

Ms. Sherri L. Golden RMC
Secretary of the Board
New Jersey Board of Public Utilities
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RE: Docket Nos. QO23040235 and QO23040236
New Jersey's Clean Energy Program
FY 24 Proposed Comprehensive Resource Analysis – Budget and Programs

Dear Ms. Golden

Thank you for the opportunity to comment on the above referenced docketed matter. We appreciate all the time and effort that the BPU staff and other interested parties have put in to help shape and develop the FY24 staff straw proposal. The comments below are intended to assist in that ongoing process to help BPU adopt the FY 24 Proposed Comprehensive Resource Analysis – Budget and Programs.

**1. FY 24 Comprehensive Energy Efficiency and Renewable Energy Resource Analysis (CRA)
dated May 31, 2023**

With the release of the FY24 Comprehensive Resource Analysis for the NJCEP Budgets and Program (CRA) marks the 25 years since the enactment of the societal benefits charge (SBC) at N.J.S.A. 48:3-60 and the renewable energy portfolio standard (RPS) at N.J.S.A. 48:3-87 in the enactment of the Electric Discount and Energy Competition Act (EDECA) at N.J.S.A. 48:3-49 et. seq. on February 9, 1999. Both these provisions in EDECA have been the cornerstone of New Jersey's Clean Energy Program over the last 23 years.

Since the enactment of these provisions between CY 2001 and FY 22, the BPU's CEP has accomplished among other notable accomplishments the following:

- i. 8,908,331 MWh of electric energy efficiency (EE) savings that will provide over 107,000,000 MWh of avoided electricity usage over the lifetime of the installed EE equipment with a value of over \$12 billion that ratepayers will not have to pay for including the infrastructure for generation, transmission and distribution at PJM and New Jersey's local electric utilities.¹
- ii. 18,109,593 Dekatherms (Dt) of natural gas EE savings that will provide over 296,000,000 Dt of avoided natural gas usage over the lifetime of the installed EE equipment with a value of over \$3 billion that ratepayers will not have to pay for including infrastructure for the drilling extraction, gathering, pipeline transmission and distribution pipelines at the national and New Jersey's local natural gas distribution companies.
- iii. 4,100 MW of installed renewables, mostly solar and other high efficiency CHP/FC generation producing 5,862,013 MWh of zero CO₂ or low CO₂ electricity that will provide over 121,000,000 MWh and that will avoid over 30 million metric tons of CO₂ over the lifetime of the installed generation equipment with a value of \$1.5 billion in avoided costs.

¹ The values in these estimates are calculated from the NJCEP Quarterly Financial and Energy Savings Reports see <https://www.njcleanenergy.com/main/public-reports-and-library/financial-reports/clean-energy-program-financial-reports>

The above highlights the benefits of the almost 25 years of New Jersey's CEP and also highlights the shortfalls of the current FY24 Comprehensive Resource Analysis as required by EDECA as set forth at N.J.S.A. 48:3-60. This shortfall can be easily improved. The BPU Division of Clean Energy (DCE) has done a lot of great work in recent years, the OSW financial mechanism and solicitations, the solar transition, community solar, the overall NJ cost test, Grid Modernization and the EV programs to name just a few, but the current FY 24 Comprehensive Energy Efficiency and Renewable Energy Resource Analysis (CRA) dated May 31, 2023 was not one of them.

The BPU DCE can and should provide a better overall CRA. The FY24 CRA just simply lists the current EE and RE programs. The FY 24 CRA does not, in fact, include all the EE and RE programs. The better CRA that BPU DCE should issue should list all the BPU clean energy EE and RE programs since this is an EE and RE comprehensive resource analysis as required by N.J.S.A. 48:3-60a (3) and not just the EE and RE programs funded by the SBC.²

This provision, while within the SBC section of EDECA, does not expressly limit the funding for EE and Class I RE to just SBC funding and calls for a comprehensive resource analysis for all EE and RE programs. This commenter suggests this comprehensive CRA for the very reasons cited in the paragraphs above on the great accomplishments of the BPU's clean energy program over the last 24 years. This is even more correct now since the solar incentive is now managed as a utility charge on the utility customers bill – a societal benefits charge. The CRA should determine the overall economic efficiency and environmental effectiveness of all the EE and RE programs.

The BPU DCE should make this full economic and environmental determination in regards to the current 2019 Energy Master Plan (EMP) goals for all its EE and RE programs. Basically, how can and will all the BPU's clean energy EE and RE programs assist to achieving the 2019 EMP goals to achieve 100% clean energy and reduce 2006 greenhouse gas emissions by 80% by 2050. The CRA should make that determination in regard to the funding levels for the SBC EE and RE programs and the other EE and RE programs, which should be combined in one evaluation.

Many commenters requested that BPU increase its funding. This commenter is of the opinion the BPU's total clean energy program funding is at a sufficient and appropriate level. It is just the economic efficiency and environmental effectiveness of those programs that the CRA should address and resolve. As an examples:

- i. The grid supply solar given the current Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) funding are sufficient incentives to make these programs cost effective without BPU funding and the BPU funding in this area should be reduced to zero for grid supply solar and reallocated to building electrification (BE) program.

² N.J.S.A. 48:3-48a(3) states "After the eighth year the board shall make a determination as to the appropriate level of funding for these programs (aka the DSM EE programs). Such programs (aka DSM EE programs) shall include a program to provide financial incentives for the installation of Class I renewable energy projects in the State, and the board, in consultation with the Department of Environmental Protection, shall determine the level and total amount of such incentives as well as the renewable technologies eligible for such incentives which shall include, at a minimum, photovoltaic, wind, and fuel cells." The Board must provide funding levels for DSM EE program and Class I renewable. Followed by a new and separate requirement "the board shall simultaneously determine, as a result of the comprehensive resource analysis, the programs to be funded by the societal benefits charge, the level of cost recovery and performance incentives for old and new programs and whether the recovery of demand side management programs' costs currently approved by the board may be reduced or extended over a longer period of time. The board shall make these determinations taking into consideration existing market barriers and environmental benefits, with the objective of transforming markets, capturing lost opportunities, making energy services more affordable for low income customers and eliminating subsidies for programs that can be delivered in the marketplace without electric public utility and gas public utility customer funding"

- ii. The IJJA and IRA funding for net metered solar projects is sufficient to reduce the SREC II under the new SuSI program to less than \$90 per MWh (but not eliminate the incentive for net metered projects). In addition, given that the federal investment tax credit is now available to non-taxed public entities and not for profit organizations, the ADI SREC II public entities adder can be eliminated. The savings in funding should be reallocated to BE programs.
- iii. All of the breakage that frees up funding in the transition from 15-year SREC to Class I REC. Currently over the last 9 years over 3,500 solar projects that generate over 80,000 SREC annually have been converted to Class I REC with a reduction in cost of over \$14 million.³ Over the next 3 years approximately 625,000 solar projects that generate almost 700,000 SREC annually will be converted to Class I REC with a reduction in cost of over \$120 million. These savings and avoided cost should be reallocated to BE programs

The total CEP funding should stay the same but these cost savings should be reallocated to the BPU DCE CEP funding including New Home's Construction, Microgrid, Energy Storage and Grid Modernization (specifically Grid Interactive Efficient Buildings (GEB)) and Community Energy Plan Grants.

2. Comfort Partners Program

The Comfort Partners Program needs to be managed as a holistic clean energy program and not just an energy efficiency program. The low-income clean energy program needs to be developed as a single entry point for all BPU DCE clean energy programs that include:

Highly energy efficient building upgrades including shell measures;
 Building electrification with heat pump equipment and induction stoves;
 Electric vehicles (EV) and EV charging equipment;
 On-site solar;
 On-site battery storage; and
 Community solar
 Grid Interactive Efficient Buildings (GEB)

Managing this program as an EE-only program is a missed opportunity to reduce environmental and economic market barriers within the low-income neighborhoods and communities. It is a significant lost opportunity to reduce energy usage and cost and a significant lost opportunity to transform this energy market sector. This lost opportunity impacts both individual low-income customers, neighborhoods and NJ society at large. Keeping this program as a EE only program is not consistent with N.J.S.A 48:3-60a(3).⁴ The low-income clean energy program should be managed as an "Existing Homes – Zero Energy Homes program" that includes all the elements noted above and tied together with Smart building control with GEB technologies.

The electric and natural gas utilities are unable to deliver the low-income program as a holistic clean energy program and are limited in delivering these benefits in a piecemeal and inefficient and uneconomical manner. It is clear that the Utilities sole management of the low-income program cannot respond to changes in New Jersey clean energy policies or fully implement state clean energy policies.

³ Assuming \$200 per SREC and \$20 per Class I REC. The value of this breakage will decrease over time as the SREC values decrease. However, the volume of SREC converting to Class I REC will increase substantially over time.

⁴ The board shall make these determinations taking into consideration existing market barriers and environmental benefits, with the objective of transforming markets, capturing lost opportunities, making energy services more affordable for low income customers and eliminating subsidies for programs that can be delivered in the marketplace without electric public utility and gas public utility customer funding;

At a minimum the BPU should directly jointly manage the low-income program and manage them in a manner that advances a holistic clean energy approach.

3 FY 23 Division of Clean Energy EE and RE Compliance Filing

i. It is time to start to phase out funding for CHP and FC DER powered by natural gas. It is clear that the current New Jersey grid electric energy and low temperature heat pumps have a lower combined energy use (higher efficiencies), lower operating cost and less greenhouse gas emissions than natural gas CHP/FC DER. This program should be limited to only renewably fueled CHP/FC. The CHP/FC DER funding can be reallocated to the following:

Expand the funding for the microgrid program

The BPU DCE should develop its microgrid program that includes only advanced community solar, advanced community geothermal/air sourced low temperature heat pumps with on-site storage in Level 2 and 3 microgrids. With one point of common coupling⁵ The microgrid program should be linked with the Grid Modernization program to expand the potential for Level 2 and 3 microgrid to improve the efficiency, effectiveness reliability and resiliency of the local electric distribution system with one point of common coupling.

Expand the funding for the Community Energy Planning (CEP) Grant program.

Develop a new Outreach program within the CEP grant program to provide independent expert advice on low temperature heat pump system and other heating systems. This program can be developed through the Rutgers Center for Green Building and the NJIT Center for Building Knowledge.

ii. The on-site solar program and the on-site behind the meter storage program should be merged with the DER program and operated as one program. It is past time to have a separate program for on-site net metered solar and a separate program for onsite storage. On-site net metered solar and on-site behind the meter storage is DER and should be managed as one program. The requirements and current incentives structure for these technologies do not change under the one merged DER program. However, it is the public perception and public outreach will and needs to change about DER technologies and merging them into one program will accomplish that new needed perception and education. On-site solar and storage are not separate technologies and need to be viewed as part of the whole solution to get to 100% clean energy along with EE, EV and GEB.

iii. The BPU DCE should continue to jointly and directly manage the Comfort Partners low-income clean energy program. This program needs to be operated in a holistic manner with highly energy efficient building upgrades including shell measures, building electrification with heat pump equipment and induction stoves, electric vehicles (EV) and EV charging equipment, on-site solar, on-site battery storage, community solar and grid interactive efficient buildings (GEB) and not just EE measures. In addition, the BPU DCE needs to manage this program jointly to ensure the implementation of the State's EMP policies that includes building electrification.

iv. The expansion of health and safety measure in the Whole House Pilot Program is a great new initiative. The BPU should start to expanded to more disadvantaged communities than just Trenton. In addition, the Whole House Pilot Program should be expanded to be operated in a holistic manner with highly energy efficient building upgrades including shell measures, building electrification with heat

⁵ See <https://www.nj.gov/bpu/about/divisions/opp/microgrid.html> for classification of microgrids

pump equipment and induction stoves, electric vehicles (EV) and EV charging equipment, on-site solar, on-site battery storage, community solar and grid interactive efficient buildings (GEB) and not just EE and health and safety measures.

4 FY24 TRC EE and RE Compliance Filing

i. The CEP Outreach program managed by TRC based on the reporting in the TRC Compliance Filing, has significantly enhanced their outreach performance and should be congratulated for a great job. One element could bring the new BPU CEP Outreach program up a notch – to deliver the CEP outreach in a holistic and integrated manner that includes all of the BPU's clean energy EE and RE programs. This cannot just be a couple of slides on the overall clean energy goals but a fully integrated presentation.

Right now, the BPU's clean energy programs are delivered in a siloed manner with EV including transportation electrification in one silo, EE including building electrification in another, RE with solar and OSW in another and Grid Modernization in another. The 2019 EMP was an integrated energy plan (IEP) and the new clean energy Executive Orders (315, 316 and 317) collectively are an integrated energy plan. The BPU's CEP Outreach has to match those goals and must be delivered as an integrated clean energy program that includes:

- Very EE buildings and shell measures;

- Building electrification (BE) technology and equipment including induction stoves, heat pump water heaters, dryers and low temperature heat pump heating and cooling systems – this could also include geothermal community systems;

- On-site solar and community solar;

- On-site storage;

- EV an EV charging equipment; and

- Grid Interactive Efficient Building (GEB) technology and equipment.

Basically, very energy efficient buildings powered by renewable energy as a zero energy building and managed by GEB technologies.

ii. New Construction

Building electrification is not going to happen from the top down with building energy codes and appliance standards first. The IECC may move stretch codes as a step forward in 2024/2025 but currently their 2024 proposal is just EV ready, BE ready and solar ready. Even the USDOE Zero Energy Home program in their recent stakeholder process dated May 2023 is not requiring BE and is just advancing EV ready, solar ready, storage ready and BE ready.

The advance to very EE building powered by clean renewable electricity is going to happen from the bottom up as it has for decades as promoted and advanced by BPU's clean energy program. The NCP has to be developed not as a Zero Energy Ready Program but actually incentivizing the construction of Zero Energy Buildings (ZEB) that includes:

- Very EE buildings and shell measures;

Building electrification (BE) technology and equipment including induction stoves, heat pump water heaters, dryers and low temperature heat pump heating and cooling systems – this could also include geothermal community systems;

On-site solar and community solar;

On-site storage;

EV an EV charging equipment; and

Grid Interactive Efficient Building (GEB) technology and equipment.

A ZEB programs that helps developers build a whole development of ZEB that results in developers changing their design specs and the state DCA adopting codes and standards that catch up to the updated developer's design specs. That is the organic way this has happened over the last 20 years and will happen through 2050. The BPU need to get this program started.

The NCP must include an affordable homes NCP subprogram as part of the overall NCP. The affordable NCP must include all of the components noted above, but also allows for a modification of the Community Solar rules. In addition to on-site solar, the affordable NCP should allow the NCP affordable home and its low-income customers to receive the balance of their electricity needs from a community solar project.

iii. On Page 44 of the TRC Compliance filing describes a Garden State Challenge Pilot: Promote a Low to No Carbon Future as part of TRC's outreach program but the TRC filing nor the BPU DCE CRA or Compliance Filing describe the details of this program. What are the detail of this program?

iv. The LEUP Decarbonization Pilot: Higher Education Target Market – This pilot should include an incentive for Colleges and Universities to advance community geothermal systems with thermal storage to replace their natural gas fired CHP system. Over the years a number of Colleges and Universities have developed and installed natural gas CHP system that, at the time, were highly energy efficient. However, in a low or no carbon energy system, these natural gas CHP units with GHG emissions will have to be replaced these systems, if the Colleges and Universities are going to achieve their 100% clean energy and GHG emissions reduction goals. The current potential cost effective and environmentally sound technology is community geothermal and thermal storage.

v. GIS Reporting – All BPU Clean Energy programs including the Utility EE programs should report completed projects monthly through publicly available GIS maps. In advancing outreach for residential and C&I programs through Sustainable Jersey or through the Community Energy Plan (CEP) grant programs, municipalities will required the data in their municipalities on which homes and business have upgraded EE measures and/or have installed solar/storage. The municipalities cannot adequately perform outreach as required in their CEP grants without accurate up to date data on completed projects in their towns

5. FY 24 Budget – SBC Collection Schedule

The collection of the clean energy SBC can no longer be based just on usage. Currently, the SBC collection from the investor-owned utilities is based solely on energy usage. This methodology of determining the SBC collection was an easy and simple way to provide this allocation and has been performed in the BPU's clean energy program in this manner for over 20 years. However, in light of the clean energy goals, this methodology is no longer sufficient to advance the strategies of the 2019 EMP.

This methodology is in conflict with and opposition to the goals of the 2019 EMP of advancing electrification of the transportation and building sectors.

The SBC needs to be determined based on the reduction of greenhouse gas (GHG) emissions consistent with the 2019 EMP goal and the Global Warming Response Act requirement to reduce New Jersey's 2006 GHG emission levels by 80% by 2050. The 80% GHG emissions reduction goal has been further strengthened by EO 274 that set an interim target of a 50% reduction in New Jersey's 2006 GHG emissions levels by 2030.

The simple fact is that currently the greater impact on New Jersey's GHG emissions is from natural gas.⁶ New Jersey cannot get to the 50% reduction target or the 80% reduction requirement without a significant and substantial reduction in natural gas usage starting now and continuing as set forth in the 2019 EMP over the next 30 years. The SBC collection process needs to recognize this fact and determine the SBC collection based on GHG emissions reduction.

Maintaining the SBC collection based solely on usage has a negative impact on advancing the BE goal of the 2019 EMP, EOs 274, 315 and 316. The BPU recognized this fact in addressing the increased usage of electricity from transportation electrification with EV and building electrification with heat pumps equipment in calculating the electric utilities EE reduction requirement by converting all savings to MMBtus and allowing for a net MMBtu saving over the replaced existing fuel in their recently issued supporting documents on the 2nd EE Triennium – Goals document.

As electric usage increases, the SBC allocation in the electric rates increases. This will cause the cost benefit and the ROI of electrification, especially building electrification, to move in opposite directions from the 2019 EMP goals. Simply put it will cost more to advance BE as opposed to installing natural gas equipment just based on capital cost without address the GHG emissions impacts and costs. In order to maximize the goals of the 2019 EMP, the SBC collection needs to be based on the percentage of GHG emissions avoided or saved versus energy usage.

The BPU can perform the same SBC collection equations listed in the FY24 Funding Level document but instead of calculating total cost, BPU would just calculate the total GHG emissions in both the electric and natural gas sectors usage and apportion the SBC collection based on the allocation of GHG emissions impacts instead of energy usage. This methodology would align the SBC collection and the BPU's Clean Energy Program with the goals of the 2019 EMP and help to advance BE.

6. Outreach and Education for low temperature Heat Pumps

Of all the energy efficient and GHG emission mitigation technologies cited in the 2019 EMP and IEP, low temperature heat pumps are the least understood technologies to the general public. The FY 24 Budget should include funding to develop outreach and education programs to expand the awareness of the costs and benefits of low temperature heat pumps.

The FY24 Budget and Programs should increase the Planning and Administration budget (as a reallocation of funds not new funding) to include a Low Temperature Heat Pump Technical Resource Center housed within the Rutgers Center for Green Building in partnership the NJIT Building Learning Center. This Technical Resource Center should provide independent and real time cost estimates and

⁶ See NJDEP 2022 Mid Cycle GHG Emissions update Report dated December 2022 at https://dep.nj.gov/wp-content/uploads/ghg/2022-ghg-inventory-mcu_final.pdf . While transportation is the single largest sector with gasoline diesel and aviation fuel (with gasoline representing 70% of this sector), the natural gas usage of the combined sectors of Residential and Commercial, Industrial and Electric Generation greatly exceeds the transportation sector, at approximately 30% greater than the total transportation sector.

benefits of the different heating/cooling systems for residential and commercial customers, specifically focused on low temperature heat pumps. Further this Center should also provide independent and technical information and training for HVAC contractors on the cost and benefits of low temperature heat pumps including installation training certification.

The FY24 Budget should include a line item to increase the funding (as a reallocation of funds not new funding) to the Rutgers Center for Green Building to help in the evaluation of the costs and benefits of incorporating residential and commercial building electrification for new, retrofit and remodeling building energy codes, in addition to the current IECC 2024 Building Energy Code adoption proposed for next year. This should include the evaluation of the non-energy benefits (NEB) of low temperature heat pumps.

7. OSW – Very Minor Point

Page 13 of the DCE FY 24 Compliance Filing dated May 22, 2023 noted that the Board should continue its work with the Rutgers Center for Ocean Observation Leadership (RUCOOL) started in 2017. While the DCE has recently accomplished significant and substantial advances of the New Jersey OSW industry and programs, the partnership and working relationship with RUCOOL was started in 2003 and formalized in 2008 with an initial contract that continues through today through R and D administrations because of the recognized value of that partnership.

Thank you for the opportunity to comment on New Jersey's Clean Energy Program FY 24 Proposed Comprehensive Resource Analysis – Budget and Programs. We appreciate all the time and effort that the BPU staff put into developing this proposal and submit the above comments to assist in advancing the State's progress towards the 2019 EMP goal of 100% clean energy by 2050. Please feel free to contact me on any further follow-up.

Very Truly yours

Michael Winka

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