journal, Summer 2013, Vol. 15, No. 1, page 42 et seq. [http://old.nysba.org/AM/Template.cfm?Section=Government\\_Law\\_and\\_Policy\\_Journal&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=4&ContentID=13780](http://old.nysba.org/AM/Template.cfm?Section=Government_Law_and_Policy_Journal&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=4&ContentID=13780)

## Pipeline Infrastructure

Energy sources, such as fossil fuel, wind, water and sunlight require infrastructure to manifest the energy for consumption. Cost efficiencies and resulting impacts to New Yorkers associated with the installation of new infrastructure should be taken into consideration. The Draft Plan contemplates upgrading existing infrastructure for the transmission of natural gas and appears to support constructing new infrastructure as well. The League of Women Voters supports maintenance and repair of the existing pipeline infrastructure to prevent, reduce and optimally eliminate the greenhouse gas emissions associated with methane leakage because of the potent short-term effect methane has on global warming.<sup>8</sup> The Greenhouse Gas Report refers to a recent study in which “it was found that measured emissions of methane are approximately 1.5 times great than those published in the U.S. Environmental Protection Agency national GHG inventory. A commensurate scaling of this analysis would increase the emissions from natural gas leakage to 5.4 MMTonsCO<sub>2</sub>e or 2.5% of total emissions.”<sup>9</sup> Yet, in a report released subsequent to the release of the Greenhouse Gas Report, “Scientists have found that Colorado's Front Range oil and gas boom has been emitting **three times more** (emphasis supplied) methane than previously believed — 19.3 tons an hour...” The article also revealed that the oil and gas industry is the main source of methane in the United States.<sup>10</sup> This timely revelation suggests that renewed analysis be given to the impacts of unconventional gas drilling on greenhouse gas emissions in New York State, were it to be permitted.

We note that additional construction of pipeline infrastructure which supports the use of fossil fuel as an energy source runs contrary the Draft Plan’s design “*to put New York on a track to contribute to long-range global emissions reductions that reduce the impact of climate change.*”

Pipeline hazards also represent a source of serious concern.<sup>11</sup> Pipeline expansion carries the potential of causing New Yorkers to pay externalized costs, including potential property impacts from the mounting hazards and property devaluation associated with being situated in close proximity to the high

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<sup>8</sup> Study Finds Methane Leaks 1,000 Times EPA Estimates During Marcellus Drilling By Sharon Kelly. April 16, 2014 <http://www.desmogblog.com/directory/vocabulary/1907>. See also, New Study Shows Total North American Methane Leaks Far Worse than EPA Estimates. By Sharon Kelly. [www.desmogblog.com/2014/02/14/new-study-shows-total-north-american-methane-leaks-far-worse-epa-estimates](http://www.desmogblog.com/2014/02/14/new-study-shows-total-north-american-methane-leaks-far-worse-epa-estimates)

<sup>9</sup> Brandt, et al.” “Methane Leaks from North American Natural Gas Systems.” Science 343, February 2014.

<sup>10</sup> Scientists flying over Colorado oil boom find worse air pollution. By Bruce Finley, The Denver Post. May 08, 2014

<sup>11</sup> See Health, Safety, Security & Environmental (HSSE) Management Consulting Services for the Pipeline Construction Industry. Accidents & Lessons Learned. By Peter Kinsey <http://pipe-line-safety.com/Accident.php>; and [http://en.wikipedia.org/wiki/List\\_of\\_pipeline\\_accidents\\_in\\_the\\_United\\_States\\_in\\_the\\_21st\\_century](http://en.wikipedia.org/wiki/List_of_pipeline_accidents_in_the_United_States_in_the_21st_century)

pressure pipelines currently favored to transport increasingly higher volumes of domestic fuel for consumption locally or overseas;<sup>12</sup> externalized costs that are not necessarily associated with renewable forms of energy such as wind and sunlight. An example is the proposed expansion of the Spectra Energy controlled Algonquin high-pressure pipeline, from 26 inches to 42-inches in diameter at designated points, running through upper Westchester, Putnam and Rockland Counties including under the Hudson River which would intersect with two proposed mega-voltage power lines a few hundred feet from Indian Point Energy Center nuclear power plant which is intended to facilitate the transport of larger volumes of natural gas at greater speed .<sup>13</sup> According to the Spectra Energy 2013 10-K filed with the Securities and Exchange Commission:

“there are a variety of hazards and operating risks inherent in natural gas gathering and processing, transmission, storage, and distribution activities, and crude oil transportation and storage, such as leaks, explosions, mechanical problems, activities of third parties and damage to pipelines, facilities and equipment caused by hurricanes, tornadoes, floods, fires and other natural disasters, that cause substantial financial losses. In addition, these risks could result in significant injury, loss of life, significant damage to property, environmental pollution and impairment of operations, any of which could result in substantial losses. For pipeline and storage assets located near populated areas, commercial business centers, industrial sites and other public gathering areas, the level of damage resulting from these risks could be greater. We do not maintain insurance coverage against all of these risks and losses, and any insurance coverage we might maintain may not fully cover the damages caused by those risks and losses. Therefore, should any of these risks materialize, it could have a material effect on our business, earnings, financial condition and cash flow” (See 2013 10-K at page 29; publicly available).

Siting the pipeline expansion is one issue recommended for serious consideration. The wisdom of expanding the pipeline at all is another issue recommended for serious consideration.

Finally, as demonstrated below, consideration should be given to whether the limited domestic supply of economically recoverable natural gas warrants the expansion of existing pipes or the laying of new pipes, particularly when weighed against the potential resulting adverse impacts to the taxpaying public’s personal safety, property value and pocketbooks. Based upon the foregoing, the League of Women Voters calls for further evaluation before expanding pipelines and in installing related infrastructure in New York.

### Supply of Natural Gas

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<sup>12</sup> Will a New High-Pressure Gas Line Help New Yorkers—Or Blow Them Up? By Nick Pinto. January 23, 2013. <http://www.villagevoice.com/2013-01-23/news/Spectra-Energy-Pipeline/> See generally, At the Intersection of Wall Street and Main: Impacts of Hydraulic Fracturing on Residential Property Interests, Risk Allocation, and Implications for the Secondary Mortgage Market. 77 Albany Law Review 101 By Elisabeth N. Radow. <http://www.albanylawreview.org/issues/pages/article-information.aspx?volume=77&issue=2&page=xxx>

<sup>13</sup> Gas Pipeline Expansion Would Cut Through N.E., EcoNews R.I. <http://www.ecori.org/renewable-energy/2014/2/11/gas-pipeline-expansion-would-cut-through-ne.html>

The Draft Plan assumes a long-term supply of natural gas from other regions of the United States. The Draft Plan also contemplates the possibility of sourcing natural gas from New York's Marcellus shale while also revealing, "it is not yet clear what fraction of the economically recoverable shale in the Marcellus could be commercially recoverable in New York"<sup>14</sup>

To the extent New York intends to develop an energy plan based upon access to a resource, such as natural gas, it is critically important to know whether and to what extent that resource exists. Since this information was not available in the Draft Plan, the League of Women Voters contracted with Labyrinth Consulting Services, Inc. to perform an evaluation of potential economically recoverable Marcellus shale natural gas in New York. The resulting report (the "Labyrinth Report"): *Resource Assessment of Potentially Producible Natural Gas from the Marcellus Shale, State of New York*, was completed by petroleum geologist Arthur Berman who has published extensively on shale well performance and petroleum engineer Lyndon Pittinger, both with more than 30 years' experience in the energy business. The Labyrinth Report is attached hereto and is also available on the League of Women Voters' website homepage under the "environmental issues" section at [www.lwvny.org](http://www.lwvny.org).

The Labyrinth Report explains that America's so-called 100 year supply of natural gas refers to "technically recoverable resources" (TRR) which, according to the US Geologic Survey (USGS) "represent that proportion of assessed in-place petroleum that may be recoverable using current technology, **without regard to cost** (emphasis supplied). "Economically recoverable resources are technically recoverable petroleum for which the costs of discovery, development, production, and transport, including a return on capital, can be recovered at a given market price." According to Berman and Pittinger, "The public, press and policy makers mistakenly believe that oil and gas companies will drill and develop TRR, when in fact, they will only develop the small subset of those resources that can be booked as commercially producible; in other words, reserves....only about 12.5% of TRR are likely to become reserves." The Labyrinth Report further explains that America has **an approximate 25 year supply of economically recoverable natural gas; the so-called "reserves" that can be commercially produced** (emphasis supplied). These experts analyzed the potential for New York's reserves and concluded that New York is unlikely to have economically recoverable shale gas volumes at current gas prices and overall, resource estimates are significantly smaller than those indicated in previous studies.

For their analysis of New York's potentially economic resource, Arthur Berman collaborated with Lyndon Pittinger to provide an independent perspective of the unconventional shale gas potential of New York by analyzing publicly available data. Based on their analysis of regional geologic trends and production data from over 4,000 active Marcellus wells in Pennsylvania, the most prospective areas in

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<sup>14</sup> (See Part 2 of the Draft Plan Titles Natural Gas Report at page 84).

New York are likely to be located in southeastern Chemung, southern Tioga and southwestern Broome Counties. Other areas may be productive, but are not as likely to be commercially viable.

At current gas prices near \$4.00-4.50/MMBtu (Million British Thermal Units), the results of this study indicate that no area in New York is likely to be commercially viable. If natural gas prices rise to \$6.00/MMBtu (gas price referenced to Henry Hub point of sale<sup>15</sup>), contingent resource volumes of natural gas from the Marcellus Formation in New York State are estimated to range from 0.8 to 2.4 trillion cubic feet of gas (Tcf) depending on the uncertainty about areas accessible to development due to regulation and other factors and assuming the *de facto* moratorium on hydraulic fracturing is lifted. If gas prices rise to \$8.00/MMBtu, the resource estimate ranges from 2.0 to 9.1 Tcf, also depending on uncertainty about access to development.

The results of this analysis demonstrate that New York should not be considered a source of natural gas at current gas prices and has only a fraction of the reserve projected by other sources. Further, expectations of basing New York's energy future on natural gas reserves from other regions of the United States should be analyzed in the context of the nation's approximate 25 year supply of economically recoverable natural gas which can be expected to serve the energy needs throughout the nation or otherwise exported overseas if more profitable. What portion of America's approximate 25 year supply of economically recoverable natural gas could be available for New Yorkers' consumption under these circumstances remains speculative, at best.<sup>16</sup>

### Summary

Green Bank financing should be used for projects which reduce the impact of climate change, consistent with the Draft Plan's design. To avoid incentivizing projects which run counter to the Draft Plan's overall design, optimally, Green Bank financing should be used to facilitate projects involving energy which contribute the least to global warming such as wind, water and sunlight or serve to contain greenhouse gas emissions such as maintenance and repair of *existing* pipelines and related *existing* infrastructure to eliminate leakage of carbon dioxide, methane and other greenhouse gases.

The Draft Plan should take into consideration whether the economic viability of the resource of choice exists with or without passing along costs to taxpayers which should appropriately be the responsibility of the energy producer, such as pollution, health impacts, property value impacts and municipal maintenance and repairs. An "all in" cost analysis would result in an "apples-to-apples" comparison among all energy sources. State government has a critical role to play by establishing policies

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<sup>15</sup> For additional information on Henry Hub pricing, ([http://en.wikipedia.org/wiki/Henry\\_Hub](http://en.wikipedia.org/wiki/Henry_Hub))

<sup>16</sup> New report finds Marcellus gas costly to produce raising doubts about New York State, April 22, 2014 by Sharon Kelly. desmog blog <http://www.desmogblog.com/2014/04/22/new-report-finds-marcellus-gas-costly-produce-raising-doubts-new-york-state>

which level the playing field among the markets that bring New Yorkers, the commercial sector and visitors our energy sources: policies consistent with curbing greenhouse gas emissions and preventing or otherwise policing through legislation, regulation and enforcement the shifting of industry costs to taxpayers. The League of Women Voters supports the development of energy sources from wind, water and sunlight, particularly in a capacity which democratizes the delivery of the energy source to whole communities. It is noted that New York City is currently ranked 8<sup>th</sup> among the top 20 cities that have a total combined installed PV capacity of over 890 MW (i.e. collectively containing more solar power today than was installed in the entire U.S. just six years ago).”<sup>17</sup>

The League of Women Voters also recognizes that fulfillment of New York’s stated Draft Plan design “to put New York on a track to contribute to long-range global emissions reductions that reduce the impact of climate change,” such as wind, water and sunlight, will involve construction and conversion of infrastructure to facilitate the transition. While this transition will take time, according to Marc Jacobson, professor of civil and environmental engineering, and his colleagues, sufficient wind, water and solar energy currently exists to fully energize our lives. A plan called The Solutions Project, co-authored by Professor Jacobson asserts that it is “technically and economically feasible to convert New York’s all-purpose energy infrastructure to one powered by wind, water and sunlight (WWS)”... “Converting to wind, water and sunlight is feasible, will stabilize costs of energy and will produce jobs while reducing health and climate damage,” said Jacobson...”<sup>18</sup> Where there is a will, there is a way. Thus, there should be nothing holding New York back. Indeed, here New York State government is called upon to play a leadership role which enables an orderly, yet speedy transition to greenhouse gas neutral energy choices, since it is not clear that we have the luxury of losing any more time.

Thank you for your consideration.

Respectfully submitted,

The League of Women Voters of New York State

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<sup>17</sup> Shining Cities: At the Forefront of America’s Solar Energy Revolution Environment America Research and Policy Center. By Judee Burr, Tony Dutzik and Jordan Schneider, Frontier Group, Rob Sargent Environment America Research & Policy Center April 2014. [http://www.environmentamerica.org/sites/environment/files/reports/EA\\_shining\\_cities\\_scrn\\_0.pdf](http://www.environmentamerica.org/sites/environment/files/reports/EA_shining_cities_scrn_0.pdf). See Also The 20 Best Cities For Solar Power As America Prepares For An Energy Revolution, By Chloe Fox. April 17, 2014 <http://www.huffingtonpost.com/2014/04/17/best-cities-solar->

<sup>18</sup> See, Stanford researcher maps out an alternative energy future for New York, By Rob Jordan March 12, 2013, Stanford Report. <http://news.stanford.edu/news/2013/march/new-york-energy-031213.html>. See also, the current data for New York and the proposed plan itself: The Solutions Project, <http://thesolutionsproject.org/>