



# **EMPOWER NJ**

## **NO FOSSIL FUEL PROJECTS**

### **EMPOWERNJ'S COMMENTS ON THE INTEGRATED ENERGY PLAN (IEP)**

**November 15, 2019**

EmpowerNJ, a coalition of more than 90 environmental, community and faith groups, submits the following comments on the November 1, 2019 IEP presentation.

#### **EXECUTIVE SUMMARY**

The BPU/DEP instructed modeling by RMI is deficient in numerous respects. It fails to address the compelling need to front-load, not back-load, reductions in GHG emissions to reduce those emissions by 45% (from 2010 levels) by 2030 in support of the IPCC global target. The model forecasts only modest GHG reductions by 2030 and even these are suspect as they are based on data of questionable accuracy and opaque/erroneous assumptions.

The modeling is also opaque about the assumptions it is making about the future sources of GHG emissions and does not address the potential impact of any of the dozen plus new gas infrastructure projects proposed and being put into service for the State, which would blow up the models' forecasts for GHG emissions and meeting the State's clean energy goals.

BPU/DEP has instructed RMI to base its models on "least cost investments" and fails to consider all the economic benefits of clean energy and all the environmental, health and societal costs of the continued use of fossil fuels. The RMI models also do not i) appear to meet the clean energy goals set forth in the Clean Energy Act; and ii) model for truly clean energy by falsely conflating carbon neutrality with clean energy.

RMI should be instructed to go back to the drawing board and its new models should be created with true public input where all the underlying data and assumptions are discussed and disclosed prior to the modeling along with a meaningful public input process upon release of the modeling's results.

#### **The GHG Emission Reductions Are Inadequate and Inaccurate**

The 2018 Intergovernmental Panel on Climate Change (IPCC) report demonstrates we must reduce global greenhouse gas (GHG) emissions by 45% from the 2010 level by 2030 in order to prevent average global warming from exceeding 1.5°C. Warming beyond this benchmark will significantly increase our chances of crossing climate tipping points that will lead to

unpredictable and irreversible changes to our climate, and dramatically increase the scale of human suffering.

The IPCC report also clearly states the global 2050 objective should be to achieve net zero emissions, not an 80% reduction. The EMP/IEP must support, at a minimum, the IPCC goal of reducing GHGs by 45% by 2030. Since the U.S. production of GHGs per capita is one of the highest in the world and New Jersey has been and will particularly vulnerable and disproportionately affected by global heating, New Jersey's contribution to the climate change battle should actually be an even greater reduction.

Instead, the IEP model shows only a small GHG reduction by 2030. New Jersey's 2010 GHG emissions were 112.5MMT. A 45% reduction from this level means that NJ's target GHG emissions for 2030 should be 62MMT. The IEP model appears to project emissions of about 75MMT (only a 33% reduction from 2010).

The projected 2030 emissions are also suspect and substantially understated for numerous reasons. First, the IEP model does not consider the possibility that any new gas infrastructure projects will be completed and put in service, even those that have been completed since the current administration took office or are currently under construction. If, for example, the PennEast pipeline is constructed, its annual 15MMT of CO<sub>2</sub>e emissions would completely eviscerate the State's goal of reducing GHG emissions. The RMI modeling reveals the absolute necessity for a moratorium on all new fossil fuel projects, and should be revised to include the effects from potential completion of projects such as PennEast.

Second, IEP GHG emissions do not include the 5MMT of annual GHG emissions from Sewaren 7.

Third, methane emissions are substantially understated. It is undisputed that over a 20-year period, methane is 86 times more potent than CO<sub>2</sub> as a GHG. Yet the EMP only considers the impact of methane over a 100-year horizon when its potency is substantially lower. This drastically obscures methane's near-term effect on climate change by a factor of at least two-thirds, understates the amount of methane emissions occurring today and lessens the emission reductions required by 2030 and 2050.

Using a 100-year time horizon for methane, when GHG reductions must be dramatically reduced in the next ten years and even the EMP has a 30-year time horizon, is simply bad science and poor modeling. RMI must run their models with the 10, 20 and 30 -year methane values, not the largely irrelevant 100-year value, in order to properly assess methane emissions. In addition, RMI must reveal the methane leakage factor (if any) being used in its model as well as any assumptions or considerations for black carbon and all other short lived climate pollutants.

Fourth, the IEP model shows decreases in natural gas and gasoline usage starting in 2020. The assumptions and data behind these projected decreases need to be explained as we know of no legislative or economic factors that would cause this to occur.

Fifth, the GHG numbers in the IEP presentation (labeled 'current' but without a date) differ from those in the EMP for 2016. Electricity in 2016 was 20.7MMT and is now 17MMT. Vehicles in 2016 were 47MMT and now are 43MMT. These differences are unexplained and do not seem

reasonable. As with so much else in its model, RMI needs to provide the sources of these numbers, how much is estimated and associated assumptions.

It is not hyperbolic to say that the EMP's entire success or failure, as well as its credibility, rides on achieving its annual target GHG reductions and its results over the next decade. That's the ballgame. If we don't meet the IPCC's 2030 target it will not matter what is done in 2050. RMI must go back to the drawing board and run models showing the impact of meeting the IPCC's 2030 goal in order to assess the associated costs and benefits.

### **The Models Need to Consider All the Costs and Benefits of Clean Energy**

We are in dire circumstances. In a strong plea for immediate action, over [11,000 scientists worldwide just last week declared](#) "clearly and unequivocally that planet Earth is facing a climate emergency," and called for "massive energy efficiency and conservation practices," "quickly cutting emissions of short-lived climate pollutants, such as soot and methane," and "a carbon free economy."

Yet RMI's modeling pretends otherwise. It myopically constrains its modeling through the prism of "least cost investment" to minimize direct ratepayer impacts, based on the false assumption that ratepayers would revolt if they were asked to pay the cost of meeting more robust GHG reduction targets. The DEP has decided not to consider all the other environmental, economic and social factors that are crucial to determining how and how fast we must move to a clean energy economy and the dire consequences of failure.

It is strongly suggested that a more reliable means of assessing ratepayer willingness-to-pay be developed, rather than the type of investigation the DEP is conducting, in order to determine ratepayer cost sensitivity. One method would be to present residents with alternative scenarios regarding the environment (including increased health issues and health care costs, storm and flooding damage, increased energy usage for cooling, sea level rise, etc.) in focus group settings and ask about willingness to pay to achieve a satisfactory environment. Even presenting a simple tradeoff between paying more in the future to run air conditioning more months of the year vs. a few pennies more per month in taxes now, could be informative.

The goal setting exercise must take into account total life cycle cost methodologies, not just direct costs involved in replacing fossil fuels with renewable energy sources. While it is appropriate to consider direct costs to industry, consumers and the state, this process must also consider the costs of inaction in terms of the effects (already in progress) from global warming using EPA estimates for the social costs of GHGs. These represent the long-term costs based on damages due to changes in agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs.

Climate change costs include the effects of increases in temperature, increased flooding, increased occurrences of algal blooms, increased insect infestation and associated loss of forests and increased frequency, duration and severity of drought. Impacts to water resources include increased salinity due to sea level rise, which could cause salt water intrusion to groundwater aquifers and surface water supplies in tidal regions. These environmental changes cause loss of habitat and degradation of water quality.

Public health costs (increased costs of care, loss of worker productivity and increased insurance rates) result from continued production of ozone and other pollutants, loss of environmental qualities and include the greater incidence of damages due to storms. Furthermore, the social cost of GHGs will increase due to cumulative climate change effects, according to EPA. As climate changes occur, the harms are compounded and can be irreversible. All of these costs must be considered when setting goals for GHG reductions.

RMI's modeling must also include job creation and loss and total economic activity, not simply the immediate cost of energy production. The Governor and the EMP have cited economic benefits to residents from this plan, including new jobs in renewable energy technologies, new construction and increased investment in renewable technology that will help New Jersey's economic growth. All of these considerations and tradeoffs must be included when considering how and how quickly we move to a green economy. Yet, they are totaling missing from RMI's modeling.

While the modeling is only concerned with direct costs, we note that there was no such concern when the BPU approved, over the objections of BPU staff, ratepayer counsel, PJM's independent market rate monitor, et al. a \$300M/year nuclear bailout that could increase to \$3 billion over ten years. This cost was not considered as being in the best interests of ratepayers. Why, therefore, is there such concern now over a plan that is intended to **save residents from climate change disaster**? Moreover, we are unclear how, if at all, this potential \$3 billion obligation was included in the RMI models over the bailout's 10 year lifespan or the decades beyond.

Overall, we must all reject the limitations imposed by the least cost assumptions. We are facing an existential threat to our world. This threat will only be addressed by a strong leadership approach that sells residents on the need for these changes, not the approach of an accountant watching pennies. And, politically, it is a mistake to lead with how little more this will cost you as opposed to how much more this will benefit you, framing matters!

### **The Models Do Not Account for the Clean Energy Act**

There is another reason to send RMI back to the drawing board – its failure to consider the goals and requirements of the Clean Energy Act. While the modeling makes reference to the goals of the Global Warming Response Act, it ignores the Clean Energy Act goal of having 50% percent of the kilowatt hours sold in this State come from Class I renewable energy sources by 2030 (assuming the solar cap is adjusted to support this). Slide 18 of the RMI presentation shows that in 2030 only about one-third of the State's electrical energy will come from these sources and that the 50% goal will only be achieved sometime between 2040 and 2045. RMI should be directed to provide a model that meets the goals of the Clean Energy Act.

### **The Modeling Needs To Be Transparent About and Address the New Fossil Fuel Projects Planned for the State**

One of the most pressing issues we and many others have raised in the EMP process is the need for a moratorium on new fossil fuel projects. There are a dozen or more proposed for the State, including a new fracked gas power plant proposed by New Jersey Transit for the meadowlands.

The pushback on the common sense proposal is that this is somehow unrealistic and that we supposedly need not just to continue operating the fracked gas infrastructure we have, but add to it.

The RMI modeling implicitly appears to agree with our view that a moratorium, and indeed a ban, on new fossil fuel projects is needed to meet our GHG reduction goals, would not significantly increase energy costs and would still allow us to meet our energy needs. But RMI must make this clear and disclose all of the assumptions it is making about new fossil fuel projects and model what the impact will be on the State's energy mix and GHG life cycle emissions if such projects as the Meadowlands power plant or PennEast pipeline are built. It is crucial for the BPU and the public to know whether these new projects will blow up both RMI's models and the State's clean energy and GHG emission goals.

### **Truly Clean Energy Should Be Modeled**

RMI's models conflate carbon neutrality with clean energy. Carbon neutral includes energy from fossil fuel power plants combined with ineffective market-based schemes such as carbon offsets, pollution credits and other pay-to-pollute schemes. Carbon neutral also includes garbage incineration, the continued use of nuclear power plants, and more fossil fuel power plants with carbon capture and storage, an expensive technology pushed by the fossil fuel industry that has never shown any commercial or practical viability. These dirty and dangerous energy sources and pollution trading schemes disproportionately impact low income communities and communities of color, while continuing to block progress towards achieving the 100% renewable energy economy we urgently need.

The IEP forecasts the need for continued use of hydrocarbons such as biogas, to meet the insufficient goal of an 80% reduction in total GHGs by 2050. RMI should run models showing the impacts of completely carbon free energy production by 2050 so we can assess the viability of this target.

The modeling on renewables also, once again, presents as many questions as answers. There is, for example, no mention in the IEP of Class II renewables such as hydroelectric so we do not know whether it was even assessed. More problematically, we do not see how the volume of solar energy forecasted in the IEP model can be produced without lifting the solar cap. The chart on modeling electricity shows the solar market will stay flat until 2025 at the same number of 180MW- 200MW per year. This will have a negative impact on the solar industry. Given that there is a cap on generation of 5.1 MW, a cap cost of 7-9%, a cap on net metering and community solar, the RMI models do not explain how New Jersey will be able to get to the solar goal of 34% by 2050. Under current regulations or laws, it doesn't seem like we can achieve this goal. Other assumptions used in forecasting solar generation, such as the amount of generation from solar farms vs. residential and commercial rooftops are undisclosed.

### **The Need For More Information and Meaningful Public Input**

The magnitude and importance of the IEP models requires a much more robust public process than just a webinar followed by a two-week comment period. RMI and the BPU should run the

models we have suggested and release all the assumptions and data that underlie its models, including the missing information we have already identified above. It should then have true, public stakeholder meetings where questions could be asked and information exchanged, not just for the favored few.

For example, the IEP had no information on assumptions for energy efficiency and demand response programs. Not only should these be publicly available but RMI should run models showing the effect of aggressive assumptions for both vs. more moderate assumptions. It is also not clear what assumptions are they using for cost of renewable energy and storage technology. Are they using a flat line, declining curve, and how fast are they expecting costs to decline? Storage is a key technology that will have a tremendous impact on the cost effectiveness of renewables. Storage costs are expected to decrease significantly, yet there is no information on what is included in the RMI models. It is difficult to have confidence in models that depend greatly on storage, but provide no information on this vital technology.

Going forward, the BPU should commit to total transparency, provide all the assumptions and data on which its models are based and seriously consider and good faith public comments and input as well as demonstrate that previous public comments have had an impact on the EMP and IEP. The latter is essential to build public support for its plans.

This also should not be a one and done process. Both the threats posed by the climate crisis and the potential solutions to mitigating it are evolving with incredible speed. The EMP/IEP process must be continual. Every year the cost and effectiveness of technology changes and must be incorporated in future scenarios. Progress updates and reports, with provisions for public input, and changes in forecasting assumptions must be issued annually if not more frequently.

## **CONCLUSION**

New Jersey can and should be more of a global leader in addressing the climate emergency. The governor has stated that this is his goal. That will not happen unless transparent models are run that are consistent with that goal.

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