1	NEW YORK STATE ENER	GY RESEARCH AND DEVELOPMENT AUTHORITY	
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3	Public Heari	ng on the Draft Energy Plan 2014	
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6	DATE: Feb	ruary 18, 2014	
7	7 TIME: 10:	17 a.m 1:49 p.m.	
8		any College of Nanoscale	
9) NFS	ence and Engineering Auditorium	
10		Fuller Road any, New York	
11	HELD BEFORE:		
12	John Rhodes, President of NYSERDA		
13	James Bays, First Deputy Commissioner of New York State		
14	Agriculture & Markets		
15	Peter McGowan, Acting Chief Policy Advisor of the New York State Department of Public Service		
16	Robert Sliwiski, Director of the Bureau of Air Quality of the Department of Environmental Conservation		
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18	James Held, Research Director at Empire State Development		
19	Charles Phillips, Director of Emergency Services		
20	Stephanie Amann, representative from Hon. Amy Paulin's		
21		office	
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23	REPORTED BY: Jeanne O'Connell, RPR (518) 271-7904		
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CHAIRMAN RHODES: Good morning and welcome.

My name is John Rhodes. I am the chair of the State

Energy Planning Board and the President and CEO of the

New York State Energy Research & Development Authority.

Before we get much further, I would like to apologize for all who have had a little bit of a journey with parking. We are grateful to CNSE for hosting us. They have done a lot to make this all work, and we're thankful for them. And I do apologize for not getting the parking arrangements in place.

While we are on the topic, we are here at CNSE. Thank you very much for providing the facility and agreeing to host us. We are the guests, and we all agreed to abide by their rules. So that will, I hope, set a good tone for decorum, but also for free speech.

I would like to introduce you to the other representatives of the planning board joining me today. We have Jim Bays, a first deputy commissioner of Ag & Markets; we have Peter McGowan, Acting Chief Policy Advisor of the Department of Public Service; we have Rob Sliwiski, Director of the Bureau of Air Quality in the Department of Environmental Conservation; we have Jim Held, research director at Empire State Development; we have Chuck Phillips, Director of Emergency Services; and

they are going to be joined shortly by Stephanie Amann, who is with Amy Paulin's office, she who chairs the Assembly's Committee on Energy.

This is a hearing to accept public comment on the 2014 State Energy Plan that was approved by the State Energy Planning Board on January 7, 2014, and made available on the Energy Plan website: energyplan.NY.gov.

The plan was issued in accordance with

Article 6 of the Energy Law. Public notice of the

issuance of the plan and notice of this public hearing
were published in the State Register on January 29th.

The draft plan consists of two volumes. The first volume provides 15 key initiatives to advance the state's energy future.

The second volume addresses energy uses, its sources and impacts, and provides detailed background as used to develop the overarching vision and initiatives in the first volume.

Let me just quickly recap what the plan is about. It envisions for New York a flexible and clean energy system that empowers residential customers, businesses and communities to receive the reliability and affordability that they value.

The initiatives to achieve focus on five areas: Improving energy affordability, unleashing the power of private sector energy financing; providing a more resilient and flexible power grid, giving customers more control over an energy use, providing energy innovation with market demand, all in the service of an energy system that is cleaner, more affordable, more resilient and more reliable.

The plan sets out long-term policy goals, near term action items, and meaningful metrics, as a way to measure progress towards that goal.

If you have been here you have probably all received copies of the plan and studied them. We have copies here for those -- of the executive summary -- for those who would like that.

This meeting is one of six public hearing sessions for the plan to receive public comments.

Future sessions are scheduled in Manhattan, Brooklyn,

Long Island, Buffalo and Syracuse.

Written comments on the draft plan will also be accepted through April 30th, and information on submitting written comments may be found on the energy plan website.

If you decide to submit written comments,

please do so as soon as possible so that they can be carefully considered. All public comments, whether oral or written, will be considered by the Energy Planning Board as it works toward issuance of the final energy plan. All comments count equally regardless of how they are received.

The planning board is targeting issuance of the final plan in the spring of 2014.

The process today is simple. Those who want to comment at this hearing have been asked to sign in upon arrival. I have received I think 30 odd requests, and if there are more to come, please submit them.

Your name will be called one at a time to speak. When your name is called, please come to the podium to provide your comment.

The court reporter is here to provide a transcript to the planning board of everything that is said today. It is very important that there only be one speaker at a time so that the reporter can hear clearly.

Speakers should address the comment in the direction of the microphone, and please make an effort to speak clearly and slowly. It is also very important that those in attendance be courteous to the speaker so that his or her comments can be transcribed accurately

by the court reporter.

If you provide a statement and have a written version with you, it would be helpful if you could provide that written version to us either today or following the hearing, so we can provide those to the court reporter to assist in providing the transcript accurately.

All speakers are asked to focus on issues that pertain to the draft energy plan only. Your comments should be as succinct as possible, because we place such value on the public comment process, and so that we can hear from as many of you as possible.

We have set a five minute deadline for that purpose. After everyone has had their chance to address the board, repeat speakers may be afforded another five minutes should hearing time permit.

Formal presentations, such as Power Point, are not being allowed today. Again, our goal is to hear from as many of you as possible. As this is a statement hearing, the planning board is not answering any questions. This is an opportunity for us to receive and to hear comments on our draft plan.

Those who want to comment, but do not want to speak publicly, or do not get a chance to do so today,

again, can submit written comments by our website.

Again, that's www.energyplan.ny.gov.

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With that, I want to thank you all again for coming today. If there are any questions about the process, we can take those at this time.

(There was no response.)

Finally, I should do a little bit of housekeeping before we get into the day. The restrooms are to the right as you come out of the rotunda. There are emergency exits at the front door and the back left upper door.

Parking -- I hesitate to bring this up -- should any of you have parked in the Freedom Quad, that is, you will likely get ticketed and towed. That's the space right upfront.

With that, let us begin. The first speaker is Tony Penachio.

MR. PENACHIO: Thank you for allowing me to speak today. My name is Tony Penachio. I'm here today speaking as president of GeoEnergy Enterprises of Katona, New York.

Geo Energy Enterprises has received grants both from LIPA and NYSERDA to research, develop, test and commercialize the hybrid, off-the-shelf, ground

source, geothermal, heat exchanger known as the GeoColumn.

The GeoColumn heat exchanger is currently being produced and sold in New York State by GeoEnergy of New York, or GENY, and is coupled with GENY's Energy Star and AHRI certified GEONRG brand of geothermal heating, cooling, and air conditioning systems out of our facility in Bohemia, New York.

As such, I wish to talk about geothermal heating, cooling and hot water systems, and on just a few points as to how geothermal systems can have a dramatic effect on New York State's energy infrastructure and planning.

As 46 percent of the sun's energy is adsorbed by the earth's mass, and most of this energy can be found in the upper layers of that groundmass, many of us do not realize that geothermal heating, cooling and hot water production is essentially a solar-based technology.

Geothermal HVAC utilizes the groundmass' energy as both a heat source in the winter, and as a heat sink in the summer, to produce on-site heating, cooling and hot water for the buildings that it serves.

It is a relatively well-known fact that

energy efficient geothermal systems can shed load in cooling season much more effectively than air source or other cooling systems, and as such, geothermal cooling systems reduce peak demand on grid infrastructure and the need for utilities to either produce or buy expensive summertime peak electrical power.

What is much less well known or appreciated is that geothermal HVAC systems, when utilized for onsite heating of buildings, are 400 percent to 500 percent, or more, efficient. That is correct. 400 to 500 percent efficiency.

This 400 percent geothermal heating efficiency compares to about 200 percent for high efficiency air source heat pumps, or for fossil fuel heating such as natural gas, heating oil, or propane, are only about 80 to 95 percent efficient.

Let me boil that down some more. For every one dollar spent to heat buildings, fossil fuels return about \$.80 to \$.90 in heat value; air source heat pumps return about less than two dollars. The geothermal heat pumps can return four to five dollars.

This high efficiency, of course, can lead to dramatic end user cost savings, as well as the elimination of onsite carbon or other greenhouse

emissions related to the onsite use of fossil fuels to heat buildings.

What else may not be understood about geothermal heating systems is that they can also increase the return on current investment on their grid and primary generation systems.

Geothermal heating, which is electrically powered, therefore increases the utilization of grid power and infrastructure into the heating system by replacing those expensive to operate, carbon producing, onsite fossil fuel heating systems with 400 percent efficient, grid-powered and clean onsite geothermal systems in their place.

The overall effect would be increased sales of grid power, and thus, in grid return on investment, the more we use the grid the less it's going to cost us, helping us to keep electrical rates low.

This positive effect on the grid can be balanced or expanded by the use of geothermal systems, when coupled with distributed energy systems, such as PV. How? Geothermal can reduce the amount of PV required to service the total energy load of a building by 40 percent or more.

That translates to about 40 percent less PV

power, or PV panels on the roof, and all the related supportive incentives to do so, required to power that building's heating and cooling systems.

When geothermal is coupled with PV power, the end user savings can be even more dramatic. A simple example: The cost to power a geothermal system using grid power is about \$.18 a kwh. Current leased PV system models show about a six to nine percent kwh net cost to the end user, or about half to a third the cost of grid power.

One can extrapolate that combination of geothermal 400 percent efficiency, and PV, one half to one third the cost of grid power, to effect an 800 percent or more cost effective CHP system as compared to using conventional high efficiency heating, cooling and hot water systems.

And there is more. With over 7 million heating and cooling systems installed in the New York State area, the platform to support geothermal is baked in. How? Of those 7 million systems, about 350,000 systems are replaced every year due to end of usable life of the equipment.

With similar financing and incentive programs made available to geothermal, as for other solar energy

based technologies, geothermal can put more dollars back into the pockets of those end users as the cost of the financing and power will be less than they are currently spending to heat and cool their homes.

So, in 20 to 30 years, we could then achieve a net-zero building stock and savings that go back into the local economy. Money that will not go out of state, or out of country, to buy increasingly expensive fossil fuels.

With the possibility of such savings, an increased demand for geothermal products can add substantially to both New York State green job creation and green business development.

Please note that these are but a few of the issues that I intend to further expand upon and quantify in a written final report to the planning commission on or before the final comment date.

Thank you.

CHAIRMAN RHODES: Thank you very much.

Second speaker is Gavin Donohue.

MR. DONOHUE: Good morning. It's nice to see so many familiar faces over the years here, people that I worked with over different capacities. I want to thank the board. I know how hard putting a plan

to make everybody happy.

I'm going to quickly, within the five minutes, try to summarize my testimony which I submitted to the record for today.

As the president of IPPNY, I represent the generators and marketers of power in New York State under New York's competitive energy markets. My membership believes the State Energy Plan should leave no doubt that the state is committed to competitive wholesale energy markets, which have proven themselves to be very successful throughout the years.

Before I get into the specifics of the plan,
I would like to remind some of the members of the board
about the benefits of markets.

IPPNY's members produce and drive the state's economy. We produce over 75 percent of electricity in the state, and we use a variety of generating fuels -- nuclear, coal, gas, biomass and hydro.

We have invested over the last 15 years over \$10 billion in buying power plants in New York State.

We employ over 10,000 people and we pay taxes in excess of \$600 million in New York State.

The thing I would really like to point out today that I think gets lost sometimes in the discussion is the environmental attributes that this market structure has promoted for New York.

Some well known stats, and I just think it's important to talk about today, is that sulphur dioxide has been reduced by more than 94 percent over the last 12 years in New York; Nox has declined by 80 percent.

And CO2 has been reduced by 37 percent; which I think is very attributable to the market structure of New York.

I think the other thing that it's important to mention is that the risk on these investments has gone from the ratepayer to the corporation, the board making these investments. Wholesale electricity prices, believe it or not, are down in New York. We reached an all time low in 2012 on the wholesale side.

And it can't be stated enough that the main drivers in today's electricity markets in New York are the components of the bill which are not subject to the competitive forces. They are delivery charges, taxes and fees, which comprise over 70 percent of today's electricity bill in New York State.

On the State Energy Plan, couple highlights
I would like to mention. In sharp contrast to the

adopted 2009 plan, the draft plan, as written, only tangentially recognizes the benefits of competitive wholesale markets in New York.

This draft proposes many initiatives that deflect the value of private investments at both existing and future generation sources, and many of the proposals are contrary to how the competitive markets have successfully functioned in New York for over the last 15 years.

For example, the plan does not specifically state that investments under its main recommended initiatives should be continued by the private sector, which historically has and should continue to be allowed to make the investment decisions in New York.

Specifically, it serves our current system, depending on large, central station power, is no longer the most efficient system. Instead, the plan advocates for increased reliance on distributed energy resources, or DER.

Also, the draft plan states that advanced technology and reduced prices will enable greater control over and ownership of these distributed systems by customers and communities in a more efficient and cost effective manner.

All those words sound great, but what does that mean? What are the details and how is that going to work in New York? The draft plan proposes that an indication of a large regulatory shift needs to occur so that more customers are creating new distributed power supply system.

My overriding issue is the draft plan does not demonstrate how and why a yet to be built distributed energy system will be more efficient and more cost effective than the state's existing generation system, or the proposed upgrades that have yet to proceed; nor does it quantify the cost of building a duplicative DER system which electricity customers would pay for in New York.

To be very clear: IPPNY and my members do not oppose the integration of DER into New York. What we do oppose is the unfair treatment of distributed energy resources in the market place, and the move away from a central power station system on which the state has depended on for so long.

Careful consideration of how to integrate these resources without negatively affecting the central station model certainly needs to be heavily weighed and considered before decisions are made.

I would like to make some constructive suggestions to improve the plan. One would be the draft plan should be revised to be consistent with the longstanding PSC policy in which utilities should not be allowed to own, develop or operate any new electric generation regardless of size.

In its seminal order on competition, the PSC found that competitors who have a greater incentive to lower costs than the utilities would under the cost of service regulation.

Three, also in 2009, the PSC considered and rejected the establishment of a new utility sited tier to promote small utility solar PV facilities that integrate renewable energy into the distribution system.

The concerns expressed by many stakeholders indicated that participation of the bidding process should be limited to the generators who actually have the experience in building these facilities.

Problematically, the two main initiatives of the draft plan call upon the PSC to consider the potential for distribution utilities to own and receive a rate of return on utility capital invested in the customer sited distributed generation.

IPPNY sees no reason to change course, as

PSC has laid out. If distributed energy resources are to provide the same service as major electric generating facilities, they would both need to be treated the same and paid the same for that service in the wholesale electricity markets.

Also, which I think is critically important, the DER must comply with the same environmental regulations and requirements that we do in the IPP sector. Importantly, allowing rate based utilities and authorities to build new generation would constitute unfair competition for the IPPs, given that the IPPs do not have access to ratepayers for the recovery of project costs and other financial benefits.

DER integration must be done based on the principles of private ownership and competition, which will, in fact, promote reliability and be the best answer for ratepayers.

In conclusion, IPPNY would like to see the plan more fully embrace the current system, and integrate any new resources in a fully competitive way. We look forward to a 2014 final plan with provisions that are compatible with market signals for private sector investment opportunities in fuel and technology diverse energy supplies.

While the draft plan expresses a vision for a future energy system that increases a reliance on DER, the approach must acknowledge the importance of existing and future generation investments by IPPs based upon signals from the state's competitive wholesale markets.

Finally, energy planning must be completed in conjunction with the ISO, which has a really prominent role and responsibility in planning for the reliability of this system.

So, thank you again for the opportunity to testify today. Hopefully, these are some of the few highlights you can consider going forward.

CHAIRMAN RHODES: Thank you very much for those comments.

The next speaker is Barbara Warren from Citizens Environmental Coalition.

MS. WARREN: Good morning. I am here today representing Citizens Environmental Coalition, and also, we are a founding member of the Alliance for a Green Economy, and I am representing the Alliance here today. We are all advocating for a carbon free, nuclear free future, energy future.

I want to mention that I have an entire folder here for you, and a number of articles that are

attached include: 45 Fossil Fuel Disasters the Industry
Doesn't Want You To Know About, 9 Reasons Why 2013 Was
Not the Best Year in Human History, 25 Images of Markets
Regulating Themselves.

There is a couple of others, but I also want to mention that I included a public health statement that we developed in the fall of 2013 with 14 public health professionals. That was sent to Dr. Shah and the advisory panel he has looking at the fracking issue.

We are currently witnessing collective energy insanity. The real problem to be addressed is the excess of greenhouse gases. Instead, corporations are rushing to get their energy projects approved first, and to obtain profits at the expense of future generations and their ability to live in a world with runaway global warming.

We are experiencing massive spills, explosions, deaths, injuries, in addition to costly fossil fuels. All of society is currently on a headlong suicidal course.

Government, rather than reign in the insanity, is all too often acting in collusion with this corporate agenda instead of acting to protect the public interest.

New York State, in the past, adopted the public trust doctrine. Despite this, the draft energy plan fails to cut through the insane and the irrational with a fact based scientific analysis that will guide us to a sustainable energy future instead of a dirty and dangerous one.

The draft energy plan fails to meet the requirements of law and state policy. A healthy and sustainable future for New Yorkers rests with the dramatic expansion of energy conservation efficiency, and clean renewable energy.

Given what we see in this draft plan, we believe the only thing that can happen now to correct the unequal planning mechanisms is for Citizens Utility Board, as one mechanism, not sure it would do all of it, to correct this inequality and ensure that the public has adequate representation to deal with all these issues -- energy, pollution, climate and public health.

This plan should have started with some recent significant events. In 2013, we crossed the major threshold with 400 parts per million of carbon dioxide in the atmosphere. Hurricane Sandy should have been a wake up for this state as it was a major piece of evidence of the damaging potential of global warming.

More heat equals more energy in the global system and thus more intense weather events.

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Thus, the problem is not a shortage of energy. It's that we have too much energy trapped by the carbon dioxide in the atmosphere.

In 2011, we also had the Fukushima nuclear catastrophe, which is not over but is an ongoing catastrophe with no end in sight and increasing spread of radioactive contamination. The Japanese government's investigating commission revealed that this was not a natural disaster at all, but one that was profoundly manmade, involving willful negligence, collusion between the regulators and the company, and failure to prioritize public health, safety and welfare.

A newly released book from the Union of Concerned Scientists by David Lochbaum describes our own Nuclear Regulatory Commission in similar terms. These three pieces of significant information should have formed the foundation upon which the scientific and factual analysis for energy planning was built.

Unfortunately, it seems these analyses are missing.

Should have been far different given the new Article 6 requirements. On these three issues the plan fails.

So, first, why don't we have the greenhouse

gas inventory? And how could the energy planning board evaluate climate change without the inventory? We also have no final state climate action plan. These are serious matters.

Next, the state can only promote a vast natural gas infrastructure for New York if it ignored the enormous methane emissions associated with pipeline infrastructure, construction, and the ancillary facilities, the compressor station, the gas plant, including the release of miles of gas every time a new segment of a pipeline is built or repaired.

These are all releases. As a result, natural gas is not a transition but a dangerous dead end for us.

Finally, we also have the executive order that requires 80 percent greenhouse gas reductions from 1990 levels by 2050. It appears that the energy plan is abandoning this goal, and that is very, very serious. Abandoning the goal.

I have got to go on. I don't have enough time to do all of this.

Renewable energy offers New York lots of promise. We actually attended energy planning board meetings in which NYSERDA staff possesses information

detailing the incredible potential of renewable energy to meet our energy needs in the future.

Where did this excellent work go and why is the renewable energy study not available now? These staff put a lot of work into those presentations. They were excellent. One of them is sitting right here, Carl Michaels. Why was that information not given to us? Why don't we have it now?

If the study on renewable energy wasn't finished, how could you finish the energy plan and make it available for public comment?

Next is the nuclear energy issue. First of all, there is an inadequate discussion of Fukushima and its impacts. The only thing really covered is Indian Point, and then it's not factual. You don't even mention that the state denied them a water quality permit. And that the PSC is planning to replace the Indian Point power.

It fails to even talk about any of the Oswego reactors. We got three boiling water reactors similar to those at Fukushima Daiichi. In fact, we had a major meeting with NYSERDA and DEC over a year before the release of this plan in which we discussed all of the problems with the nuclear reactors that we were

currently experiencing -- aging reactors, safety problems, unplanned power outages. Two of them have major financial problems, Ginna and Fitzpatrick.

And yet, somehow we do a reliability study that studies everything else in the electric system except the nuclear reactors and how vulnerable they currently are. Somehow, that's not addressed.

Cyber security and terrorism were also discussed at the energy planning board, and they identified immediately that the nuclear facilities were the key problem with the energy system in terms of terrorism and cyber security. Somehow, in the energy plan, it became a systemwide problem, not a problem for the news.

So, in essence, none of the major issues in this plan that were important to address have been addressed. And we really have no plan for going forward, sorry to say.

You can have this with all the articles that I have attached. Thank you very much.

CHAIRMAN RHODES: The next speaker is Tom Ellis, Solidarity Committee of the Capital District.

MR. ELLIS: Good morning, everybody. I hope you are enjoying this wonderful winter.

My name is Tom Ellis. I live in Albany. represent the Solidarity Committee of the Capital District, which is a 30-year-old labor support group. We are also located at 33 Central Avenue in Albany.

The Solidarity Committee endorses the recommendations contained in the letter signed by the Citizens Environmental Coalition and many other groups with recommendations on how to improve the energy planning process.

In particular, the Solidarity Committee urges that additional hearings be scheduled at easily accessible locations throughout the state, again, with evening sessions.

Hard copies of the report should be available for elected officials who request them and for members of the public. Albany County Legislator Doug Bullock requested a paper copy of the draft plan and was told by NYSERDA that none are available.

Some of us have poor eyesight and spending long hours reading on computers is impossible or physically painful. I've heard that printing out the plan is not easy to do. I'm willing to pay \$10 or \$20 or whatever it costs for a paper copy of the plan.

I urge that, regarding policy issues, I urge

that nuclear power be removed from the energy plan. New York has six licensed nuclear reactors, five of these are more than 35 years into their operating lives and the sixth one is 25 years. These are old reactors and they should permanently be closed down today. All six reactors are operated at higher output than they were initially designed for, which increases stress and pressure and the likelihood of an accident.

9 Mile Point One and Fitzpatrick are the same design as at Fukushima where three reactors melted down in containment buildings three years ago, and where a badly designed elevated smoke pool at unit number four, with its load of extremely radioactive or lethally used reactor fuel, sits precariously after having been badly damaged by an earthquake.

Perhaps, worst of all, the owners of Indian Point and Fitzpatrick, Entergy Nuclear, were cited in 2012 by the Federal Nuclear Regulatory Commission for willfully falsifying safety records at Fitzpatrick.

Why should we trust our lives to them? Why should we risk our entire civilization for something as little as nuclear power? Nuclear power is the only industry that threatens every other industry that we have.

I realize the governor and the attorney general are trying to close Indian Point, but they need to close the upstate reactors as well. And they need to be far more public in what they are doing to close Indian Point. They could provide reports about how many jobs would be lost if a major sustained or catastrophic radiation release occurs.

The legislature could hold public hearings to examine the tax revenues that would be lost, the additional cost the state would face if the state would go bankrupt, and the logistical difficulties of evacuating parts of New York State and New York City.

Raising the profiles of these issues would increase pressure on the federal government to close these old nuclear reactors. The governor and the attorney general are quite timid in publicizing what they are actually doing to shut down Indian Point.

When the reactors are closed the dislocated nuclear workers could continue to guard the stations and prepare them for decommissioning. The state could develop transition plans so they could be trained for work in the safer energy fields. NYSERDA is more than capable of developing these kinds of plans.

The energy plan should also contain detailed

information comparing the benefits and the risks of nuclear power, specifically how many jobs nuclear power provides, and how many jobs could be lost in worst case radiation release scenarios, so the public can make an intelligent choice about nuclear power.

I realize that the NYSERDA staff here and other folks on the planning board probably do not make these life and death policy decisions for the state, but please impress upon those who do that nuclear power is a matter of life and death.

I would also like to talk about the Champlain Hudson Power Express Project. The state should reverse its support for this proposed Champlain Hudson Power Express Project, also shown as CHPE, a 300 mile long, one-way south direct current power line that would run from Quebec to New York City, burying the trenches in Lake Champlain and the Hudson River, and along railroad right-of-ways and roads in Washington, Saratoga, Schenectady, Albany and Greene counties.

This \$2 billion project would create only a few hundred temporary jobs during construction, and 20 to 30 jobs thereafter. That is pathetic for that kind of investment. A vastly better alternative would be for the state and local governments, the private sector,

labor unions to forge a permanent partnership to solarize the rooftops of buildings in New York City and throughout the state.

The New York Times reported on June 16,
2011, report by the City University of New York, the New
York City Government, and the Federal Department of
Energy, that more than 5,000 megawatts of rooftop solar
potential exists in New York City alone.

Obviously, only a fraction of this will be installed. If even 15,000 building roofs per year were solarized, many tens of thousands of permanent jobs could be created for building trades workers by the construction, maintenance, repair and upgrading of this equipment, far more than the meager potential of the Champlain Hudson project.

Many thousands of buildings elsewhere in New York State could also be solarized, especially shopping malls and school buildings with their increase of roofs.

New York State is in desperate need of high quality unionized, blue collar, middle class jobs that solarizing rooftops can provide. Hundreds of thousands of people in New York City have never had a good job in their lives and they have no prospect of getting one at this time.

Solarizing rooftops is a great way to replace long term poverty with economic opportunity.

Installing solar equipment at only 100,000 rooftops over the next 10 years in New York would greatly stimulate the solar industry.

New York has the potential to become the solar equipment manufacturing center of North America. Some state or province is going to do it. It might as well be New York. Tens of thousands of good manufacturing jobs could be developed upstate where they are surely needed.

Thank you.

I have three documents for inclusion in the record. One concerns an article I wrote in Solidarity Notes about Entergy's willful violations at Fitzpatrick. The second is a letter I wrote on behalf of the Solidarity Committee to Congressman Tonko about the Champlain Hudson Power Express project and its alternatives. And the third is the current issue of the Solidarity Notes, the newsletter of the group that I represent.

Thank you very much.

CHAIRMAN RHODES: Thank you.

I think we recognize the thought and

commitment that have gone into each of these submissions, but they are going long. And if we want to hear from everybody, I will start to enforce the five minute limit, with your permission.

We have the one minute sign there. That can be a coaching element.

Peter Looker, Beyond Extreme Energy Extraction.

MR. LOOKER: Thank you. I will try and keep it brief. I appreciate the one minute remaining sign.

I think we have more than one minute left to not totally destroy the climate for our children and grandchildren, but we don't have a lot of minutes and we should pay attention to that.

I am a member, lead member of the group called Beyond Extreme Energy Extraction. I'm a small business operator and parent. I am here to question short term thinking and corporate greed that continues us on this path of idiocy. Please, no more, there should be no more investments in fossil foolishness.

It just doesn't make any sense, if you are looking at the bigger picture. We obviously need to look seriously at the closing down the dangerous nuclear power plants. Climate cast is probably the worst thing

we are leaving our children.

I would recommend the state consider funding an independent research that would show a carbon free, nuclear free path to a totally sustainable future. And similar to say in the Jacobson Stanford study, that it needs to be fleshed out, but if you can do it in 20 years, why would you wait another 20 years before getting serious about it?

Over 80 years ago, Edison was talking to Ford, and from what I read, he was basically pointing out that solar, wind and water were the way to go, and that fossil fuels were a very short term thing. He compared it to a tenant farmer burning his fences to get a little bit more energy for one last season.

I would encourage a serious study that shows how we can get there in 20 years, similar to the Jacobson study. Thank you. I will keep it short and save it for my kids and grandchildren.

CHAIRMAN RHODES: Next speaker is John Ciavacco, Aztech Geothermal.

MR. CIAVACCO: I am John Ciavacco with Aztech Geothermal. I want to thank the board for allowing me to speak today. I am the president of Aztech, and a mechanical engineer and a businessperson,

mostly.

We started the company in 2008. We have been involved in well over a hundred ground source heat pump and hybrid energy solutions for different buildings, both residential and commercial, new and retrofit.

We started in the technology with the foundation of an environmental services firm, Aztech Technologies, which has geologists on staff, and so we are the engineering group and they are the geologists, and we put those two pieces together.

That has produced just some terrific results. We started it with the thought that this would be a very sustainable technology when it requires a least amount of energy to do engineered systems for heating and cooling. It does both, which is terrific. It uses the minimum amount of electricity to get that accomplished, so it's a nice match for photovoltaics or other renewable electricity sources.

As a result, you can already -- there's probably seven of our customers are net zero on energy, so they produce as much electricity as they need to heat and cool and use the other aspects of their house.

Might even be one here. And they have a particularly

long life.

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We don't have any outdoor equipment, so there's nothing that's in the weather. And the systems are actually quite robust. The systems have been around for well over 60 years in one form or another.

There are other technologies that I think are worthy as well. Ground source heat pump technology works particularly well from an economic standpoint where you don't have access to natural gas right now. If you are using oil or propane as your primary system, the returns on investment are dramatic. They can be --we save residential customers oftentimes \$1,000, \$2,000, larger homes \$5,000 a year, and then they can match it with PV and go to a net zero position, where before they might have been using an oil propane system, which had a very large contribution to greenhouse gases.

I think that geothermal technology is a solution, and where it fits it's a terrific solution, and I really hope that it is included in the areas that are appropriate in the energy plan, and not excluded. Oftentimes PV or other things that are more visible tend to get a little more of a spotlight. When we do our job right you can't even tell it's there, though it can be the most dramatic energy saving and environmental choice

for many buildings.

There is also an aspect of it where it's -the major equipment manufacturers tend to be US based.

And McQuay actually builds ground source heat pumps in
Auburn, New York, so, there is a local -- or there's a
state manufacturer.

All of the HVAC equipment and installation are done by local New York State based contractors, so there's lots of good sustainability and job creation in that as well.

That will conclude my comments. Thank you very much.

CHAIRMAN RHODES: Thank you.

The next speaker is Michael Rice. Seems to be a private citizen.

MR. RICE: I retired in 1996 from the -- as the chief scientist and chief counsel of the Legislative Commission on Science and Technology. I am currently a farmer.

I have to first thank the assemblywoman as representative of the legislature, and NYSERDA and various other institutions, for making it possible for me, a year and a half ago, to install solar on my barn.

In that time, I have generated 10,000

kilowatt hours of electricity. I also greatly appreciate the net metering system that we have. I think that kind of approach should be central to any plan.

I am a little distressed by the way the economics of projects like fracking are even discussed, because the role of a public body, such as this energy planning committee, is to protect the public interest.

And the difficulty is the fracking, for example. Similar things apply to other fossil fuel use. All of the costs to the general public are totally ignored. The vast use of water is ignored. The issue of disposing of the fracking fluids is not taken into account in calculating the economics.

The environmental cost of the fugitive methane is not taken into account. If it were, it would be clear that it's as damaging as far as carbon dioxide -- as far as greenhouse gases is concerned -- as coal is.

Moreover, the future impact of the destruction of the countryside, and of the leaking casing of the two mile long metal casing, is not taken into account. So, we totally neglect what price the public and our grandchildren pay.

The only rational energy plan would be to phase out any fossil fuel, and by the way, nuclear for other reasons, any fossil fuel within 20 years, and not to do any project which will simply postpone the inevitable.

We have to go to absolutely only renewables within 20 years, and get rid of the fossil if we don't want New York City to drown. If we don't want Florida to drown. Some people like to plan on their retirement in Florida. Florida will not be here at the turn of the next century, and we all know it.

So, any energy plan that doesn't recognize that explicitly is just not going to work. So, take it from an ex-physicist, ex-lawyer, and current farmer, who is trying to make his soil fit for habitation in the future.

CHAIRMAN RHODES: The next speaker is Epifanio Bevilacqua, a farmer.

MR. BEVILACQUA: Thank you for having me here. I'm a farmer in Franklin, New York.

You are proposing to put a 30-inch pipeline from Pennsylvania through New York 121 miles. That's going to disrupt a lot of land and trees and forest, and it will also disrupt the wells along the way, and air

and everything, then put a compressor station.

Why are they only having six hearings in New York State, as big as it is? Why aren't we having it in Binghamton, Oneonta and Scoharie?

And we know that the gas and oil industry that has causes all over the place. And problems with air. Competent person should be jailed instead of giving fines. Maybe the industry would look at it better.

And this industry is a disaster to human life. I have a grandchild that was born, three weeks old. What kind of life are we going to give these kids?

If you have cows on your farm, where are you going to get your water from when it's contaminated?

These cows take 20 gallons a day each. So, where are you going to get your water from?

You see the disaster that's happened in Pennsylvania. Carol Fish, she was told not to sign. She signed. Now she has a problem. She has rashes. The cows have rashes. Doesn't take a rocket scientist to know if this is happening on her land, if she has the rashes and the cows have the same rash in the ribs.

I have seen the Triple Divide this past weekend. It's a disgrace what they are doing to the

human race. And the false advertising from the gas industry is ridiculous. It's safe. It's responsible. Come on.

Be honest with the public. Get rid of your gag orders for your doctors and let's do it right.

Let's clean it up. You have the power to stop this.

Also, you have in the five boroughs that you can't give out permits for solar panel. I was talking to the solar panel people in Green Acres parking lot.

In fact, they says, you can't get it because the five boroughs you can't get a permit.

Who gave the industry all this power? We want renewables but you can't have them in the five boroughs. I lived in one or two of the five boroughs, in Queens and in Brooklyn.

So, I hope you can straighten this out and do it right for the next generation to come. I have a grandchild that's three weeks old. I would like to see him prosper and get around.

Thank you.

CHAIRMAN RHODES: The next speaker is Conor Bambrick from Environmental Advocates.

MR. BAMBRICK: Good morning. My name is Conor Bambrick, and I am the air and energy program

director at Environmental Advocates of New York. Our organization appreciates the opportunity to comment on the New York State Energy Planning Board's Draft 2014 State Energy Plan.

The Draft 2014 State Energy Plan presents an opportunity for Governor Cuomo and the Energy Planning Board to lay the foundation for a path away from New York's dirty fossil fuel reliant past toward a cleaner, healthier future, one where New Yorkers' energy needs are met by a system that is more efficient, conserves more, uses less, and relies more on renewable sources.

To make sure we get there, the draft plan must be modified to include benchmarks and action plans that will make these goals a reality; otherwise, it will be hard for New Yorkers to assess whether or not we are falling short of goals, and what steps if any are needed to meet them.

We also believe that the forecasting included in the draft plan needs serious revision, especially as it pertains to fracking and transporting crude oil.

Based on our assessment, there is no way that New York can hit Governor Cuomo's goals for climate protection if the state allows fracking or includes an

uptick of natural gas fossil fuel production and/or transportation.

In fact, Stanford University recently released research on the amount of methane emitted from natural gas extraction and transportation, and its potential climate impact. The researchers found that there is 50 percent more methane in the atmosphere than previously estimated by the USEPA.

Given this, we urge the planning board to include emissions profiles in its considerations and revise its forecasts in order to guide the state in meeting its overall greenhouse gas reduction goals, while meeting the state's energy needs.

The Draft 2014 State Energy Plan recommits

New York to reducing greenhouse gasses by 80 percent

below 1990 levels by 2050, a benchmark called for by the

world's foremost climate experts and one which we

support for our state. It also represents the first

clear affirmation of Governor Cuomo's long term emission

goals.

Additionally, the draft plan sets an interim goal of 50 percent carbon dioxide reduction by 2030.

However, it is imperative that New York State target all greenhouse gasses, particularly that given some, like

methane, are especially potent. And we urge the planning board to revise this goal to include all gasses. There is no reason to wait, and compelling reasons to more aggressively, starting today, to reign in all climate altering pollutants.

In order to meet these targets, the state will need an economy-wide approach with measurable targets established for the power sector, utility restructuring, public and private investment, manufacturing, transportation, community development, building construction, and commercial and residential energy efficiency. The draft plan does not set these targets, nor does it outline a process for doing so.

of the final State Energy Plan, the planning board should make clear that Governor Cuomo's 80 by 50 goal establishes a context and framework for all energy related policy decisions. These should include, but not be limited to, the state and local procurements, economic development, clean energy incentives, regulatory proceedings, and permitting processes.

Many of the broad based initiatives outlined in the draft plan reflect ongoing and planned proceedings led by the PSC, NYSERDA, NYPA, LIPA,

investor-owned utilities, and DEC.

Environmental Advocates is actively participating in these various proceedings, and will closely monitor their outcomes for adherence to the 80 by 50 goal.

Environmental Advocates also supports some of the future actions envisioned in the draft plan, including DEC regulations restricting methane emissions associated with natural gas infrastructure; PSC directives to address methane leakage at natural gas distribution level; extending the RPS through 2025; extending EEPS through at least 2020; reforming the regulatory structure governing the state's electric and gas utilities to accommodate a customer centric model designed to better incorporate carbon free renewable generation, energy efficiency, demand distributed generation, micro grids; adopting new building and energy efficiency codes and appliance efficiency standards.

The final State Energy Plan should include long term timelines to achieve each initiative detailed in the draft. The statutorily required biennial report represents an excellent starting point for measuring state progress.

Participating agencies, authorities and other relevant stakeholders should be provided with clear guidelines and expectations for their individual and collaborative responsibility dictated by the plan.

These agencies and other entities should report and take into account any actions pursuant to the initiatives adopted in the final plan and how those actions translate in the context of the 80 by 50 and 50 by 30 goal.

Just to hit on a couple more points here.

Environmental Advocates urges the planning board to revisit its examination of forecasting based on potential impacts of future natural gas extraction, as well as the transport of crude by the rail statewide and by barge along the Hudson River.

We know the environmental and public impacts are significant when they talk about the potential for fracking, and would likely undermine the 80 by 50 commitment in this plan.

We would urge the planning board to revisit this matter in the final draft, and detail of the impact of hydrofracturing that should be measured in the context of the overall reduction strategy and determination made, if it is even possible, to exist

with the governor's 80 by 50 climate strategy. We do not believe it is.

And then, finally, just to address the crude by rail issue. We would urge the planning board to join in Governor Cuomo's review, as dictated by Executive Order 125, to work with the federal government to develop a series of policy recommendations on the crude by rail issue.

The planning board should incorporate a detailed assessment in the final plan with a particular emphasis on emergency response, environmental health impacts associated with accidents involving spillage of light or heavy crude, and the carbon intensity associated with the processing and end use of the petroleum base products.

Thank you very much.

CHAIRMAN RHODES: The next speaker is Carol Tansey, 350, PAUSE.

MS. TANSEY: An article appeared in Sunday's Times Union in the Perspective section, February 16th, page D2. And the headline is Climate Change as Portfolio Risk: Too much stock being put in fossil fuel future. It's by Stacy Clark, who lives now in Dallas, was the 1984 graduate of Skidmore, and is an

environmental geologist, writer and teacher.

This article was adapted from a letter she sent to Skidmore trustees. I will read sections of this article.

The student lead fossil fuels divestment movement that began in 2011 calls on colleges and universities, endowment officers, pension fund managers, and business leaders, to sell off their stakes in oil, coal and natural gas interests.

The goal is to weaken the political influence of the fossil fuel industry so that climate legislation, that both limits greenhouse gas emissions and promotes clean energy, can succeed.

The majority of the 400 colleges and universities where divestment campaigns have been initiated have so far resisted calls for divestment, largely because their advisors believe that investments in fossil fuel companies offer predictable and reliable returns that cannot easily be duplicated.

But there is a development agreement among economists and a growing number of philanthropic foundations that this current line of thinking is outdated.

Bevis Longstreth, a former Reagan era SEC

commissioner, and former chairman of the Rockefeller family fund finance committee, predicts that the stock prices of oil, coal and natural gas companies are greatly overvalued, and that the time is coming when there will be a mass exodus out of fossil fuel stock.

1.5

1.8

For investors, particularly institutional investors, required to act as fiduciaries with informed care and caution, the present state of the planet in regard to climate change poses serious portfolio risks that grow daily, Longstreth wrote in his June 30th newspaper article.

And then the sub headline is, with the impacts of climate change directly impacting global businesses, and with private equity investors distancing themselves from risky fossil fuel investments, colleges and universities, such as Skidmore College in the Capital Region, now have a rational and pragmatic incentive for development.

I will go on with the article now. Goldman Sachs recently divested its stake in a Seattle company because of its plans to construct a massive coal export terminal.

In a Goldman Sachs' research report, the company explained that earning a return on coal mining

is becoming increasingly difficult due to environmental regulations, and predicted that the industry will be gradually eroded as competition for renewable energy increases and energy efficiency efforts improve.

And in the Times Union last Saturday, it was reported that Coca-Cola, Nike, Apple and Toyota believe that the global effects of climate change, particularly worldwide droughts and record breaking flooding, have interrupted their natural resources and material supply chains.

Their support of regulation is aimed at combatting climate change by limiting the burning of oil, coal and natural gas calls into question whether the risks of owning fossil fuel stock may now outweigh the rewards.

Again, it's the article in last Sunday's paper in the Times Union in the Perspective section, which is letter D as in danger. And it is too much stock being put in fossil fuel future.

And thank you very much.

CHAIRMAN RHODES: Thank you.

Next speaker is Diana Wright, PAUSE, 350.org, CDAF and NYAF.

MS. WRIGHT: Good morning. I am Diana

Wright. I live here in Albany. I'm a New York State real estate broker and appraiser.

1.5

I'm going to start off by saying I have a lot of clients who are looking to have energy efficient homes and get solar and passive solar, but they can't afford it.

I also know that I put solar panels on my home last year and I still have half a roof open that I wasn't allowed to put solar panels on because of regulations that I can only have 110 percent of usage, which doesn't make sense to me because I have a roof that I could see making energy with and I'm not allowed to.

The New York State Energy Research &

Development Association means that your organization should be researching and developing new technology for renewable energy, not relying on last century's fossil fuel industry.

The energy plan seems to be more like a guide than a plan. It does not spell out exactly how we are to obtain the goals set forth for reduced carbon emissions and increased renewable energy by 2050. There are no timetables and few details.

I am most concerned with the references to

fracking, though not many, all our expectations that fracking will be allowed in New York State as a miracle cure for our economic and energy woes. It is not.

Drilling into the earth's surface does cause earthquakes, contaminates water, lowers property values, makes people, animal and vegetation unhealthy and in many cases perish.

I'm including with the submission of my written statement today a copy of the energy policy co-sponsored by Stanford University and Cornell University, examining the feasibility of converting New York State to renewable energy.

In it they explain that mining, transport and use of conventional natural gas for electric power results in at least 60 to 80 times more carbon equivalent emissions and air solution mortality per electric unit generated than wind energy. It also produces carbon monoxide, ammonia, nitrogen oxide and organic gasses.

The plan also promotes vehicle diversity and praises the New York Clean Fleet initiative. This program provides public money to help purchase vehicles that run on compressed or liquified natural gas. New science has shown that natural gas is actually worse for

the climate than traditional fuel, like diesel, due to methane leaks in the supply chain.

Rather than encouraging vehicles that run on climate killing fossil fuels, New York should establish specific targets to advance electric vehicles and hydrogen fuel cell technology.

Considering replacing old industry coal, nuclear, oil and other dirty fuels, the natural gas as a bridge just increases the time that it will take to switch to renewable energy. Older units need to be replaced with new green technology instead. We don't need a bridge. We have already tapped into all the natural gas we need to make the transition to renewable energy in the next 20 years.

All steps New York State takes should be towards reducing carbon released into the atmosphere and supporting the renewable energy industry, which has already proven to be a viable choice in many European countries.

The US can support and thrive on wind, solar, hydro and geothermal energy, as the study previously referenced shows. We need our local and state governments to make this top priority now. Every week there is another accident, be it spill, ruptured

pipeline, or contaminated water, that tells us we are on a collision course for disaster.

It is not like we don't have viable alternatives. The US has a topography to supply all the renewable energy, wind, solar, water, tidal, that we need if money is spent on building that infrastructure instead of building pipelines for the Canadian tar sands, transportation of LNG, LPG and oil via dangerous DOT-111 tanker cars and drilling thousands of wells for hydrofracking.

New York is not starting from scratch to produce sustainable energy. We have alternative energy resources, other than our shale, that are far more economically and environmentally prudent to tap into, the Niagara and the Hudson Rivers provide New York with some of the greatest hydropower resources in the nation, and New York's Catskill and Adirondack mountains offer substantial wind power potential.

New York also produced more hydroelectric power than any other state east of the Rocky mountains in 2011, and the Niagara hydroelectric power plant in Niagara Falls was the fourth largest in the nation in 2010.

When we have such abundant renewable energy

resources available to us in New York, considering dirty fossil fuels makes absolutely no sense at all.

Global ecosystems of machines that connect, communicate and cooperate with each other is the direction we need to go. We will not ever be completely independent of fossil fuels, but it is imperative that we develop and depend upon renewable, sustainable, clean energy so that our need for fossil fuels is at a bare minimum.

Thank you.

CHAIRMAN RHODES: Thank you.

The next speaker is Sandy Steubing, PAUSE, Transition Albany and 350.

MS. STEUBING: Thanks for allowing me to speak today. I would like to double down on what Ms. Warren, Mr. Ellis, Ms. Tansey, Ms. Wright, Mr. Looker and Mr. Bambrick say in their testimony.

The prospectus reads -- I call it a prospectus, excuse me for that lapse, but because the plan reads like a corporate prospectus. It's full of PR. It's full of vague statements.

For example, action items like increase and decrease aren't connected to specific plans and not connected to what we did in 2013. They are not

connected to the increase or decrease of what you want to do for 2014. There's no timeline for implementation.

So, it was really hard -- I read through practically the whole thing and I just kept on waiting to get to the meat of it. I just didn't get there.

I was disappointed with the meat of what you expressed in natural gas -- expansion of natural gas.

We here in the climate change era cannot afford any increase of natural gas, which means fracking.

You may or may not know that the intragovernmental panel on climate change, over 200 scientists around the world came out with some statistics that methane is 86 times more potent greenhouse gas in the first 20 years of the emissions than carbon dioxide.

So, when we examine the externalities of the well to waste of any energy production, natural gas does not compare favorably to either coal or oil.

I would like to touch a little bit on the Champlain Hudson power line that Mr. Ellis mentioned. It's also the -- compressor stations and power stations are also a beacon for terrorists, whereas the 75 percent rooftops that are available in New York City for solar panels would be much preferable. Distributed energy is

a much preferable way to go.

1.3

I was looking in this plan for something like the one that came out of Cornell and Stanford a couple years ago. And if we had acted upon it, their deadline for completion was 2030, not 2050. I would like to see this organization go in that direction in terms of both specifics and timeline.

Let's see. A little known study -- talking about employment now -- out of the City University of New York is that there are two times the number of jobs available through renewables than there are through fossil fuels.

I would like to think that this organization can look at that study as a model. I would like to see out of this organization a path, a very specific path for more workers who are presently working in fossil fuels, and their skill set, how their skill set can transfer to the skill set we need in renewable energy.

I would like to see manufacturing of solar panels, manufacturing of wind turbines, brought to New York State, specific plans for that.

And in conclusion, I would just like to see more distributed energy of renewables by 2030. This plan is basically too little, too late.

Thank you.

CHAIRMAN RHODES: Thank you very much.

The next speaker is Bruce Brownell,
Adirondack Alternative Energy.

MR. BROWNELL: I would like to thank you for the opportunity to speak to the code. I have been doing this a long time. I think I have been in the governor's office each governor since Cuomo speaking about the code. I spent my life doing this, and all of my efforts today I don't think resulted in anything.

It's kind of sad, when you look at it from my perspective. I was a speaker at the original Earth Day -- that's Flushing Meadows World's Fair site -- in 1970. I was there because I was this weirdo kid doing solar houses.

I stood up and said, I do solar houses. I couldn't even see the end of the crowd. I was up on some platform. I had seven minutes. 10 years from now in 1980 many houses will be solar. Roar, I could still hear. And some of those houses will be photovoltaics and wind power. I could still hear the roar. Boy, was I wrong.

There was scientists that generated during the first energy crisis in President Carter's

administration, and we really went somewhere. Along came some other guy named Reagan and it got turned off. I still can't believe to this day what I lived through, as though I were selling drugs or something. It just went away.

I don't think we solar people contributed very much to the political scene, but the oil people sure did.

I want to speak to you from the perspective of doing passive solar homes. I have done 375 or so in about 15 eastern states. They have a six-sided envelop of urethane, performance R36, they are very tight, they are mass integrated. This is backed up by six separate monitoring programs of more than two years apiece. First 1977, Brookhaven National Labs. Most recent, 2010 NYSERDA.

There are 50 of these houses within 20 miles of here. You know, the sun never sent one of them a bill yet.

Talk about green. I have more than a hundred houses, more than 25 years old, and burned a cord of wood for the winter. Is that green?

I recently met with a group at NYSERDA to talk about upgrading the Energy Star home regulations.

In a year or two or three hopefully they will come out.

It's a very good program to encourage contractors to do something better.

Those new regulations will result in homes that might be 25 percent as good as the houses I was doing in 1965. There's something wrong with this.

So, homeowner ideas. If I send anybody away from here just thinking about one or two things it would have been worthwhile. My houses do not need humidifiers or dehumidifiers. They use a lot of energy and they are not very good for you. My houses won't freeze in an 8500 degree day climate. Just turn the key in the door, go to Florida. It won't freeze. Your house won't last ten hours after the power goes off and you're in trouble.

Installation is up by the roof line, not across the ceiling. Therefore, I have houses that are open up 28, 32, 36 feet. When you take people on tours -- I have had 10,000 -- oh, wow, how do you heat this place? Because we circulate air and the coolest air in the house is up there by negative two.

Why does the code require more insulation in the roof line if that's possible? I don't need that.

Most other houses do need that.

We vent clothes dryers, bathrooms, inside.

It requires you got to have a clothes line outside in the summertime. I have no houses with air to air heat exchangers. They are beginning to be required anywhere.

I never needed it. In the typical leaky houses, they are sieves. The technology exists not to use them.

From a layperson's viewpoint, with a thousand people living in my houses, all I hear are healthy comments and unparalleled human comfort. Have families who have lived in these houses 25 years, kids growing up going to college, nobody ever have a cold.

My problem is: At this stage of my career I am not credible. I mentioned a specific house in Lake Placid, 9600 degree days, to which I have had four or five separate tours. Caveat, Lake Placid has their own municipal electric system. The cost is five cents. They don't have five or six guys standing around every truck.

So, I think people through the house, after describing how I've done it, 20 or 30 at the end, give them a bill for seven months of winter and it's about \$630.

To a person, every one I have ever taken there tells me there's no way you are going to heat this

house for \$630. That's the cost for everything in a 5200 square foot house. When are we going to come to some requirements in the code that lets us do something like this?

And finally, I will leave you with I guess my most common speaking item. The average house, ask your oil dealer, thousand gallons of oil a winter. I was awakened this morning. I live in a rural, 600 person town in the Adirondacks. I put wood in the wood stove. At quarter of seven in a snowstorm two oil trucks went by. That's no way to start your day.

So, I just leave you with these thoughts.

And I want to leave you with another thought. What does

America know about energy? 2014? I usually ask for a

show of hands in a mixed audience, but I'm not going to

do that.

How many people in the room closed their curtains on your windows last night? A lot of you. How many of you have a curtain that comes out over here and back in, a curtain rod about three inches off the wall. And how many of you have those curtains hanging that far off the floor? Most of you.

You shouldn't close the curtains because the warmest air you own is being circulated through the back

of that curtain because cold air between the curtain and window falls out on the floor, replaces the warmest air you own off the ceiling.

Grandma had drapes with the valance up there. You people don't have that. Thousands of windows were closed last night and curtains like that. That's where Americans are with energy 2014. Thank you.

CHAIRMAN RHODES: Thank you very much.

The next speaker is Abraham Himiel from CNSE, our host.

MR. HIMIEL: Thanks for the opportunity to speak. I am going to be brief, and I want to preface everything I say with although my affiliation is with CNSE, I want to make it clear that my views don't reflect CNSE as an organization.

I am just a grad student working really just that way on the second floor. I am about a month and a half away from defending my PhD thesis. And I want to thank NYSERDA in particular for allowing this to happen. I'm mostly funded by you guys.

The subject of my work is the fundamental surface science to understand processes in physics and chemistry that can pave the way for solar hydrogen, which is a combination of fuel cell and photocatalytic

water splitting that is, at least in theory, completely sustainable, energy efficient.

And hydrogen is the only fuel that has comparable energy density to fossil fuel. So, all the applications that today require fossil fuels can feasibly somehow be reproduced with hydrogen.

However, my comment -- and I will keep it brief -- is that the plan doesn't really address the specifics of that on a science basis.

I feel that for the amount of time and human effort that NYSERDA has put into work like mine, I feel that laying out the innovation pipeline, we will call it, from research and development, to proof of principal devices to commercialized devices, to marketing, installation and on the ground work, is lacking, considering that it is, in my mind, the only competitive fuel to natural gas and oil.

And that is my comment. Thank you.

CHAIRMAN RHODES: Thank you very much.

Next speaker is Brittany Ballenbach, a

student.

MS. BALLENBACH: Hello. Thank you for giving the residents of New York the opportunity to comment on the Draft State Energy Plan or what I like to

call the DSEP.

My name is Brittany Ballenbach. I'm a long term resident of Ulster County, New York, one of the places forgotten in these six public hearings. And I will graduate in May with my undergraduate degree from SUNY Purchase College in Westchester County.

When I first attended Purchase College, I had no idea that Indian Point would be exactly 17 miles away. I was also shocked when I realized that Purchase College didn't have a nuclear emergency evacuation plan, nor did they see the necessity of implementing one.

While Purchase would be categorized by the NRC as being within the 50 mile ejection pathway, and slightly out of the 10 mile radius, they did not see immediate concern for the college administration to adopt a plan.

In 2011, before the meltdown at Fukushima Daiichi, I began researching elementary schools and colleges within a 20 mile radius of Indian Point, and very few schools had established a plan.

It also came as a shock when the DSEP mentioned a review conducted over a decade ago in 2003 by James Lee Witt Associates that concluded that the current evacuation plan for Indian Point nuclear

facility was inadequate, and "did not incorporate the base population data for these areas needing to be evacuated. Emergency plans need to be based on the best available estimate of how people can be expected to behave in an emergency, not how emergency planners would like them to behave". From the volume two, impacts.

There is no mention of a new adequate evacuation plan, nor does the plan mention anything about the future decommissioning of the other aged nuclear plant in New York.

Additionally, if Indian Point were to melt down, the NRG guidelines call for 50 mile evacuation, which means 17 million people will need to evacuate. I believe that the lack of an adequate evacuation plan that reflects current population levels speaks to the impossibility of evacuating 17 million people who reside near Indian Point.

And though the plan has stated the Atomic Safety Licensing Board is looking into the application, the time is now to peer into the future of the safety of these long lived plans to dedicate New York's energy economy to renewable sources. We've had these for many years.

The licensing for Ginna, Fitzpatrick and 9

Mile Point all expire within the scope of this plan, and yet the necessary decommissioning process has not been addressed. We shall not agree to a tradeoff for natural conversion at nuclear facilities, and we oppose any new natural gas extraction and production in New York State for various reasons.

A consulting firm, Synapse Energy Economics, identified in the report to the NRC in 2011 that Indian Point produces a surplus amount of electricity. And they identified various clean renewable energy sources that could easily replace the 2000 megawatts of energy that is needed.

The DSEP should not include natural gas as a source of replacement energy due to the various associated environmental and health impacts.

The DSEP should include all GHG emissions, not just CO2 emissions. Methane is unknown, it's a highly potent, global climate change agent, and the plan envisioned and expanded natural gas extraction and conversion system in New York, which can significantly raise the methane from the leakages from the current pipelines.

With the heavy reliance on natural gas production, extraction and infrastructure, the plan is

in fact moving away from the 80 percent reduction goal that we need to meet.

Increasing our reliance on fracked gas will certainly not result in a cleaner or more efficient economy. Instead of increasing our reliance on natural gas and putting our citizens at risk, I ask the state to maximize the commitment to clean and renewable energy efficiency. Any and all negative environmental impacts associated with hydrofracking have been completely ignored and overlooked in this plan.

The State Draft Energy Plan does not provide a clear roadmap which details how New Yorkers will reach the ambitious goal of reducing GHG emissions 80 percent by 2050. The plan relies on risky nuclear power with little to no mention of the future decommissioning of the state's nuclear reactors, controversial natural gas production, and nearly no growth in the forecast of renewable energy production.

New York is a visionary state that we all love and live in that provides high standards for clean air and water to its citizens. We have the capacity to be a leader in clean renewable energy efficiency.

It's not too late to change our current course. In the words of Pete Seeger, we shall overcome.

Thank you again for your time and dedication. I appreciate it.

CHAIRMAN RHODES: The next speaker is Matt Cinadr from the Northeast Clean Heat and Power Initiative.

MR. CINADR: Good morning. I want to urge the New York State Energy Planning Board to grant more substantial recognition for combined, or clean heat and power, a priority for the State Energy Plan covering the next period.

CHP is the perfect transition technology.

If there is one thing I would add to my remarks, we are in transition. We will always be in transition.

Rhetorical step changes and suggestions are hard to implement unless there is a tragedy and we react.

The technology of CHP is more efficient and cleaner for our energy future. The draft plan accords it only a couple of important, yet mostly historical, references. Planning ahead, we might build on NYSERDA's efforts, now rolling out \$100 million program, and leveraging \$400 million more in these clean technologies.

The draft plan might also directly charge the PSC, and its widely discussed efforts at reforming

utilities and utility regulation. The plan should ensure CHP is placed high, high on the list among the preferred prime movers needed for efficient, clean, secure, resilient, reliable, and cost effective distributed energy resources.

Because CHP is a complex and somewhat complicated technology, we believe the planning board will agree with us that the Northeast Clean Heat and Power Initiative, NCHPI, needs a seat at any table discussing CHP. That's why I am here.

My name is Matt Cinadr. I am an experienced engineering consultant doing work as Matt Cinadr PE. In 1971, I began my work as a field engineer with CHP.

My early assignments were investigating operational losses and investigating problems with performance, repairing those problems, and installing new systems. In those days we called it steam, turbine and gas, STAG.

The technology has been around. I worked on 10,000 horsepower CHP applications in the field with designers. It was a great place to learn and appreciate the limits of technology. I have since held numerous positions in the energy industry as manager, supervisor, consultant, regulator, chief engineer. And operations,

not planning, has been my field.

My firm now seeks to develop CHP projects, direct energy and micro grids. Based on our considerable operating experience, I represent NCHPI at the operating committee of the New York ISO.

A little bit on that. The New York ISO is a major, major contributor to the State Energy Plan.

Keeping abreast of matters at the New York ISO is an important component for our energy plan, and I commend the New York ISO for hosting the DER workshop last December 13th at the Desmond. I was privileged to represent NCHPI at that event, and I look forward to its consultant's work summarizing all of the panelists' contribution and its own consulting report on DER.

The state's energy planners certainly know there are 800 megawatts of 390 or so smaller CHP units. The statistics will be in the record.

The main point I will leave all of you with:

Please consider that there is a potential for 9500

megawatts of additional CHP in this state. Many of

these important CHP resources have been, and might be,

gridlocked, for whatever reason, because of either

internal design constraints or operational constraints,

external constraints, including difficulties with fuel

1 supply, electrical interconnection requirements, potentially onerous standby tariffs, and so on. So, let's plan to create more CHP and use it more effectively to achieve multiple state clean energy goals. 6 Our policy suggestions for the board: 7 Expand access to resources, finance, fuels, sites, etc. 8 Reduce barriers and reduce taxes. Open doors. We can better mesh with the grid. We can help New York 10 Independent System Operator create new respect for CHP and all other distributed energy resources. We advocate for inclusion of combined heat 13 and power resources and other onsite resources, more of 14 a priority in the plan. 15 We believe that there is need for NCHPI to 16 be seated at the table during the CHP, DER program 17 design, which will eventually implement this plan, as I see it. Thank you. CHAIRMAN RHODES: Thank you very much. Jane Palmer.

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MS. PALMER: Thank you very much for giving us all the opportunity to speak. And I just want to say that many others have very articulately explained why

this energy plan does not permit the achievement of the goal of substantial reduction of reliance on fossil fuel by 2050.

Many people have said many wonderful and true and clear things. I share Mr. Bevilacqua's worry about that big pipeline going by his farm in Franklin, New York.

And the other pipeline that's coming up -the Tennessee pipeline that's coming up from the south,
and that will meet at our very own Capital Region
compressor station, just a couple of miles beyond the
border of Albany County in Wright, the Wright compressor
station.

I don't know yet. I just found out about this a couple of days ago, but so, we have our own Capital Region compressor station. Did you know?

From that, there will be a pipeline that will go through Albany County and under the Hudson River. What an idea.

So, really, please take some account of the dangers of all these fossil fuels, and especially the natural gas and fracked gas and oil infrastructure that is being put in place under the plan. The dangers to people, to the land, to our very lives need to be

considered.

Thank you very much.

CHAIRMAN RHODES: Thank you.

I would like to take a break for 10 minutes if we could, and then resume.

(Recess taken.)

CHAIRMAN RHODES: I would like us to try and get started again. Before we do get started, a couple of observations. There are different commentators in this process and jointly have asked for the availability of certain documents, namely, the greenhouse inventory and the draft energy efficiency and renewable energy resources potential.

I would just like to point out that the greenhouse gas inventory has been completed and it is incorporated in volume two, the chapter on impacts and considerations.

The energy efficiency and renewable energy resource potential draft plan has been completed. It, too, is incorporated in volume two in end use energy. The final will be completed shortly of the draft and will be posted on the website. So, the findings of those two reference documents are incorporated in the plan in the source materials in volume two.

I would also, just from a process point of view, again, ask all of us to have consideration, not for us but for the colleagues in this comment process, to respect the five minute limit.

And finally, I have been given a piece of very good advice, which is to let people know when they are on deck, so the transition is a little bit quicker.

So, we will again resume with David Gahl of the Pace Energy and Climate Center, and on deck is Jill Obrig.

MR. GAHL: My name is David Gahl. I'm the Director of Strategic Engagement for the Pace Energy and Climate Center. Just in case you don't know who the Pace Energy and Climate Center is, we are a clean energy think tank located at Pace University's law school.

We are lawyers, economists, and policy analysts who are committed to trying to find solutions to today's energy challenges and complex problems.

First of all, I just wanted to say that I will be delivering our preliminary observations on the plan, and we will be submitting formal detailed comments for the record.

I also want to echo some of the sentiments, that we appreciate the amount of work that has gone into

the plan. This is a big undertaking with both the NYSERDA staff, the rest of the state agencies' staff. There's an awful lot that's involved here and we thank you for all the hard work that's gone into the document as it stands.

A couple of quick general observations about the plan, and then I'll comment on how we think it could be improved. Among the draft plan's many positive elements, I'm just going to highlight three.

First, the center supports the governor's long term greenhouse gas reduction goals, 80 percent of reduction of greenhouse gas emissions by 2050, as well as the use of greenhouse gas reductions as a key metric in monitoring plan performance. That's a key piece as well. So, we support those goals and using greenhouse gasses as a metric.

We also support the governor's plan to extend renewable energy incentives and energy efficiency incentives through 2025 and 2020 respectively.

And further to that, we support the governor's efforts to reform New York's electric and gas delivery system to ensure more reliability and have a more integrated, more distributed energy network.

That's very important. That's where the future is, and

we would like to play a role in helping to make that a reality.

So, some quick comments about opportunities for improvement. Generally speaking, while the draft has presented a very clear long term vision for where the state's energy system should be going, and has laudable goals, it's a little less clear on what the short term policies and what some of the short term activities are going to be to help achieve those goals.

So, what we have determined was the plan really could use organizing principal, potentially a short term goal that guides the rest of the decision making. So, we believe that a 2018 greenhouse gas reduction goal should be established. 14 percent reduction of 2011 greenhouse gas levels. We think that goal puts us on the path to meeting a long term greenhouse gas reduction target.

Further to that, the plan establishes an intensity target for greenhouse gas emissions by 50 percent by 2030. That's just a laudable goal, but we believe that an intensity target might actually be a little confusing in the long run.

We have the long term greenhouse gas reduction goal of 80 percent by 2050 and then we are

layering on top of that an intensity target. You really need a midterm goal that's measured in the same way as the long term goal. So, we believe the intensity target should be revisited, and we are going to propose in our formal comments some ways to do that.

I just wanted to expand a little bit on the plan's commitments to extending the renewal energy and energy efficiency incentive programs in New York State.

Again, as I said, we appreciate the state's commitments, and at least on energy efficiency, based on our analysis, we believe there should be a goal of meeting roughly 20 percent of the forecasted demand through efficiency through 2020. So, that should be a key element of the final plan.

And then on the renewable energy side of the ledger, again, we appreciate the commitment to renewable energy through 2025, but we also believe that the final plan should set the target of 50 percent of our electricity comes from renewable sources by 2025.

So, it's important to have the state commitment, but it's also important to have targets and then budgets for those programs that actually support achieving those goals.

The last thing I wanted to touch on, micro

grids. There's quite a bit in the plan about distributed energy generation and the role micro grids could play in providing reliability.

We wholeheartedly support these goals. We think the final plan should include some more detailed recommendations about what clearing away some of the regulatory barriers to micro grids are, the centers are working on a variety of analysis to help identify those barriers, and we are going to be including those in our final comments.

So, thank you again for the opportunity to comment. And if you have any questions, I will be around. Thank you.

CHAIRMAN RHODES: Thank you very much.

On deck after Jill Obrig is Liana Turner.

MS. OBRIG: Yes. I wanted to thank you all for allowing us public comments.

Robert Redford, a very famous actor, once stated that our country needs to see climate change as a natural security issue because, after all, what are we here for if not to use our clean air, drink our clean water, and have clean air and land.

This plan predicts that fracking in New York as a natural gas, as a clean energy. It is not a clean

energy. The burning of natural gas may be, but that's not what we're talking about. We are talking about the extraction process, and what happens in the extraction process is extremely detrimental to our quality of our land, our water and our air and our health, because if you have not a healthy environment you have not healthy people.

So, now you are dealing with health issues in New York State because of the infrastructure that you are creating with natural gas, and the development of the natural gas.

Just go down to Pennsylvania and take a look at the many, many people whose land values have gone down, whose health issues are in a bad way. Children are most susceptible. Asthma is becoming a terrible, terrible issue with young people down in Pennsylvania.

Instead, this plan ought to be directing itself towards geothermal heating and cooling. It should be working towards having totally renewable and sustainable energy.

In New Paltz, right near where I live in Ulster County, a builder just built an entire neighborhood off grid. Houses are totally self sufficient energy wise. Yes, the upfront cost is a

little bit more than what a normal house would cost, but you just take one bill, like this winter, of your energy bill. A thousand gallons times \$3.70, about two years they will make their money back.

So, it can be done. So, why is this energy plan not creating this kind of a sustainable and renewable idea when it's there, it's happening in New York State?

Local economies could thrive on this. If you take land rich and cash poor farmers and you give them their acres and acres that they have of land and put in solar panels, they would be our producers. Made by Americans for Americans. Off the grid and away from multi-national corporations whose bottom line is profits, not people.

The energy plan use in our state, we have hydropower. We have Niagara Falls. All the way down to the oceans of Long Island. The oceans of Long Island, we could be having wind power off that, hydropower off that. Why is the energy plan not taking advantage of our resources without using pipelines and compressor stations, where we know that these kind of things have already had devastating effects with explosions and with people getting killed in some instances.

As for nuclear, this is not a question of if, it's a question of when. Fukushima is spewing 30 million gallons of radioactive materials into the Pacific ocean daily from March 11, 2011.

The experts at Tepco and the experts that are in Japan have no idea where to go. So, this is something that you are looking at for our future? I don't think so.

The student was speaking eloquently, pointing out that 17 million people needed to be evacuated and there was nothing in your plan. All right? So, how are we going to do that?

Instead of this, please look at the Stanford University professor Mark Jacobson's report citing that New York State can be totally renewable and with renewable and sustainable energies by 2030. And again, I address the oceans.

The draft plan lacks thoughts of energy efficiency. Although the plan vaguely discusses building codes and application standards, it contains no specific actions or measures about how they will be improved and aggressively enforced.

Currently the Hudson River is being looked at for a large electric line going down from Quebec to

New York City, which someone stated already.

Please, I urge you in closing, I urge you that our rivers, the Hudson River, our rivers and our valleys and our land should not be just used as a resource to be exploited. We should look at our resources as more than exploitation, but as a source of inspiration.

I'm sure many of you go for walks in mountains and go up streams and oceans. I think you would like to see your grandchildren do that as well.

Thank you very much.

CHAIRMAN RHODES: Liana Turner is up, to be followed by Laura Haight.

MS. TURNER: Hello. I just want to thank everyone for being here and covering so many of the things that I feel in line with. I am grateful for the opportunity to get to speak. Had I known, I might have dressed up a little.

Anyhow, I am not very good at remembering all the specific facts right now because I wasn't prepared in this way. I don't have anything written ahead of time.

I think what I would like to address is something more from an essential place or, you know, a

fundamental principle. I really cannot understand how public funds are being used to serve private interests which are not in line with the will of the public, and which are not in service of the whole and public interests.

And actually, these public funds that are funding private interests are going to things that are in conflict with what would be best for the people and our environment. And yet, this is at our expense and our detriment, and there are a small number of people that are benefitting from this in relation to how many people are suffering.

This is just unacceptable. To base a society on exploitation, the result is a sick society.

And I would say that the way that things have been going, it is extraordinarily oppressive and unbearable.

I know people like to say they live in America, and it is so much better than so many other places. And I am not denying certain aspects of that. It's a different experience here than it would be somewhere else. But oppression is oppression no matter where it is.

I believe it's criminal for industries to be allowed to have more control than the people in

government. I feel it's an ultimate fail of who are supposed to be our public servants to get that confused. Are we part of the problem or part of the solution?

Each one of us.

The public also has our responsibility to educate ourselves since our educational system has been hijacked. And I appreciate the person that was speaking on divestment.

So, I mean, there is a lot of things that have turned this country upsidedown, and I really am urging our public servants to hold their oath to serve the public and get that straight, and do what's right for the benefit of the people and the whole, especially with our collective resource pool.

Anything becomes attainable and affordable when it's funded and subsidized. And to take what would be best in the service of the whole, and fund something that is against what would be best for us, is criminal and unacceptable. I guess that's my main point.

I did notice something in here about infrastructure. Infrastructure is key, because if our subsidiaries go to things that are not in the public's interest then we don't have that funding to go where it needs to go for the benefit of all of us.

And so, I think it's essential that no more public funds go towards any infrastructure that is basically the privatization of public resource. I believe all public funds should be put towards things that benefit us all, and that would be renewable energy.

So, I did notice something about not only a lot of people spoke on the infrastructure of homes, and thank you. There is also a point in here about the infrastructure of vehicles.

And let me just quickly find this. Maybe someone else can cover it. I can't find it. Anyway, basically that the same thing, the same rule would apply to our vehicles.

And I think my last point would be that over and over -- I have not read it, but over and over again when I read this summarization from Environmental Protection Agency, I think I got this from Frac Action, I see ambiguity, vague, over and over again. And the plan fails to comprehensively address the many issues relating to the public's concerns.

So, please, please, take into consideration the benefit of everyone. We are all being affected by this. Thank you.

CHAIRMAN RHODES: Laura Haight. On deck

will be Steve Ludwigson from Boilermakers Local 5.

MR. STELLING: My name is not Laura Haight. Good morning. My name is Joseph Stelling. I'm the environmental campaign organizer for NYPIRG, the New York Public Interest Research Group. First, I want to thank you for the opportunity to testify today.

NYPIRG is the state's largest consumer and environmental research and advocacy organization. We are going to be speaking at these hearings across the state. And there's so much in this plan that we are just going to focus on one core topic at a time at these things so we can give that due attention. And then we will be submitting comprehensive written comments as well.

So, today I am going to focus my comments on the plan and how it addresses the issue of climate change. The plan provides a framework for measuring New York's progress toward a clean and affordable energy system. One of four key metrics used is to reduce greenhouse gas emissions that contribute to climate change. This is a significant component of the plan, and very important.

The plan states that investments in clean energy strategies will "put New York on a pathway to

achieve an 80 percent reduction in total emissions by 2050". This is an important affirmation that the Cuomo administration has made, New York State's policy goal of reducing greenhouse gas emissions at least 80 percent below 1990 levels by mid-century. This goal was established in the 2009 executive order signed by Governor Paterson.

However, the plan fails to establish a clear roadmap for attaining its greenhouse gas reduction goals. Specifically, it needs to set better benchmarks for greenhouse gas reductions, maximize renewable energy and energy efficiency, and drop its support for natural gas expansion in New York. We will discuss that last subject a little more at tomorrow's hearing in Brooklyn.

The plan sets an interim goal to reduce the intensity of its carbon emissions from the energy sector by 50 percent by 2030. That's measured in tier two emissions per gross state product from 2010 baseline.

Bottom line is we need to set better benchmarks if we want to put New York on a pathway to achieve an 80 percent reduction in total emissions by 2050.

The plan should be revised specifically as follows: The 2030 goal should include all greenhouse

gas emissions, not just CO2 emissions. And I've seen the gas emissions identified different ways throughout the plan so it's not necessarily consistent, but what is clear is we need to include all of these.

So, for example, methane is a far more potent climate change agent than CO2 on a pound for pound basis, and especially in the short term, and the plan envisions a significant expansion of natural gas extraction, transport and use, all of which will significantly increase methane emissions.

Second, progress on emissions reductions should be measured by actual tonnage reductions in the CO2 and CO2 equivalent on its reductions for other greenhouse gasses, not carbon intensity. This will provide a more accurate measurement of policy performance.

And third, New York should establish nearand midterm targets to put us on to a path to achieving
our long term emissions reduction goals. The plan
should set interim targets, starting with a 14 percent
reduction of greenhouse gas emissions by 2018 from 2011
levels, and 20 percent emissions reductions by 2021. By
setting those shorter term goals, that's the only way we
are going to make sure we are on track to hit our mid-

and longer term goals.

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So, in order to meet our 80 by 50 goals, we need to move away from polluting fossil fuels and risky nuclear power, maximize energy efficiency, and transition our energy system to clean renewable energy. This plan does not get us there.

This plan should be revised as follows.

First, New York is already failing to meet its existing green energy goals. The final plan should address how we get back on track. It should address how New York is going to meet our 2013 goal of 30 percent renewable energy and 15 percent reduction in energy demand.

It doesn't include those things. It mentions programs, but it doesn't say how we are going to get to those goals that are well established. The final plan should set a new 10 year target as well for energy efficiency, reducing energy use by 20 percent of forecast demand by 2025.

And the final plan should set a new 10 year target for available energy of meeting half of our state's electricity demand with renewable energy by 2025.

New Yorkers know firsthand the devastating impacts of climate change. We are already seeing this

and it's clear to anyone whose eyes are open. The energy sector is responsible for a significant proportion of our greenhouse emissions. That, again, is unquestionable, from how we produce our energy, to how we use it in our homes, businesses, industry and transportation. Unfortunately, the plan does not get us there.

And the final plan must be strengthened to provide a clear roadmap for moving New York toward a carbon free, nuclear free future.

Thank you.

CHAIRMAN RHODES: Steve Ludwingson. Then following him we have Sarah Boggess from ReEnergy Holdings.

MR. LUDWIGSON: Good afternoon. My name is Steve Ludwigson. I am the business manager for Boilermakers Local 5. I represent the boilermakers in all of New York State, with the exception of 16 counties located around Buffalo, New York.

Our members are highly skilled professionals with expertise that comes only with extensive training and years of practice.

I am here today to state on the record that Boilermakers Local 5 is in favor of all energy sources

that are built in New York by New Yorkers, maintained by New Yorkers, and allow families to earn a living that can enable them to stay in New York.

We believe the proposed instate projects can provide a reliable and affordable base to power New York's future needs. We are opposed to dependence on any foreign power suppliers, such as the proposed Champlain-Hudson Power Express, Inc. power line, a new electric transmission line planned across the US-Canada border in northeastern New York State.

The Champlain-Hudson Power Express line would do nothing to strengthen the state's electrical grid. Practically speaking, the transmission line is a large extension cord that would bypass all of our state's existing energy sources, and transmission infrastructure, such as upstate New York plants that have an excess of available power, instead of enhancing the overall capacity and stability of New York's power grid.

New York will not be able to benefit from the low cost power these upstate plants could be producing, and will instead become completely reliant on a foreign source of electricity. Nearly all of the jobs installing the cable would be "specially trained"

workers from Canada, not New York. Our good friends in Canada will get new jobs and New Yorkers will get the bill.

This includes the approximate \$2 billion cost to build they will try to redirect from a fund already in place funded by New Yorkers to promote green power initiatives.

We support an electricity highway that improves the state's energy infrastructure and generates jobs for New Yorkers. We reject the Champlain-Hudson Power Express proposal as a jobs killer.

For maximum benefits to New York, especially in job retention and creation, new electricity infrastructure should support current and new instate power generation. New York needs to improve the transmission grid in upstate and western regions so that instate power can be transported more efficiently, more economically, and in greater quantity throughout the state.

Investing in our transmission infrastructure will lead to new jobs being created, and new opportunities for energy development throughout the state.

We also can't ignore the obvious. New York

already has a very substantial generating capacity that can be expanded upon to meet our state's needs. New York can and should keep up with growing demand by ensuring the continued operation of our instate energy sources and constructing new plants, both upstate and downstate, as necessary.

There are several "shovel ready" sites that are already permitted or pending permits in the Hudson Valley that could meet this demand and keep New Yorkers working and the revenue generated in the state.

In order to have a strong 21st century economy, New York needs to build and produce products. Energy and manufacturing provide sustained, long term, good paying jobs, a large portion of which are skilled union positions.

These jobs enable individuals to stay in New York, raise a family, and grow the middle class. They also establish the economic infrastructure for many additional service jobs and power other sectors of the state's economy.

We cannot afford to be viewed as only consumers and taxpayers while the employment opportunities are taken away from us and sent out of the country.

New York's economy needs to be energized and the opportunities are out there waiting to be seized upon. Such is the case with the opportunity to meet New York's growing demand for electricity, and solve transmission congestion problems by investing in our instate electrical infrastructure, rather than compounding these issues with costly outsource to Canada.

For jobs and a literally brighter future, we must act now, support New York jobs and oppose the Champlain-Hudson Power Express as an outright detriment to New York.

Thank you.

CHAIRMAN RHODES: Sarah Boggess and then next up will be Mary Finneran from SPAN, FBNY.

MS. BOGGESS: Chairman Rhodes and members of the board, thanks for the opportunity to comment. My name is Sarah Boggess. I am here representing my employer ReEnergy Holdings, as well as the New York Biomass Energy Alliance, which I serve as a board member.

ReEnergy, headquartered in New York, owns and operates biomass to electricity facilities in four states. Three of our facilities are in New York's North

Country -- the Chateaugay facility in Franklin County, the Black River facility at Fort Drum near Watertown, and the Lyonsdale facility in Lewis County.

These three facilities have a combined nameplate capacity of 103 megawatt, enough electricity to serve 96,000 homes. When all three facilities are operating, they purchase more than \$24 million of sustainably harvested fuel from local suppliers and support more than 500 direct and indirect jobs in northern and central New York.

In the past five years, ReEnergy has invested more than \$65 million in New York State.

ReEnergy is part of a larger bioenergy sector including ACT, BioEnergy, Mesa Reduction Engineering and Processing, Curran Renewable Energy, and New England Wood Pellet, that is created and will continue to create permanent jobs and revenues in New York State.

We appreciate NYSERDA's recognition that the biomass sector is a critical part of the state's energy future. It is an important part of a diverse renewable energy portfolio. It reduces our reliance on fossil fuels, creates jobs and enhances forest health.

Of all renewable energy choices, bioenergy offers the greatest long term employment and positive

rural economic impact. As a rule of thumb, each megawatt of biopower supports approximately five full-time jobs, one direct job at the facility and four indirect jobs in surrounding forests and communities.

Rural areas of the state are recognizing the economic and environmental value of biomass derived energy. For example, the North Country's recently released Sustainability Plan refers to the region's biomass resources as tremendous, and states that "the biomass potential in this region is unparalleled in the state".

We agree with the draft plan's characterization of bioenergy as possessing some of the highest growth opportunity in the clean energy economy. We further agree with the plan's recommendation to establish smart energy technology hubs involving collaboration between various institutions in the research and development chain.

According to the draft plan, gigawatt hour contributions by water based biomass electricity generators have decreased annually since 2008.

The recent contract awarded to our Fort Drum facility under the RPS is likely to increase annual contributions, but continued RPS contracting is

critically important for the continued viability of biomass in the electricity generation sector.

In order to address this issue, we believe the state should focus equally on protecting existing resources as it does on encouraging the building of new resources. This approach is more cost effective as well.

Existing generation does not face the risks and uncertainties intrinsic to new project development, such as permitting and siting. Biomass electricity generators are uniquely vulnerable to the current market of low volt sale energy prices.

I have experience with a handful of biopower facilities throughout the state. When sufficient RPS revenues do not exist to assist such facilities in the low volt sale market, facilities are shut down. These facilities need an adequate market through the RPS to monetize the value of renewable attributes.

Without continued support of existing facilities, the state's renewable energy goals will not be met. We are heartened that the Public Service Commission is currently considering a petition to change contracting methods for the main tier of the RPS program, and to guarantee more certainty and

solicitation frequency. In order to assure the continued viability of existing facilities, we feel that the adopted state energy plan should point to measures that herald the state's support of renewable base load power, such as providing greater incentive level predictability and project revenue certainty for existing projects in any such program as hallmarks of New York's commitment to this industry.

New York Biomass Energy Alliance also is heartened that the draft plan calls for reduced reliance on petroleum products for heating buildings and increased transportation alternatives. We believe there is a strong future in New York State for the use of renewable biomass derived fuel oils to replace petroleum products used in heating and transportation.

Thank you for the opportunity to comment.

CHAIRMAN RHODES: Thank you very much.

We have Mary Finneran. Following Mary, John Basile.

MS. FINNERAN: I first want to say I am going to be making general comments. I'm not going to be focusing purely on fracking or anything else.

I just want to say the plan, I think, is very unrealistic, and other people have said this,

regarding future predictions for the use of oil and/or gas extractions as far as 2030. They won't exist. They will be gone. I mean they are trying to squeeze out every single last drop now. If they do use them, we won't exist. If they continue this extraction by 2030 we won't be around, I don't believe, not the United States anyway. We will just be a resource colony.

It has minimal mention, and I do appreciate the mention of truly clean renewable and sustainable energy. I have changed some things so my notes are kind of a little screwy.

There is several -- there's a couple of mentions that I would like to have you change. I would like you to change all references to clean and/or alternative fuels, energies, as many read clean energy and alternative energies to refer to natural gas and/or nuclear.

I would like to have all of these references changed to clean, sustainable and renewable fuels and energy and only those be considered in the plan, unless it's in reference to transitions away from those other things, which I believe can be done much more quickly than other people believe.

Especially if you consider the biomass

people and the geothermal people and the solar people here, I think a lot of these things can be done now, much more quickly than the plan says.

I do have to wonder how much the industry had a role in writing this plan, how many people you talked to in the natural oil and gas, natural gas and oil industry. It concerns me.

The natural gas propane is fueled. Other people have mentioned that, that they shouldn't be used as cleaner fuels for vehicles.

The New York Times had an article just

Friday or Thursday, I will read, a part of it. The sign is ubiquitous on city buses around the country, this bus runs on clean burning natural gas. Report to be published this past Friday in the Journal of Science concludes that switching buses and trucks and traditional diesel fuel to natural gas could actually harm the planet's climate. And it goes on to say that although it produces 30 percent less planet warming carbon dioxide emissions and burning diesel, the drilling and production of natural gas can lead to leaks of methane or greenhouse gas 30 times more potent than carbon dioxide.

I would also like to reiterate what Mr. Rice

mentioned about the extraction of water. It's five million gallons every time they drill. New York State has a huge water resource and this will destroy New York State's water resources.

I want to commend the plan for having mentioned environmental justice communities, which include extremely poor rural communities. And I will quote from your plan. Environmental justice communities characterized by low income and minority residents has historically been overburdened by high density of air pollution sources, particularly those associated with transportation and energy.

New York has taken the leadership role nationwide in incorporating environmental justice concerns into the energy siting and permitting review process, and increasing community involvement in the development of transportation projects.

The DEC was only at the most recent hearings about the trains that will be coming into the Albany port because they were forced to do so. And global companies didn't even set up the table that they said.

I would like you, in redoing your plan, to consider seven generations as the first nation here, the Iroquois, mentioned seven generations consider every

thought in how it's going to impact us in seven generations.

And one other sign. Don't you dare frac my future, please. Thank you.

CHAIRMAN RHODES: Thank you very much.

John Basile. Following John we will have Caitlin Pixley.

MR. BASILE: Good morning. My name is John Basile, and I am a deputy mayor and an elected trustee of the Village of Stillwater.

But before I retired, I spent my career dedicated to the energy and utility industry, including as plant manager of the Indian Point 2 and chief engineer with Consolidated Edison Companies of New York.

The draft energy plan includes a number of important proposals, and rightly measures progress in part by increasing the New York energy dollars retained in the state, increasing the number of alternative fuel vehicles registered in the state, and reducing the carbon intensity of our energy system which already leads the nation as having the lowest per capita emission rate due to low carbon energy sources, such as the six nuclear generating plants and the Niagara hydropower.

To meet all three of these goals simultaneously, we will need significantly more clean electricity generated in New York State. Increasing low carbon instate power generation also creates skilled, good paying, sustainable jobs and provides significant

With much of the state's energy supplied by out of state generators, millions of dollars are siphoned out of New York's economy. The plan, in its current form, accelerates the exportation of New York jobs and dollars by overlooking two important facts.

economic benefits for New York.

First, it ignores the contribution of nuclear power as an energy source. Second, it lacks any substantive attempt to address runaway utility bill costs, or any plan to reduce the total cost of energy for the end users.

With respect to nuclear, Indian Point generates more than 2000 megawatts of power through the grid, approximately 10 percent of the state's total electricity, and more than 25 percent of that used in the metropolitan New York City region. This power is vital to meeting current needs and one of the state's largest sources of low carbon electricity.

In addition to the loss of electric power,

the New York Independent System Operator, the non-profit transmission grid operator, said closing Indian Point would result in an immediate violation of reliability standards, which is also counter to the Draft Energy Plan's objectives.

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Any effort to close Indian Point fails to recognize the many years of dedication by New Yorkers who have worked at this plant, and who have had their major objective of operating it safely for 52 years.

I count myself privileged to have worked with many of the professionals, whose main objective was safe and reliable operation of Indian Point.

In terms of reducing the cost of utility bills, New York State should take immediate steps to eliminate the needless energy taxes and surcharges which comprise some 26.7 percent of customer bills.

According to the Business Council of New York State, the 18A utility assessment surcharge, that's a hidden utility tax, will cost New Yorkers an additional 2.1 billion in added electric charges without benefit to the system and ratepayers. This tax should be immediately eliminated.

As for addressing the rising cost of overall energy, New York needs to implement policies that will

attract large scale private sector investment into the energy infrastructure, both generation and transmission.

that many of us who live upstate in smaller communities, that number two fuel oil is the only viable energy source for heating in many of these communities. And that all the state and local taxes need to be eliminated to help the residents and the businesses of these older communities cope with a rapidly rising cost of this fuel source.

Also, I encourage the state not to become too reactive to fear mongering with regard to the transportation and distribution of all forms of energy, because we need many different forms in this state for it to be economic.

The compass to guide your decision should result in a net benefit to costs of residents and businesses of New York, not Canada, or a short term political goal.

Thank you very much for the opportunity to present my views and to offer recommendations.

CHAIRMAN RHODES: Thank you very much.

Caitlin Pixley.

MS. PIXLEY: Hi. My name is Caitlin Pixley.

I am a conservation program associate at the Sierra Club Atlantic Chapter. The Sierra Club is the oldest and largest grassroots environmental organization in the country. The Atlantic chapter represents 38,000 members throughout New York State working to protect our air, water and natural places.

More formal and substantial written comments will be submitted. I just wanted to highlight a few points today.

First, there is the need to curtail the investment in fossil fuels in general in New York State. It's incompatible with achieving New York State's climate change goals. And due to the high emissions of numerous air and water pollutants, New York's upstate coal fleet is increasingly unable to compete economically as it is forced to internalize these costs.

We must ensure -- there have been several speakers that have spoken on this before -- we must ensure that there is a just transition for the workers and communities that work and host these facilities, but it is also imperative that New York not facilitate a shift to fracked gas at these sites.

Second, we need to expeditiously and robustly ramp up renewables, such as wind and solar.

Volume one of the energy plan states priorities of affordability, private sector financing, resilient and flexible power grid, and more customer control over energy use, and aligning energy innovation with market demand, but no mention is made of renewable energy, even though it is stated to be a priority of the governor's programs.

New York needs to follow up landmark commitments to solar, such as New York Sun, by following an analogous commitment on wind by doubling New York's land based wind by 2018, and moving forward in 2014 to award a lease in the New York wind energy area off the Rockaways and purchase offshore wind power off Montauk.

Also, we need to improve and extend the RPS and utilize the green bank to leverage financing for renewable projects.

Third, we need to ramp up energy efficiency.

EEPS must be extended beyond 2013 and increased substantially. We need concrete near and long term energy efficiency targets.

This rolls right into the fourth point, need for energy conservation, such as upgrading older building codes, requiring energy efficient doors, windows, and insulation, etc.

Fifth, we need to electrify the vehicle fleet throughout New York State. Electric vehicles should be promoted by construction of charging stations by the state and state funding for the build out of an electric vehicle infrastructure.

The state should assist school districts in the acquisition of and/or contracting for plug in school buses that will reduce local air pollution and reduce greenhouse gas emissions.

My sixth point, we need -- there is a need for clear and long term targets, that many have mentioned before. A short term goal at 50 percent of electricity for renewable sources by 2025 is a reasonable goal, and the RPS needs to be mandatory, not just it should be reached by this date. New York should facilitate improved interagency coordination to help achieve these results.

One final point. New York State must commit to decommissioning its nuclear power plants and abandon any plans to increase energy generating capacity from nuclear sources. The Department of Energy has yet to solve the problem of disposal for the highly radioactive waste proposed by nuclear power plants; and ongoing toxic releases from these plants, both planned and

accidental, pose catastrophic risks to human and 1 2 environmental health. 3 Thank you again for allowing us to testify, and more formal comments will be submitted. Thank you. 5 CHAIRMAN RHODES: Thank you very much. 6 So, we have Craig Cantello, to be followed 7 by Forest Cotten. 8 MR. CANTELLO: Hello. I am Craig Cantello, 9 the president of the Edison Tech, an organization whose 10 mission is to promote engineering. Thank you for your work on the draft energy plan. The Edison Tech Center 11 12 would like to make a few comments. 13 The Edison Tech Center supports the use of 14 high voltage, direct current transmission lines and 15 transmission system for efficient energy transmission. 16 Also, the Edison Tech Center would like a 17 detailed implementation timetable included in the final 18 energy plan. Thank you. 19 CHAIRMAN RHODES: Thank you very much. 20 Following Forest Cotten, from Fracking 21 Catskills we have Frank Sullivan. 22 MR. COTTEN: Thank you. First I would like 23 to start with today was a snowy day in the Hudson 24 Valley, and this was the nearest hearing to the Hudson

Valley. There are folks who I had hoped would come from two and a half hours away who couldn't make it. So I would like if you guys would address now, tomorrow, sometime soon, the fact that not everybody can come to the hearings you have scheduled throughout the state.

Thank you for holding this hearing and thank you for extending the comment period. And overall, the plan, we are concerned about the reliance, strong reliance on gas, and what I would say a meager commitment to renewable energy within the plan.

Another gentleman who was going to speak today could not stay, and I'm going to read some of his comments as well. Mentioned many times we need a comprehensive study of greenhouse gasses beyond CO2, such as methane and the impacts of methane.

The plan itself describes natural gas as clean, and it is not a clean fuel. Primary method of gas extraction today poisons the land, air, water, makes people sick, and contributes to climate change.

Because much of the draft plan is ubiquitously written in support of clean energy, many of its initiatives and programs, including the governor's much acclaimed green bank, could actually be directed toward expanding the use of fracked gas and its

infrastructure.

In addition, initiatives number six, number eight, and number nine of this plan explicitly promote the acceleration and expansion of natural gas, including oil to gas conversion and infrastructure for gas transmission and distribution.

And also in the plan it refers in a vague and contradictory way to natural gas production. It forecasts natural gas production to triple by 2030 with lifting of the state's current moratorium on horizontal fracking.

The document goes on to say that it's a conservative method and that volumes could be even higher if production and permit difficulties are reduced.

In addition to that, we talk in the plan about transportation goals. They are very vague and misleading. In fact, the previous speaker mentioned about clean fleets and clean energy fleets.

Well, really, the reliance needs to be put towards zero emissions. In fact, the draft plan offers no detail in how New York will implement a memorandum of understanding it signed with seven other states to put 3.3 million zero emissions vehicles on the road by 2025.

Rather than encouraging the vehicles to run on climate killing fossil fuels, New York should establish some specific targets to advance electric vehicles and hydrogen fuel cell technology.

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Also, in the negative health impacts, relying on the fossil fuel energy are ignored. Using more fracked gas or gas in general out of New York or outside of New York will mean a greater exposure to people in New York and elsewhere.

Polluted air, water, fracking waste on roads and landfills, higher levels of radon gas and industrialization of rural areas. A long term vulnerability to create a dependency on other fossil fuel that will be depleted in a few decades is not even considered.

Further, the document fails to define what

New York's power generation portfolio will look like.

The plan contains no analysis to determine a mix of

energy sources which will meet the carbon reduction

goals, and makes no commitment about what percentage of

New York's energy will come from renewables.

In 2013, a team of scientists and economists issued a report analyzing how New York could switch to renewable energy by 2030. It's been referred to before,

the Jacobson plan.

However, this draft plan contains no mention of this. At a minimum, the final plan should set a target to the PSC of meeting half the state's electricity demand with renewable energy in the next 10 years, 50 percent by 2025, and identify what facilities and grid improvements are needed to achieve this. The plan should lay out a path for transitioning completely to renewable energy by mid century.

Last, some general points I want to bring up. Questions we have asked. Why do we need more power? Why aren't the existing facilities sufficient? We have power plants that are generating under capacity and don't obviously -- why do we need new power plants and new distribution, in addition to distribution lines?

Distributor lines are being proposed across the Hudson Valley, mentioned before. For some reason, we are allowing the corporations to deny access to the existing rights of way, where power lines exist now with the least impact to the community and the surrounding environment.

That's what we recommend. I don't know why that's not being addressed. I think I covered it all. We are good. Thank you.

Thank you. Thank you very

2 much. 3 So, we have Frank Sullivan to be followed by David Wicks of Title Insurance. 4 5 Frank Sullivan? 6 (No response.) 7 Frank Sullivan may have left. 8 David Wicks to be followed by Mark 9 Schaeffer. 10 MR. WICKS: I apologize for the way I am dressed. I totally missed this in my diary. I ran out 11 12 the door, plus my tuxedo wasn't pressed. So, here we 13 are. 14 I promised my wife I wouldn't mention this, but if you would write down -- just write down a note 15 David Wicks and National Grid. If you would Google 16 17 that, you can see our personal hell and story that we are going through with a transmission building company 18 19 who wants to make money on building big transmission 20 lines that we, up and down the Hudson River on the east 21 side, are fighting. 22 Before the Public Service Commission right 23 now there are four proposals for transmission lines to 24 get power from western New York down to New York City.

CHAIRMAN RHODES:

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National Grid comes in -- Transco is the actual company, a billion 300 million this company wants to build monstrous transmission lines. It's impossible for them to bury these lines. Absolutely impossible. They have never done it. They can't do it.

We had a project manager for this one billion 300 million line at our house who said, we can't do this. On the other side, we have got a company called Boundless Energy. For 300 million, they can come down the west side of the Hudson using existing transmission line, high tech graphite lines, and they can go underneath the Hudson River without upsetting the bed of the river whatsoever, and provide that same.

One billion 300 million or 300 million?
Unfortunately, politics seems to favor the one billion
300 million. That's all I want to say.

My wife and I spent 32 years restoring a Victorian Italianate house overlooking the Hudson River. We are heavily in debt. We finished it. We put on our Victorian porches. We found out the history of this house.

This house was built by the man who built the Trinity Church at the head of Wall Street down in New York, the same gentleman, when he retired.

So we finished our house, but it wasn't complete until we put in six arrays of solar panels.

And I would like to thank NYSERDA for making that possible, because without the New York State incentive and the federal incentive and the depreciation savings, we would not have been able to put in that 19 kilowatt system.

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So, we were happy, until we got a letter from National Grid saying that they wanted to put in a second transmission line. Unfortunately, our property and house is very close to probably the largest transmission line in New York State, at least size wise.

So, National Grid wants to put in a second line within their right-of-way which would eliminate our tree buffer, and put this historical house in plain view of two huge transmission lines, one of which would be 90 feet from our house.

I went to National Grid's informative session in Schodack, in the Town of Schodack. And these people just cannot comprehend bearing lines. They are 1960s engineers. This is what we are facing here. But they did agree to come to my house.

So, the project manager and I looked across the Hudson River right next to the existing transmission

line. I said, you have to cross the Hudson River, then you have to cross Amtrak running from Rensselaer down to New York, then you have to cross Schodack Island State Park, then Schodack creek, then route 9J, then climb my hill, which is a huge hill, then go under CSX lines as you exit that area.

I said, you mean to tell me that you cannot bury the lines under all that? Never done that. Can never do that. Can't do that.

So, thank you for the opportunity to get solar. And hopefully we can save the world by going solar. Thank you.

CHAIRMAN RHODES: Mark Schaeffer. Next up will be Ben Tyler.

MR. SCHAEFFER: I am Mark Schaeffer. I live in Albany. Thank you for the open process. My favorite parable is the story of the blind man and the elephant. Only when many perspectives are synthesized can we hope to understand a complex phenomenon.

I live in Albany. I studied energy policy in graduate school in the late 70s, worked as a researcher for environmental groups in early '80s, been a state worker since '85, but I am speaking as an individual. I am charging time.

And I am a member of PAUSE. I have coordinated local events for Bill McKibben's 350.org, one of which was a global event with participation from every country in the world except North Korea. I am also a board member of Citizen Action.

My remarks today will be general. I will submit detailed comments, praise, criticism when appropriate, and specific suggestions, but I want to address the context of the climate crisis and its gravity, and the imperative to act now on sufficient scale to avoid tipping over into runaway positive feedbacks, which would be utterly catastrophic for civilization as we know it.

350.org refers to what our leading national scientist on climate, James Hansen of NASA, has said,
350 parts per million is the maximum level of CO2 in the atmosphere that's sustainable.

Last year, we passed 400 parts per million at contrast with 280 parts per million in the preindustrial period. The runaway positive feedbacks include such things as Arctic melting. Ice and snow reflect most of the incoming energy. Sea and land absorb much more.

The kinds of effects we are seeing already,

floods in the Mississippi, Missouri, Pakistan, England now, firestorms and droughts, Russia, Australia.

Southwestern United States is projected to become a permanent dustbowl in a few decades. Maybe the midwest after that.

Catastrophic crop losses before we reach the point of sea level rise. The concentration of CO2 is now at the level it hasn't been since the Middle Miocene, 50 million years ago at sea level was 30 meters, a hundred feet higher. Coastlines were miles inland.

What's the present value of inundating all the coastal cities in the world? I think it's in the order of quadrillions.

Those costs are hard to quantify, but ignoring them in economic calculations is the equivalent of lying down in the railroad tracks without a schedule, because you can't quantify exactly when it's going to come. When you know, it will come. So, silence is deaf in this situation.

We have got to take action on sufficient scale. Lord Stern, leading British climate energy economics authority, was top economist for the world bank, has written about unburnable carbon.

Most of the fossil fuel already identified in proven reserves that have to be left in the ground will crash through the tipping points beyond the point of no return.

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It looks like at the present rate, CO2 emissions will go through that in 16 years, 30 years, if we ramp down smoothly. That's not a lot of time. We have got to get serious.

Just look at the building sector, for example. We should have LEED gold standards in three years for all new buildings. We should retrofit -- we should set a 2020 vision, retrofit every building in the state by 2020, and have net zero energy for new buildings starting in 2020. We can do similar things in other sectors.

We have to count the imports of embodied energy in all the manufacturing we have outsourced to China. We have to look at agricultural emissions of methane. There are a lot of good ideas. I'll submit more of them.

I want to end with this quote from Martin

Luther King. "Over the bleached bones and jumbled
residues of numerous civilizations are written the
pathetic words, too late."

We got to have no few fossil fuel infrastructure, especially the dirtiest sources like fracking and tar sands and get serious, not a billion dollar green bank but orders of magnitude more considering what's at stake.

Thank you.

CHAIRMAN RHODES: Thank you.

Ben Tyler, followed by Ann Tyler.

MR. TYLER: I just wanted to say thank you to you guys for providing this forum for us all to speak, and I am really relieved in coming here to -- the best majority of people who have come up here to speak have been echoing some of my concerns.

The reason I am here was to talk especially about classifying natural gas as green energy, and basically the consequences that this would have for New York State.

I think that this new energy plan that you guys are writing is a really powerful, really great thing, and we are at a crossroads as a state and we can look not very far away to Pennsylvania or other states and see pretty serious concerns about public health hazards surrounding hydraulic fracturing.

Luckily, we are not there yet. And now we

are in a position where we can make informed decision,
do more research, now that there are serious doubts that
have been raised.

And I think you guys have a really big job in front of you, and there is always the risk or the temptation to just kind of cop out or just go with how things are. Big industries and everyone wants to make money and bring fracking to New York State.

But we are really in a position where we can -- you guys can collaborate with the groups. And like the future of New York State, we could be like an example, like a leading player in switching to renewable energy. I just really hope you guys respect the great position you are in.

So, I am a citizen of New York State, and I have a farm in Otsego County and I've lived here my whole life, and I really hope to live here and my family can continue to live here.

Let's really value what we have here. It's a really beautiful state. That's all. Thank you.

CHAIRMAN RHODES: Ann Tyler. Following Ann, Collin Thomas.

MS. TYLER: Hello, everyone. I will be brief. First, I would also like to thank the committee

for the opportunity for the public to speak today. I think it's wonderful that we are given the opportunity to express our reviews on the 2014 energy plan.

I was also born and raised in New York. We have driven up here today, first, on a positive note, to express our gratitude that renewable energy and emissions reductions are included in the plan, but more importantly, to express our distress that dangerous and dirty practices like fracking are even being considered at this point in time by the committee.

The risks and problems involved in fracking have already been discussed by a number of people here today, and far more eloquently than I can do now, but I really wish to add my voice to theirs. To say, again, at this moment in our history it seems clear that we should be doing all that we can to move toward clean and renewable sources of energy, and as far as we can away from harmful practices such as fracking.

As you can see, many people here have expressed an eagerness to move toward renewable energy sources. Therefore, I urge the committee, from the bottom of my heart, to continue to ban fracking in New York State, and keep working towards making our state clean and safe so that we all might leave behind

something beautiful for future generations and something that we can all be proud of.

Thank you very much.

CHAIRMAN RHODES: Thank you.

Collin Thomas, to be followed by Daniel Morrisey.

MR. THOMAS: My name is Collin Thomas. I'm a resident of the City of Troy. And I am here not only on behalf of myself, but also representing Capital District Against Fracking.

Just reading the energy plan, I didn't get into the appendices, so I didn't see all the footnotes and I can't cite everything, but at least general talk on the glossy PR piece that the plan has presented.

The use of gas, the increased use of gas is something that I am definitely concerned with and opposed to. There is tons of studies out there, hopefully you guys are looking into them, showing that natural gas is worse than mountaintop removal in terms of environmental impacts, and a much more potent greenhouse gas. Some people, advocates and citizens have mentioned. Considering all greenhouse gasses in the energy plan, I fully concur with that.

And using 2010 as a baseline for greenhouse

gas intensity is also problematic. Even though we are in kind of still the depths of the great recession, there is still much higher than a 1990 baseline, which is what the international panel on climate change recommends.

Also, there is lots of talk in the plan of use of increasing our fleet of cars mainly. I don't know if that necessarily represents a transition to the zero emissions vehicles, but increasing the use of those vehicles is at best a wash, considering how many resources and rare earth materials have to go into those types of cars, and putting the burden on individuals to make the decision and to come up with the finances to pay for it.

We should be increasing our use of public transit, especially in our urban areas, and increasing to suburban and exurban areas much more rapidly. We can do that if it stays on a level that is desirable to be.

And we turn to the market for the cause or, rather, for the cure for our problems, and a lot of our problems come from the reliance on the market; primarily, our subsidies as consumers directly as well as taxpayers and fossil fuel companies that continue reliance on that antiquated use of energy production and

our current standards of living.

So, we should really be focusing on turning the market into a power house, making their research something that the public can profit off of in terms of a reduction and a reliance on fossil fuels, and a transition to a clean economy with solar, geothermal, wind, tidal, and so on, and getting away from oil, gas and nuclear energy.

Right now New York State, SUNY Albany did a study we get 50 percent more sunlight than Germany, which is the current solar production and generator leader in the world. A couple of years ago they were able to generate half their energy sources for peak times from both wind and solar capacities.

So, it's definitely feasible. Countries are doing it now. There's no real excuse that New York can't start moving toward that and we can do it with a little less infrastructure than Germany, which is, again, a global leader, and can create thousands of jobs.

I'm not sure of the specific jobs per kilowatt or jobs per megawatt, but solar provides the most jobs, whether it's per kilowatt or megawatt, over other sources of energy. So, we can create thousands of

jobs here in New York and be a nationwide leader and certainly a regional leader in a relatively short amount of time.

Hopefully we won't be moving too much rare earth, but we should be using codes for our new buildings. We should be also looking to retrofit old buildings, as we have some of the oldest housing stock here in the country, and that will also create a substantial amount of jobs, and making our houses more affordable and livable.

That's all I have for now. I will be sending more comments. Thanks.

CHAIRMAN RHODES: Thank you very much.

Daniel Morrisey, and following him Rich
Schiafo.

MR. MORRISEY: Good afternoon. I want to thank the planning board for hearing my comments. My name is Daniel Morrisey and I am a founding member of both Capital District Against Fracking and People of Albany United for Safe Energy. These two groups advocate for sustainable energy planning, which I unfortunately did not see in the draft energy plan, though some of the things hint at the possibility that sustainable planning could come out of this.

I see 20th century thinking that does not give me much faith in NYSERDA or Governor Cuomo's administration in general. It disappoints me that while the governor himself is willing to acknowledge that the age of climate change is already upon us and attribute to it the billions of dollars damage done by recent tropical storms and Hurricane Irene, Sandy, etc., he is not willing to take a leadership role in guiding his policy leaning state toward 100 percent renewable energy.

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Stanford and Cornell University scientists have recently published a peer reviewed study, proving through science based civil engineering that our state could feasibly transform our energy picture entirely over the next couple decades to rely 100 percent on sustainable renewable energy that does not impact local communities with additional fossil infrastructure, and instead takes much of these health impactful sites offline.

I have provided the study to you, in addition to many of its backing materials, and I insist that you take the time to seriously consider implementing the findings therein. The people of the state are depending on you to be responsible to us and

future generations.

I was glad to see that the increased potential for micro grids is acuated, and there needs to be a detailed implementation plan if it is to come to fruition. It is of utmost importance that we assure local autonomy for communities like Albany that are overburdened by dangerous fossil fuel infrastructure that has affected their health for years and will continue to do so for years to come unless we change course.

Supported by the immense offshore wind resources available in the Atlantic ocean, the amount of jobs and aggressive solar, hydrogen and micro grid solar photovoltaic that would establish is massive and necessary because it is so competitive at current cost parity. In fact, we need a renewable energy initiative across the board, larger even than Green Jobs Green New York.

Lastly, the Champlain-Hudson power line is an absolute mistake. Not only does it outsource our power generation, it will usurp the right of indigenous groups to have control over their lands and waters.

Thus, we could pioneer a true sea change in the national energy landscape. Let's do that.

Thank you again for providing this opportunity to speak, and I look forward to seeing you drop support for natural gas expansion in New York.

Thank you.

CHAIRMAN RHODES: Thank you.

Following Rich Schiafo, we have Elizabeth Board, if she's still here, and then Keith Schue. And that is our list of speaker requests that we have so far.

MR. SCHIAFO: Good afternoon. My name is Rich Schiafo. I'm the Deputy Executive Director of the Hudson Valley Regional Council. I want to thank you also for the opportunity to address the board today.

We are one of 10 regional councils across the State of New York. We primarily prepare a comprehensive economic development strategy for the Hudson Valley region, which is a seven county region of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester counties. That is a vehicle for funding to the US Economic Development Administration for local economic development projects.

We also are engaged in the mid-Hudson Sustainability Plan effort. We helped in the preparation of that plan and the ongoing efforts to

implement that plan. We also do education and outreach on water quality, as well as solid waste management issues in the region.

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I have a few brief comments today. We will also be submitting more detailed comments within the public comment period.

Overall, the regional council supports the plan's greenhouse gas reduction goals, as well as the move towards a more clean and renewable distributed energy generation system, although the approach needs to more clearly spell out how we are going to get there, as has been previously mentioned.

The plan also very briefly alludes to the social science or behavioral aspects of energy use, and our need to reduce energy efficiency, and there's also a need within the plan to further define that approach to how we are going to use less energy and the importance of behavioral change, whether it's within our homes or the buildings we use, or the vehicles we drive, and energy use and achieving those energy efficiency goals.

We do a lot of education and outreach to local governments, and the plan also needs a more clearly defined approach on how they are going to improve and enforce the state energy conservation code,

including the need for improved training at the local 1 level. And the regional councils can help do that, help 2 3 make that happen with the education and outreach. 4 While there's six public hearings throughout 5 the state, and tomorrow you are heading down to Brooklyn -- I think a couple other speakers alluded to this --6 7 you are skipping over the Hudson Valley. We would 8 strongly urge you to schedule another public hearing 9 that is within the Hudson Valley region. 10 Thank you very much again for the opportunity to comment. 11 CHAIRMAN RHODES: Thank you very much. 12 13 Elizabeth Board. 14 (No response.) 15 In that case, Keith Schue. 16 (No response.) 17 Just to confirm, Frank Sullivan did not 18 respond when I called his name before. 19 (No response.) 20 With that, I think we have finished our list 21 of speaker requests. If there are no further speaker 22 requests, then thank you on behalf of the State Energy 23 Planning Board.

We have undertaken the development of the

Draft State Energy Plan with great seriousness, and it is extremely important that we hear comments and questions like yours in sessions like this as we develop the final plan.

Susan Lawrence.

Please recall that we also welcome, solicit written comments. They can be submitted on our website www.energyplan.ny.gov up until April 30th. So, thank you again.

(Whereupon, the public hearing was adjourned, after which the following transpired:)

CHAIRMAN RHODES: We have a further speaker,

MS. LAWRENCE: I am Susan Lawrence. I am the conservation chair for the Sierra Club Atlantic Chapter for New York State. I may be repeating some statements that some earlier people from the Sierra Club made earlier, but they bear repeating.

environmentalists, is for the energy plan to focus on what can be done to reduce climate change. Of course, it's important for the New York State economy and all the people to have the kind of energy that we need and so forth now, but the most important thing for us is to make sure we are totally focused on curbing climate

change and getting to our goals as fast as possible, if not before, to cut greenhouse gas emissions down so we do not go over the tipping point.

That means that we need to turn away from fossil fuel as fast as we can, including natural gas.

To us it may be in reality a short term transition fuel, but it's not a long term transition fuel.

We can't afford to have a build out of natural gas infrastructure. Whether it's interstate or intrastate, all sorts of infrastructure, fracking or hydrofracking for natural gas, is not the solution. It has all sorts of major, major problems for our environment. And it is the -- whole lifecycle of it is just as much contributing to greenhouse gas emissions as other forms of fossil fuel.

So, we just need to have that mindset from the beginning. That needs to be our goal and vision for the state. At the same time, obviously, we need to totally ramp up on renewable energy of all sorts. The governor has made a commitment on New York Sun which is important, and we are urging that there be major investment in wind energy onshore and off.

So much needs to be done at the smaller level in our communities and across the state. The

first emphasis should be energy conservation, being so careful with our use of resources that we consume less in the first place, we use less energy in our daily activities, and whatever we do we make our production and transport of energy as efficient as possible.

And to me, that means just a whole mindset and shift knowing that what's happening all around the world is people are turning to the concept of producing power as close to home as possible.

Having micro grids, having renewable energy locally, whatever can be done for the state and in the communities to do that is where we need to go.

We also very strongly urge the decommissioning of the nuclear power plants. We just cannot continue to rely on nuclear power plants. They are too dangerous. We don't need them. They need to be decommissioned.

And we need to look, obviously, not just -there is so much focus on our power production, as
though we forget the other sectors of our economy and
our society.

In the transportation area, the federal government has a lot to do with what happens and how transportation is done, the sources of fuel, the

and local level in terms of public transportation, and other incentives for electric vehicles and other things we can do to reduce the impact -- reduce the amount of carbon emissions from transportation.

Another critical area is just our whole emphasis on new building construction, local zoning, planning, making sure that we have as efficient as possible our community so that we are not wasting resources and we are not contributing to greenhouse gas emissions and we are reducing our dependence on energy.

Just an added point: What's happened down in the Port of Albany with the crude being transported across New York State, primarily it's a federal power to stop or not stop that, but it's just representative of what's wrong with the way our reliance on fossil fuel is going, and what we are doing, and potentially the catastrophic effects on our environment and our citizens.

Thank you.

CHAIRMAN RHODES: Thank you very much. Thank you all very much. www.energyplan.ny.us.

(Public hearing concluded at 1:49 p.m.)

1	<u>CERTIFICATION</u>				
2					
3					
4	I, Jeanne O'Connell, Registered Professional Reporter				
5	and Notary Public in and for the State of New York, do				
6	hereby certify that the foregoing to be a true and				
7	accurate transcription of the stenographic notes as				
8	taken by me of the aforesaid proceedings.				
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