Submitted via E-Mail

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State of New Jersey, Board of Public Utilities
44 S. Clinton Ave., 3rd Floor, Suite 314
P.O. Box 350
Trenton, New Jersey 08625-0350

RE: Draft Energy Master Plan Stakeholder Meetings

Secretary Camacho-Welch:

The Natural Resources Defense Council ("NRDC") is pleased to submit these comments on the Draft 2019 Energy Master Plan: Policy Vision to 2050 as well as answers to the EMP Committee's 28 questions included in its Stakeholder Notice released June 10, 2019.

Respectfully Submitted,

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A. INTRODUCTION

On May 23, 2019, Governor Murphy signed Executive Order No. 28 ("E.O. 28"), which directed the New Jersey Board of Public Utilities ("BPU") and other state agencies to develop the 2019 Energy Master Plan ("EMP"). The 2019 EMP is intended to chart a policy pathway for New Jersey that will achieve 100% carbon neutral energy by 2050. In response to E.O. 28, BPU President Fiordaliso designated Grace Strom Power as the Chair of the EMP Committee, which oversees the stakeholder process. Over the course of 2018, the EMP Committee established five inter-agency working groups that received public comment and stakeholder input to draft the EMP.

On June 10, 2019, the EMP Committee released the *Draft 2019 New Jersey Energy Master Plan: Policy Vision to 2050* ("Draft EMP"), which outlines the key goals of the EMP and seven overarching strategies to meet the State's clean energy goals.[1] Those seven strategies are:

(1) Reduce energy consumption and emissions from the transportation sector;
(2) Accelerate deployment of renewable energy and distributed energy resources;
(3) Maximize energy efficiency and conversation and reduce peak demand;
(4) Reduce energy consumption and emissions from the building sector;
(5) Modernize the grid and utility infrastructure;
(6) Support community energy planning and action in low- and moderate-income and environmental justice communities; and,
(7) Expand the clean energy innovation economy.[2]

The seven strategies outlined in the Draft EMP are supported by eight data analyses and studies that have already been completed or are being conducted concurrently with the EMP process.

[1] NJ Board of Public Utilities, DRAFT 2019 NEW JERSEY ENERGY MASTER PLAN: POLICY VISON TO 2050 (Jun. 10 2019) (*hereinafter* "Draft EMP").
[2] Draft EMP at 1.

These include the: (1) integrated energy plan; (2) energy efficiency market potential study; (3) energy storage study; (4) solar energy transition plan; (5) optimal voltage study; (6) offshore wind strategic study; (7) microgrids feasibility study, and; (8) alternative fuel vehicles study.[3] Taken together, the seven overarching strategies and eight supporting studies mean the 2019 EMP "encompasses a dramatically broader scope than pervious EMPs," which "includes rigorous goals and spans multiple sectors and governmental agencies . . . while also upholding the NJBPU's mission to provide a safe, reliable, resilient and affordable energy system for the citizens of New Jersey."[4]

B. COMMENTS

The Natural Resources Defense Council ("NRDC") applauds the efforts of the BPU and other state agencies in authoring a Draft EMP that touches nearly every aspect of New Jersey's energy sector, while being responsive to initial stakeholder input provided during the 2018 stakeholder sessions. Importantly, the EMP Committee acknowledges the "near unanimous scientific consensus that the global threat of climate change is grave, and that it demands swift local action and state leadership," and that achieving 100% carbon neutrality by 2050 and the Global Warming Response Act ("GWRA") greenhouse gas emissions reductions of 80% below 2006 levels by 2050 is "our current reality and challenge."[5] NRDC believes the seven strategies already identified in the Draft EMP will put New Jersey well on its way to achieving its 2050 goals, but recommends several modifications to the Final EMP to ensure the State will rise to the occasion and tackle the reality and challenge of climate change.

[3] Draft EMP, Appendix A, at 98-103.
[4] Draft EMP at 9.
[5] *Id.*

NRDC broadly supports the visionary roadmap of the Draft EMP and the seven main strategies contained therein to reach its climate and clean energy goals. If the policy pathways identified in the Draft EMP are implemented within a reasonable timeframe, New Jersey can successfully decarbonize its economy by 2050, while creating thousands of new jobs for its residents and numerous other benefits. However, there are several modifications or additional policy initiatives the EMP Committee should include in the Final 2019 EMP to make it a truly visionary blueprint for New Jersey's clean energy future. NRDC's comments include four recommendations, each with several sub-parts to strengthen the Final EMP:

(1) The Final 2019 EMP should leverage energy efficiency as the least-cost energy resource to achieve energy, as well as GHG and other pollution reductions, and make clear recommendations based on industry best practices as to the design, oversight, administration and evaluation, measurement, and verification ("EM&V") for the ambitious energy efficiency programs required by the Clean Energy Act of 2018 ("CEA").

(2) The Final 2019 EMP should undertake a holistic analysis of utility business model reform to create a utility sector orientated around achieving clean energy goals as the primary course of business.

(3) The EMP should work to identify a clear role for utilities, the NJ Department of Transportation, and third-parties to work together towards vehicle electrification policies and other transportation solutions that utilize state-wide and regional approaches to

tackling vehicle emissions while maximizing the benefits electric vehicles (EVs) can have for the electric grid.

(4) The EMP Committee should include principles of Distributed Energy Resource ("DER") integration to ensure clean energy technologies, particularly renewable energy generation assets, are deployed in a manner that maximizes economic, environmental, and grid benefits.

With the modifications recommended in its comments, NRDC believes the Final 2019 EMP can truly serve as a blueprint for a clean energy future that achieves the goals of the CEA and GWRA while making New Jersey an economic leader in the clean energy economy and supporting the needs of the LMI and EJ community.

(1) The Final 2019 EMP should leverage energy efficiency as the least-cost energy resource to achieve energy, GHG, and pollution reductions, and make clear recommendations based on industry best practices as to the design, oversight, administration and evaluation, measurement, and verification ("EM&V") for the ambitious energy efficiency programs required by the Clean Energy Act of 2018 ("CEA").

NRDC applauds the EMP Committee for its inclusion of energy efficiency, conservation, and peak demand reduction as one of the seven strategies to reach its clean energy goals. Energy efficiency is the lowest-cost clean energy resource New Jersey has at its disposal to meet its clean energy and climate goals. As noted in the Draft EMP, the BPU's recent study on energy efficiency potential within the state established that New Jersey could realize a 21% reduction in electric energy demand in the next decade.[6] Additionally, the widespread deployment of energy

[6] Draft EMP at 59.

efficiency provides health and economic benefits to every customer class and benefits the grid regardless of whether individual customers make efficiency investments. It also results in the creation of good, local jobs that can't be outsourced. According to Environmental Entrepreneurs ("E2"), the energy efficiency industry already supports more than 33,000 jobs in the state.[7] While this number is significant, states like Massachusetts that have fully committed to energy efficiency investments support more than 80,000 jobs in the sector.[8] This job gap is even more pronounced when looking at a per capita basis, because Massachusetts has 6.9 million residents, 2 million fewer than New Jersey.

NRDC has several recommendations to the EMP Committee on *Goal 3* and in response to explicit questions posed by the EMP Committee in its stakeholder notice, as well as the concurrent implementation process underway at the BPU for the utility energy efficiency programs required by the CEA. These include: (1) setting strong energy efficiency targets that capture all cost-effective energy efficiency; (2) making a determination of program administration and decreasing duplication and customer confusion by clearly delineating the roles of the existing NJCEP programs under the Office of Clean Energy ("OCE"), and new and existing programs by the State's regulated utilities; (3) standardizing reporting requirements across program administrators; (4) ensuring equitable access to programs through statewide criteria for hard-to-reach customers, such as low- and moderate- income ("LMI"), multifamily, and small commercial and industrial ("C&I") rate classes; (5) adopting appliance standards that will reduce emissions from the building sector; (6) implementing a framework to facilitate, and

[7] Environmental Entrepreneurs, Clean Jobs New Jersey (May 19) *available at*, https://www.e2.org/wp-content/uploads/2019/05/E2-2019-Clean-Jobs-New-Jersey.pdf
[8] Environmental Entrepreneurs, Clean Jobs Massachusetts (Apr. 19) *available at*, https://www.e2.org/wp-content/uploads/2019/04/E2-Clean-Jobs-Massachusetts-2019.pdf

providing common principles, for building energy benchmarking required by the CEA; and, (7) pursuing aggressive building electrification policies.

i. The Final EMP Should Recommend that Energy Efficiency Programs Designed Under the CEA Pursue all Cost-Effective Energy Efficiency

New Jersey can set annual energy efficiency targets greater than the 2% electricity target floor and 0.75% gas target floor in the Clean Energy Act ("CEA"). NRDC recommends that New Jersey commit itself to achieving all cost-effective energy efficiency available, determined using a cost-effectiveness test that values the environmental and public health attributes of energy efficiency investments. Under such a regulatory scheme, New Jersey's annual energy savings can exceed the floors established in the CEA, which permits the BPU to set more ambitious targets than those in the CEA so long as the programs are cost-effective. The 2019 Energy Efficiency Market Potential Study by Optimal Energy recommended net annual statewide energy savings targets of 2.15% for electric utilities and 1.10% for gas utilities by 2024.[9] Given the maximum economic potential exceeds these targets, NRDC believes the increased targets are achievable and should be explicitly included in the Final EMP to better reflect the actual energy efficiency potential in New Jersey.

NRDC further believes that the ramp-up rates outlined in the Market Potential Study are achievable. The 2020-24 savings ramp-up rate set forth in the Study is appropriately ambitious and achievable with the proper regulatory framework in place to ensure that utilities can deliver these savings. As explained in the "Aiming Higher" report by Synapse Energy Economics, the fundamental driver of high savings in leading energy efficiency states like Massachusetts and

[9] Optimal Energy, Draft Energy Efficiency Potential in New Jersey, at 6 (May 9, 2019).

Rhode Island has been aggressive regulatory policies.[10] Importantly, the report describes such policies in a complementary suite: aggressive energy efficiency savings targets, effective shareholder performance incentive mechanisms, and true engagement with active, inclusive energy efficiency advisory committees. Indeed, NRDC was pleased to see the announcement of a 5-member stakeholder committee formed this August. However, NRDC remains concerned regarding the lack of sufficient stakeholder representation on the committee, and the relative lack of venues for in-depth conversations regarding these important topics. Therefore, the EMP Committee should recommend that BPU hold in-depth working groups so stakeholders can work through the multitude of design elements of New Jersey's new energy efficiency programs.

ii. The Final EMP Should Follow Program Administration Models Proven to Work Well in States with Similar EERS Standards and Seek to Minimize Program Duplication and Customer Confusion

To provide robust energy efficiency programs, the EMP Committee along with the BPU must determine whether the State will pursue utility, NJCEP, or hybrid program administration as soon as possible. To date, neither the EMP Committee nor the BPU has made any recommendation or determination on what entity, or entities, will administer the energy efficiency programs required by the CEA. Without clear direction on who is responsible for program administration, plan design will stagnate, and the State will leave cost-effective energy efficiency on the table.

While there are multiple models of program administration across the country, NRDC recommends that the EMP Committee only look at those high achieving states that save 2.0% a

[10] Synapse Energy Economics, Aiming Higher: Realizing the Full Potential of Cost Effective Energy in New York (Apr. 22 2016) *available at*, https://www.synapse-energy.com/sites/default/files/Aiming-Higher-NY-CES-White-paper-15- 056.pdf.

year or greater. In May 2019, ACEEE released a policy brief that compared the various EERSs of 27 states.[11] Included below are those high-achieving states, as well as their program administration model:

State	EERS	Program Administration
Massachusetts	Net annual savings of 3.45 million MWh (not including fuel switching) for 2019- 2021, equivalent to savings of about 2.7% of retail sales per year	Distribution utilities administer their own programs with collaborative input and oversight from the EE Advisory Council. All IOUs have partnered together to sponsor the Mass Save program
Rhode Island	Average incremental savings of 2.5% for 2018-2020. EERS includes demand response targets.	Narraganset Electric, a National Grid company implements programs. They are similar to those offered by National Grid in Massachusetts.
Vermont	Annual incremental savings totaling 357,400 MWh over 2018-2020, or approximately 2.4% of annual sales. EERS includes demand response targets.	Vermont is unique in that it has an energy efficiency utility, efficiency Vermont, which is part of the Vermont Investment Corporation.
Maine	Electric savings of 20% by 2020, with incremental savings targets of ~ 1.6% per year for 2014-2016 and ~2.4% per year for 2017-2019. Efficiency Maine operates under an all cost-effective mandate, however has fallen short of targets in recent years due to budget cuts.	Statewide program is administered by Efficiency Maine, with oversight from the MPUC.
Maryland	15% reduction in per capita peak demand by 2015, compared to 2007. After 2015, targets vary by utility, ramping up by 0.2% per year to reach 2% incremental savings.	Utilities administer EE programs, overseen by the PSC.
New York	An April 2018 NYSERDA and Department of Public Service white paper (*New Efficiency: New York)* called for 185 TBtu of cumulative annual site energy savings under the 2025 energy-use forecast [required under the subsequent December 2018 PSC	For a long period of time NY ran a hybrid program between NYSERDA and the IOUs. The IOUs are now responsible for programs that address customer end uses, with NYSERDA only running limited programs and focusing on market transformation.

[11] ACEEE, Policy Brief: State Energy Efficiency Resource Standards (EERS) May 2019 (May 2019), *available at* https://aceee.org/sites/default/files/state-eers-0519.pdf

	order and codified in the Climate Leadership and Community Protection Act], as well as an electric site savings sub-target of a minimum of 3% of IOU sales in 2025.	
Arizona	Incremental savings targets began at 1.25% of sales in 2011, ramping up to 2.5% in 2016 through 2020 for cumulative electricity savings of 22% of retail sales, of which 2% may come from peak demand reductions.	Arizona utilities administer programs.
Colorado	For 2015–18, PSCo had been required to achieve incremental savings of at least 400 GWh per year; starting in 2019, this was increased to 500 GWh, or roughly 1.7% of sales. HB 17-1227 extends programs and calls for 5% energy savings by 2028 compared to 2018.	Utilities administer programs, which are overseen by the PUC.
Illinois	Incremental savings targets vary by utility, averaging 1.77% of sales from 2018 to 2021, 2.08% from 2022 to 2025, and 2.05% from 2026 to 2030. SB 2814 (Public Act 99-0906) also sets a rate cap of 4%, which would adjust targets downward should utilities reach spending limits.	Utilities administer programs.

[12]

As indicated in the above figure, leading states typically have programs that are administered by regulated utilities, with oversight done by the state's Commission and advisory committee. Importantly, those high achieving states also have clear roles for regulators, state energy offices, and utilities when it comes to program implementation. To the extent that program implementation is shared among multiple entities in a service territory, the roles of each entity must be clearly delineated to avoid customer confusion that will stunt the market. Additionally,

[12] *Id.*

clear delineation is required to accurately attribute energy efficiency savings to the correct entities for compliance purposes, as well as EM&V and incentive payments. Although NRDC feels that evidence indicates utility-run energy efficiency programs are most successful, a key element of program success is robust stakeholder involvement, transparency, oversight, and reporting, all of which are currently missing in New Jersey; principles that should be included in the Final EMP.

iii. Reporting and Evaluation Requirements Should be Standardized

Regardless of what entity, or combination of entities, administers the energy efficiency programs required by the CEA, reporting of program progress should provide understandable, transparent, accurate, and easily accessible information for each utility's energy efficiency programs and progress towards meeting targets set by the Board. Frequent and transparent reporting allows the public and interested stakeholders to receive up-to-date information regarding energy efficiency investments and program performance. Standardized report content, as well as an easy-to-use database to access reports are critical to running successful energy efficiency programs in New Jersey.

Specifically, entities that administer energy efficiency programs should provide semi-annual, annual, and to the extent that programs run over several years, final reports on program performance. Moreover, these reports should be evaluated by the Board, Advisory Committee, and if necessary an independent third-party evaluator that can compare performance across NJ CEP programs run by OCE, and those run by utilities. Such evaluations should include process evaluations, identify areas of improvement and refinement, review utility progress towards meeting annual goals, whether those annual goals were achieved, and a clear picture of energy

savings by sector and rate class. The content of the reports should provide all information necessary to determine whether utility targets were met, from what sectors were savings achieved, whether its portfolio of programs was cost-effective, and whether a utility qualifies for cost recovery and performance incentives. This information should also include projected vs. actual spending, savings, and cost-benefit-analysis information.

Alongside robust reporting and evaluation requirements, the EMP Committee should recommend that the Board create an up-to-date online database that includes individual utility reports, as well as BPU aggregated reports. Moreover, the online portal should provide access to all regulatory documents associated with the energy efficiency program, including but not limited to:

- Board implementation orders
- Secretarial Letters
- Baseline and potential studies
- Cost effectiveness tests
- Interim utility reports
- Technical reference manuals and similar documents
- Proposed and final utility plans
- Updated information on utility plan changes
- Advisory committee reports and minutes.

In addition to this basic level of information, the EMP Committee should urge the State to follow examples set by other oversight entities and create an easy to access and easy to search electronic docket and e-filing system. For example, the Pennsylvania Public Utility Commission ("PUC") allows for direct e-filing on any docket *via* an e-filing account. After filing, any member of the

public can access every document filed by any party using a consolidated docket view. This level of transparency allows stakeholders to better interact with parties involved in energy efficiency filings and other dockets. Such a system will be critical to the success of New Jersey's programs, especially given the significant amount of document, reports, and evaluations that will be required as a matter of course once more robust programs are established, modified, and monitored for compliance.

iv. Equitable Program Access

To provide equitable program access, NRDC recommends the EMP Committee consider adopting common statewide program design criteria to standardize some portion of program design for certain rate classes, regardless of what entity ultimately administers the programs. The Draft EMP states:

> New Jersey's statewide programs are an important component of advancing the state's clean energy goals, as they ensure access to programmatic opportunities across the state. The state's administration of energy efficiency programs ensures that all customers who support the Societal Benefits Charge have equitable access to the resulting programs and incentive opportunities.[13]

While NRDC agrees with the EMP Committee that all customers should have equitable access to energy efficiency programs, it does not believe that State administration of efficiency programs "ensures" that all customers have access to programs. Indeed, there are multiple variables that affect whether program offerings result in equitable participating opportunities and outcomes. These include the stopping and starting of efficiency programs, lack of adequate incentive levels and marketing, or missing entire

[13] Draft EMP at 61.

customer segments during the program design phase. It is program design and implementation, in addition to program administration, that determines whether customers have equitable program access.

Moreover, the CEA explicitly directs utilities, not the NJCEP, to "identify market barriers" that may prevent customer participation in energy efficiency programs. Following this statutorily required identification, NRDC recommends those customers that are known to regularly face barriers to EE investments be addressed at the outset of the analysis and process design process. However, the EMP Committee should note in the Final EMP that there are those customer classes known historically to be "hard to reach." These include the LMI Sector, the Small C&I Sector, the Multifamily Sector, and certain types of large industrial customers. For these types of customers, it may be appropriate to set minimum program standards that are uniform across the state and reflect best practices from across the country.

v. Appliance Standards

NRDC supports the EMP Committee's recommendation regarding appliance standards in the Draft EMP. In *Goal 3.3.7*, The Draft EMP identifies that residential and commercial appliance efficiency standards "play a significant role in decreasing utility bills," and that New Jersey was once a leader in appliance standards.[14] Appliance Standards are a cost-effective policy that reduces energy and water usage, as well as GHG emissions and customer bills. NRDC agrees with the EMP's determination that "the state has the authority and opportunity to increase appliance standards in a number of residential and commercial applications."[15] NRDC also

[14] Draft EMP at 66.
[15] *Id.*

agrees with the estimation of the Appliance Standards Awareness Project ("ASAP") that by adopting updated appliance standards, New Jersey could save 557 GWh of electricity and 1,993 BBtu of natural gas annually by 2025.[16] This would result in annual customer bill savings of $176 million that could be invested elsewhere in the state's economy.

Importantly, of the many policies identified in the Draft EMP, updating New Jersey's appliance standards can be achieved on a short timeline through legislation, and is one of the most cost-effective methods of reducing energy consumption while addressing barriers related to serving LMI customers by making efficient products available to all consumers in the state. For those reasons, we support the EMP Committee's recommendation on appliance standards, and agree the NJBPU and DEP should be empowered to perform cost impacts analyses and review and adopt updates to appliance standards every three years.

vi. Building Energy Benchmarking

In addition to EE programs, data access, appliance standards, and codes, building energy benchmarking is an extremely useful tool for scaling up energy efficiency in New Jersey's buildings. In *Goal 3.3.6,* the EMP Committee acknowledges that publicly available energy usage benchmarking data in both the commercial and residential sectors "is a significant factor towards market-driven increases in efficiency."[17] Moreover, the CEA requires that commercial buildings over 25,000 square feet benchmark their energy and water consumption *via* EPA's Portfolio Manager. Despite the requirement in the CEA, that law does not clearly articulate how the State can use benchmarking data to improve energy efficiency or include a framework for

[16] *Id.*
[17] Draft EMP at 66.

facilitating building energy benchmarking. The EMP Committee echoes this sentiment and notes that there are additional opportunities beyond what is provided in the CEA, and that the state should explore industry best practices.[18] There are several first order principles the EMP Committee should include in the Final EMP to provide a clear pathway forward on energy benchmarking.

First, utilities should provide aggregated monthly whole-building data where a building includes two or more meters and if additional conditions are satisfied (such as providing notices to included customers). Utilities can facilitate building energy benchmarking by mapping meters to buildings and providing aggregated whole-building energy use information to all building owners on an ongoing basis. Such policy should be tailored to resolve any privacy risks and considerations of the included customers. Second, focus should be placed on making it easy and accurate to capture data through an automatic upload process. The EPA Portfolio Manager is a recognized best-practice free, online tool to accomplish this goal. Finally, the regulatory approach to building energy benchmarking should distinguish building owners from other users of customer energy data. This means that, in comparison to third parties, discussed in *supra* (2)(iv), building owners require aggregated data that contains no individual customer information, and should be able to access these anonymized data about their properties. Taken together, these principles can serve as the stepping stone to ensuring that buildings owners meaningful building energy data in the State.

vii. Building Electrification

[18] *Id.*

Building sector space heating, water heating, appliances, and industrial use are a significant source of climate pollution, and account for nearly 30% of New Jersey's GHG emissions.[19] Therefore, in addition to appliance standards and building energy benchmarking, the EMP Committee should include building electrification through building energy codes and equipment replacements as a key pillar of its GHG reduction strategy. NRDC recommends the EMP Committee approach building decarbonization/electrification with three critical elements in mind. First, there should be an emphasis on advanced energy technologies such as heat pumps for space/water heating. Next, deep energy efficiency in both new construction and building retrofits should be a cornerstone of building electrification in the state. Finally, these policies should be developed with an eye towards grid integration through the flexible use of low-, or zero-carbon electricity by heating and hot water equipment. Fortunately, the Draft EMP identifies several policies that can move the market towards building electrification in *Goals 4.1* and *4.2.*

In *Goal 4.1* the EMP Committee notes that it should expand and accelerate the current statewide net zero carbon home incentive programs housed in the New Jersey Clean Energy Program. This program is based on national platforms such as EPA Energy Star and the Department of Energy's ("DOE") Zero Energy Ready Home Program. NRDC supports the use of these programs, and the EMP Committee's recommendation that an effort should be made to expand their utilization. However, NRDC remains concerned that the BPU does not know the relative success of program efforts to date due to lack of reporting and evaluation of the existing energy

[19] Draft EMP at 68

efficiency programs in the state. To that end, NRDC recommends the adoption of evaluation and reporting policies it outlined earlier in this section.

Next, the EMP Committee recommends the establishment of energy codes more aggressive than those set in the International Energy Conservation Code ("IECC"), as well as EV- and demand response-ready building codes for multi-unit dwelling and commercial construction.[20] NRDC agrees that New Jersey should establish energy codes beyond those contained in the IECC. However, the existing regulations are overly stringent and only allow for NJDCA to establish energy codes that are more aggressive than those set in IECC for an institution of higher education that can establish an expected seven-year payback period. Therefore, NRDC believes the EMP Committee should recommend the promulgation of new regulations that would allow NJDCA to adopt new building codes for a significantly broader swath of New Jersey's building stock, as well as payback periods that better reflect the life of beyond code measures in retrofits and new construction.

In addition to energy codes, the Draft EMP correctly identifies the importance of building equipment replacement during its discussion of heat pumps in *Goal 4.2*. While NRDC supports heat pumps as a critical technology for building electrification, it strongly disagrees with the EMP Committee's inclusion and characterization of electric heating costs contained in Table 1, page 68 of the Draft EMP. The EMP Committee notes that 75% of NJ residences are heated through natural gas, while 10.3% use oil and propane. The Draft EMP goes on to state that "reducing reliance on natural gas for building heat will be one of the state's most vexing

[20] *Id.* At 70

challenges," because "the average consumer price of natural gas heating costs in the northeast during the 2017-2018 winter season was nearly half the cost of electric heating costs." However, the cited study merely looks at those who use electricity, which is primarily electric resistance heating, not efficient air source or ground source heat pumps. Moreover, given the variation in climate and energy costs across the Northeast, the broad data set presented in the report is not granular enough to provide the information New Jersey needs to make informed policy decisions.

To address the discrepancy, the Final EMP should use the heating costs associated with modern air source and ground source heat pumps. Additionally, NRDC recommends the EMP Committee explore the incentives provided in states in the Northeast regarding heat pump adoption. Northeast Energy Efficiency Partnerships ("NEEP") provides a regularly updated list of air source heat pump incentives for the Northeast region that can be used as a template for similar incentives in New Jersey.[21]

(2) The Final EMP Should Undertake a Holistic Analysis of Utility Business Model Reform to Create a Utility Sector Orientated Around Achieving Clean Energy Goals as the Primary Course of Business

To meet the goals of the CEA, GWRA, and 2019 EMP, New Jersey must adopt a comprehensive regulatory framework that directly aligns consumer and utility financial interests with the deployment of cost-effective clean energy technologies at all levels of New Jersey's energy sector. The current utility business model is not designed to encourage, or even tolerate, the widespread adoption of energy efficiency, beneficial electrification, electric vehicles, and DERs.

[21] NEEP, 2019 Air Source Heat Pump Incentive Summary (May 2019), *available at* https://neep.org/sites/default/files/2019%20ASHP%20Program%20Summary.UpdatedMay2019.pdf

Therefore, New Jersey must transition from a utility sector that relies on the increased sale of electricity or natural gas to generate revenues to one that rewards both customers and utilities for significantly increased energy efficiency and the deployment of clean energy technologies at the scale required to meet its 2050 climate and clean energy targets.

Fortunately, the Draft EMP identifies the pressure between existing utility financial incentives and the State's clean energy goals in *Goal 5.3.*[22] Specifically, that section includes a discussion of the need for Advanced Metering Infrastructure ("AMI"), customer access to usage data, modified rate designs that encourage customer-controlled demand flexibility, and modified rate structures that are better aligned with state energy goals.[23] Moreover, the Draft EMP notes that the "implementation of state goals may put utility incentives at odds with state policies and objectives."[24] NRDC agrees with the EMP Committee's observation, but would go a step further to note that traditional cost-of-service ratemaking and static rate design is actually antithetical to the overarching goals of the EMP, GWRA, and CEA, and must be addressed in a timely and comprehensive fashion if the State is going to reach its clean energy and GHG reduction goals.

Therefore, to ensure that both utility and customer incentives are aligned with the implementation of New Jersey's climate and clean energy goals, NRDC recommends that the Final EMP examine and make recommendations on the adoption of several ratemaking, rate design, and data access policy options, including: (1) Full revenue decoupling; (2) performance

[22] Draft EMP at 77. Goal 5.3 is titled, "Modify current rate design and ratemaking processes to empower customers' energy management, align utility incentives with state goals, and facilitate long-term planning and investment strategies." *Id.*
[23] *Id.* 77-79.
[24] *Id.* at 77.

incentive mechanisms; (3) smart rate designs; (4) standardized data access and usage protocols; and, (5) strategic AMI deployment that supports these policy objectives.

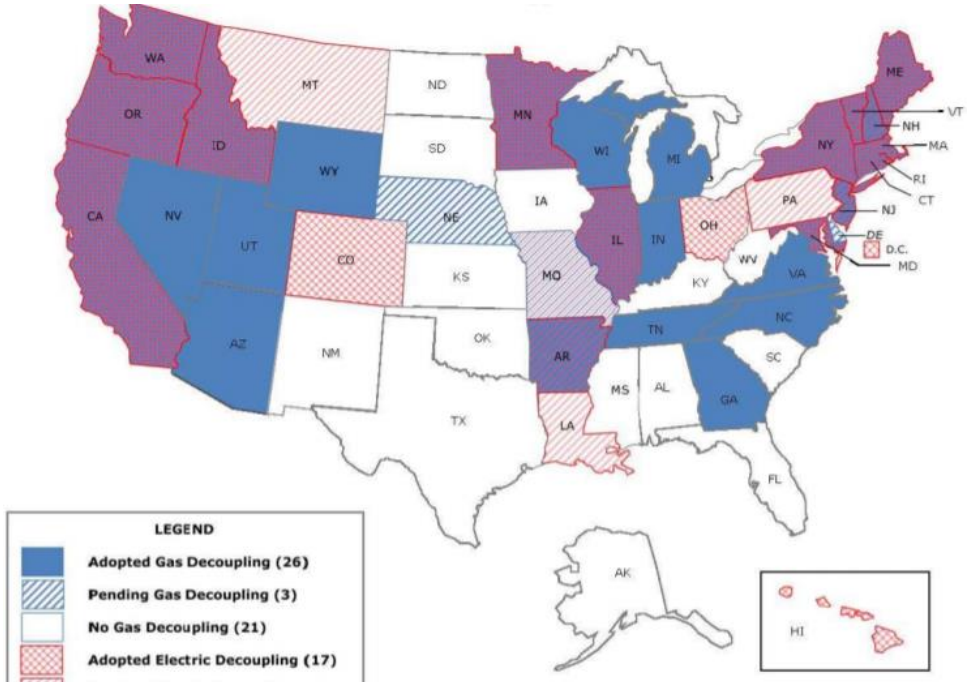
i. Full Revenue Decoupling

The Final EMP should recommend that the NJ BPU require New Jersey's regulated electric and gas utilities to adopt full revenue decoupling as a ratemaking tool to remove any disincentive that may exist for utilities to pursue clean energy. Revenue decoupling mechanisms would address the throughput incentive, whereby utilities recover rising fixed costs by increasing their volumetric sale of energy to each customer. The EMP acknowledges the issue of the throughput incentive in *Goal 5.3.4.* and states that "state-regulated electric distribution companies are compensated largely through growth in electricity sales, which runs counter to state goals of reducing electricity demand."[25] By decoupling volumetric energy sales from utility revenues, utilities would no longer face revenue erosion when customers decrease energy consumption and sales decline. Decoupling is not a novel regulatory approach, and many jurisdictions have years of experience with their own revenue decoupling mechanism designs and consumer protections. Therefore, New Jersey should look to those peer states as it designs its own mechanism.

Revenue decoupling varies little from current cost-of-service ratemaking. The chief difference is that revenue decoupling includes a target revenue requirement set for each year between rate cases, and an adjustment mechanism that adjusts rates up or down to reflect differences between a utility's target revenues and actual revenues. Between 2009 and 2018 the number of electric

[25] *Id.* at 79.

utilities with revenue decoupling more than tripled from 12 to 42, with 17 states having adopted some form of revenue decoupling.[26] Moreover, those states with robust energy efficiency programs, such as those required by the CEA, all use revenue decoupling as a tool to stabilize utility revenues and remove any disincentives that may exist for utilities to invest in all available cost-effective energy efficiency measures.[27]



	2013		2018	
	Utilities	States	Utilities	States
Gas	49	20	64	26
Electric	24	14	42	17
Total	73	25	106	32

[26] Berg et al., ACEEE, THE 2016 STATE ENERGY EFFICIENCY SCORECARD, at 45 (Sept. 2016), available at: http://aceee.org/sites/default/files/publications/researchreports/u1606.pdf *see also*, NRDC Decoupling Map, Figure 1.

[27] As the EMP Committee examines different regulatory schemes, NRDC urges the Committee to look at those states with similar or greater clean energy targets. By NRDC's own analysis, every state with an EERS target as aggressive as New Jersey's uses revenue decoupling for its utilities.

Full revenue decoupling would provide numerous advantages to New Jersey's energy utilities as it relates to energy efficiency and DERs behind the customer meter, such as Solar PV and energy storage. First, revenue decoupling reduces the pressure on utilities to seek increased fixed charges or additional revenue sources in the face of declining demand. Next, rate changes under revenue decoupling affect the volumetric portion of customer's bills, rather than imposing an additional unavoidable fixed charge, which would reduce payback periods of DER investments. Finally, rate changes under revenue decoupling are symmetrical and typically modest in size; in the event of over-collection, customers are refunded through a bill credit. Alternatively, if a utility under-collects, a surcharge is added to customers' bills. It is well documented that revenue decoupling does not typically result in more than a three percent change in customer bills each adjustment period – and usually much less. Further, it has been observed that nearly 40% of all revenue decoupling adjustments nationwide result in customer refunds [28]

Importantly, revenue decoupling mechanisms can be designed in a manner that protects customers while maximizing benefits. For example, revenue decoupling mechanisms can include an asymmetrical cap that would prevent rates from increasing more than a designated amount between base rate cases. Additionally, many revenue decoupling mechanisms are paired with base-rate case moratoriums that prevent excessive rate cases while ensuring that utilities open their books to stakeholders on a regular basis, typically every 3 to 5 years. Together, these consumer protections ensure customers do not experience "rate shock" while increasing overall regulatory efficiency.

[28] Pamela Morgan, A DECADE OF DECOUPLING FOR US ENERGY UTILITIES: RATE IMPACTS, DESIGNS, AND OBSERVATIONS (DEC. 2012).

Finally, the 2019 EMP is a proper forum to make a recommendation on ratemaking policies to the BPU, as base rate cases themselves are poor venues for policymaking. New policy and regulatory schemes should generally not be conducted on an *ad hoc* basis through utility rate filings, as rate cases can be prohibitively expensive to participate in, and difficult for all interested stakeholders to achieve standing. Furthermore, if revenue decoupling policy questions were determined only though base rate filings, it would likely take several years to resolve, and may not result in uniformity across the state. For these reasons, and the others stated in this section, NRDC recommends the EMP Committee identify clear ratemaking criteria beyond what it has already discussed in *Goal 5.3.4.*

ii. Performance Incentive Mechanisms

To better align the utility business model around the attainment of the State's clean energy goals, the EMP Committee should explore the application of Performance Incentive Mechanisms ("PIMs") for utilities that attain or exceed performance metrics set by the BPU. PIMs are financial incentives that aim to reward utilities for reaching or exceeding program goals in a variety of areas, but most commonly energy efficiency. PIM's can be used for a variety of technologies and programs, including energy efficiency, peak load reduction, Low- and Moderate- Income ("LMI") program penetration, and reliability, among others. By rewarding utilities for *actual performance,* rather than providing merely a mandate or a reward for investment, New Jersey can create a regulatory environment that incentivizes utility support of clean energy goals. The CEA requires PIMs for utility-run energy efficiency programs, but the EMP Committee is in the position to recommend what types of PIMs the BPU should be exploring, and additional venues for PIMs beyond just energy efficiency program performance.

There are numerous states that have used PIMs to promote their clean energy goals. In fact, ACEEE found that in regard to energy efficiency, "PIMs are among the most important factors contributing to higher savings and increasing utility energy savings year to year."[29] Indeed, ACEEE further found that "[9] of the top 10 states ranked by electric energy savings as a percentage of retails sales have [PIMs] in place.[30] In addition to orienting the utility business model around performance in offering clean energy services, performance incentives also can positively affect the c-suite culture at utilities. For example, ACEEE reported that robust performance incentives:

> Have resulted in a cultural shift at Massachusetts utilities, making focus on energy efficiency a core part of the business. According to previous ACEEE research findings, 'the incentive structure in place has resulted in energy efficiency programs being viewed as a core business unit capable of contributing to the overall business objective of [National Grid],' and that senior executives were enthusiastic about energy efficiency.[31]

While New Jersey does not have the history of experience with PIMs that states like New York and Massachusetts have, they are required by the CEA. Specifically, Section (e)(2) provides that an incentive shall be rewarded for achieving "the performance targets established in the quantitative performance indicators. . ." Section C of the CEA outlines the process for determining Quantitative Performance Indicators ("QPIs"):

> In establishing quantitative performance indicators, the board shall use a

[29] ACEEE, Snapshot of Energy efficiency Performance Incentives for Electric Utilities, at 1 (Dec. 2018), *available at*, https://aceee.org/sites/default/files/pims-121118.pdf
[30] Dan Cross et al, Navigating Utility Business Model Reform: A Practical Guide to Regulatory Design (RMI 2018).
[31] ACEEE, Snapshot of Energy efficiency Performance Incentives for Electric Utilities, at 5 (Dec. 2018).

> methodology that incorporates weather, economic factors, customer growth, outage-adjusted efficiency factors, and any other appropriate factors to ensure that the public utility's incentives or penalties determined pursuant to subsection e. of this section and section 13 of P.L.2007, c.340 (C.48:3-98.1) are based upon performance, and take into account the growth in the use of electric vehicles, microgrids, and distributed energy resources.

As the EMP Committee examines the additional areas for PIM deployment under the CEA, NRDC recommends it look at Massachusetts's guidance for PIM design that states PIMs must:

- Be designed to encourage program administrators to pursue all cost-effective energy efficiency;
- be designed to encourage programs that will achieve the Commonwealth's energy goals;
- be based on clearly defined goals and activities that can be sufficiently monitored, quantified, and verified after the fact;
- be a consistent as possible across all electric and gas program administrators; and
- avoid any perverse incentives.[32]

Massachusetts guidance on PIM design can go beyond the efficiency realm and be applied to a broad suite of policy priorities related to customer data access, as well as the deployment of EV charging infrastructure and other goals identified by the Draft EMP. For example, in September of 2018, the Massachusetts DPU approved a petition that would allow National Grid to earn up

[32] Mass Save, Massachusetts Joint State Electric and Gas Three-Year Energy Efficiency Plan 2019-2021, at 158 (Apr. 30, 2018) *available at*, http://ma-eeac.org/wordpress/wp-content/uploads/2019-2021-Three-Year-Energy-Efficiency-Plan-April-2018.pdf

to $1.25 million in performance incentives based on the number of charging stations in use, with incentives beginning once 75% of the targeted 1,200 level 2 charging ports has been reached.

iii. Smart Rate Design

In addition to smart ratemaking policies such as revenue decoupling and PIMs, the Final EMP should more explicitly analyze and recommend the adoption of smart rate design principles and policies that are critical to customer adoption of DER technologies. The Draft EMP acknowledges that "successful integration of advanced technologies, bi-direction power flow and communication, increased electrification, and mandated energy efficiency savings will necessitate consideration of a revised rate design."[33] Rate design is those cost recovery structures that customers are exposed to on their utility bills. There are three principles that NRDC recommends the EMP Committee adopt in its Final EMP:

- **Promotion of Distributed Energy Resources:** Rates should send clear price signals to customers to discourage the wasteful use of energy, usage of energy at times during the day when it is most beneficial to the grid, and investment in technologies that allow for load reduction behind-the-meter. This principle underscores that rates should be cost-based and send accurate price signals to customers related to the long-run marginal cost of service. In addition to price signals being accurate, they must also be actionable, meaning customers can modify their energy usage to respond to price signals they receive from their utilities.

[33] Draft EMP at 79.

- **Rate Simplicity:** Customers can only respond to price signals that are understandable. Therefore, Rates should be simple enough for customers to understand and react to accordingly.

- **Utility Revenue Stability:** Smart rate design mechanisms, alongside ratemaking mechanisms should be designed in a manner that provide stable and agreed-upon revenues for utilities associated with their true cost-of-service for each customer.

With these principles in mind, there are several rate design policies the Final EMP should explore in greater depth. At a minimum, all rate design in New Jersey should avoid disproportionally high fixed charges or straight-fixed/variable ("SFV") rate design, which may negatively impact LMI customers and negatively affect payback periods for DER investments. Next, rate design should leverage Advanced Metering Infrastructure ("AMI") to provide time-varying rates ("TVR") such as time-of-use ("TOU") rates, and peak-time rebates ("PTR") to encourage customers to shift usage off-peak, take advantage of demand-response programs, and bi-directional Electric Vehicle ("EV") charging. Taken together, these smart rate design policies will empower customers to interact with the grid in new ways, resulting in reduced pollution, energy consumption, and utility bills, while providing new tools for utilities to manage their distribution system in a manner that better accommodates clean energy technologies.

Though raising fixed (customer) charges to collect what regulators determine are fixed costs removes utilities' disincentive to invest in efficiency, it harms customers because it reduces their rewards for saving energy since less of the customer bill varies with energy usage. It also shifts

costs to customers who use less energy—because of choice, necessity, or investment in energy efficiency—and sends the wrong long-term price signals to customers, since costs that are fixed in the short-term are often variable in the long-term. Any portion of a customer's bill that is an unavoidable fixed-charge prevents that customer from saving money and energy by becoming more energy-efficient or making investments in DERs. For example, a recent study by ACEEE found that moving from a $5 to a $25 monthly customer charge produced payback period on energy efficiency investments that were 31% longer.[34] For some DER technologies a 31% increase in payback periods can means several years of difference before a customer receives their return on investment. Therefore, customer energy rates should be kept volumetric to ensure that customers are empowered with more options to cut their bills and are rewarded for investments in energy efficiency and other clean energy technologies.

Next, NRDC recommends the EMP Committee provide greater analysis and recommendations regarding Time-Varying Rates ("TVR") to maximize the impacts of clean energy investments for customer bills and the utility grid. The EMP Committee identifies the key elements of smart rate design in *Goal 5.3.3*:

> Revised rate design recommendations should also include mechanisms to enable [TOU] rates design or other tariffs to encourage managed demand and load shifting. Importantly, the state should leverage technology to enable customer to become aware of electricity usage and pricing. Recommendations should also establish price signals for electric vehicle charging to incentivize charging during non-peak hours or when there is an abundance of renewable energy.[35]

[34] Brendon Baatz, *Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency*, at 25 (Mar. 2017).
[35] Draft EMP at 79.

NRDC recommends the EMP Committee expand upon its discussion of TVR and explore the broad application of a bi-seasonal TOU rate with a PTR element for residential and small commercial customers. If well-designed, TOU rate structures allow customer bills to remain volumetric while sending easy-to-understand price signals to customers that better reflect the true cost of their energy consumption and costs to the grid. The benefits of TOU rates are numerous: reduction in peak energy consumption (both summer and winter), decreased payback for clean energy investments, better protection of low-income ratepayers when compared to other forms of rate-design, and measured success in decreasing peak demand and incentivizing energy efficiency across several jurisdictions.

TOU rates are a form of TVR whereby the volumetric fee for electricity varies depending on the time of day and season of the year. The primary purpose of TOU rates is to send customers a price signal that more accurately reflects the cost of their usage in a way that is easy to understand. TOU rates allow better customer interaction with the grid by charging a price for electricity during on-peak hours when costs are highest for utilities, and lower charges when cost is the lowest. Therefore, TOU rates better reflect the true cost of supplying energy to customers than existing flat rate structures. Additionally, TOU rates have the added customer protection benefit because rate variations are announced ahead of time on a fixed schedule. This provides customers with more predictable prices and does not expose them to the full risk of real-time electricity prices. In its analysis, the EMP Committee should pay particular attention to the length of the peak period, which correlates with on-peak hours when load reduction is most needed. According to a report by the Rocky Mountain Institute ("RMI") TOU durations can

range from 4 to 16 hours, but the best customer response comes from durations that are as short as possible while still capturing the necessary peak in a utility's service territory.[36]

In addition to peak duration, the Final EMP should examine the peak to off-peak period ("POPP") ratio. The POPP is the ratio of the price charge for peak period consumption compared to that charged for off-peak consumption. POPP ratios can range from 1:1 to 7:1, and studies have found that a 2:1 POPP results in a 5% peak reduction, while a 5:1 POPP results in approximately a 10% reduction in peak.[37] POPP is critical for both energy efficiency investments, as well as smart EV charging and peak load reduction. Therefore, NRDC recommends the EMP Committee compare the different design elements of a TOU rate for a non-EV customer, as well as those specifically designed for EV customers.

TOU should be paired with a PTR to maximize the customer and grid benefits of TVR. A PTR structure awards customers with a rebate for energy saved during critical peak events announced ahead of time by a utility. This is a low-risk rate design compared to other forms of peak pricing, because there is no associated penalty with a PTR, only potential savings. According to a 2015 study by the Department of Energy ("DOE"), the average peak reduction for customers in a PTR program is 11%.[38] NRDC recommends the EMP Committee look at other jurisdictions' experience with successful TOU and PTR programs.

[36] Herman K. Tabish, *Rate design roundup: demand charges vs. time-based rates*, UTILITY DIVE (Jun. 2 2016).
[37] *Id.*
[38] Neil Strother, *Time-Bard Rates: What Works, What Doesn't* NAVIGANT RESEARCH (Jun. 30, 2015).

First, is the Oklahoma Gas and Electric ("OG&E") opt-in SmartHours program that offered four pricing levels for peak periods on weekdays from June through September. In that program, customers saved an average of $200 per summer on the program, and led to a peak reduction of 150MW.[39] Second, Baltimore Gas and Electric's ("BGE") Smart Energy Rewards program provides an excellent and recent example of successful PTR programing, and is considered the largest dynamic pricing program in the United States, with 20% of all residential customer in 2017.[40] Under the program, BGE provides customers with a $1.25 bill credit for reducing energy usage during peak events. The program achieves approximately 300MW of peak reduction annually.[41]

In sum, utility business model reform, on both ratemaking and rate design will be a critical element of New Jersey's transition to 100% carbon neutral energy. Fortunately, there are numerous jurisdictions across the nation that have experience with both. Therefore, New Jersey does not have to reinvent the wheel, and can instead look to these jurisdictions that have robust clean energy goals anchored by innovative ratemaking and smart rate design. At this stage, the EMP Committee is in a strong position to make recommendations on ratemaking and rate design to avoid *ad hoc* policy making that may occur in the absence of a stated preference for new utility business model policies that support clean energy technologies.

iv. Smart Data Access Protocols

[39] Herman K. Tabish, *Rate design roundup: demand charges vs. time-based rates*, UTILITY DIVE (Jun. 2 2016).
[40] Coley Girouard, Behavioral demand response gives Baltimore Gas and Electric a business reason to reduce peak usage, Utility Dive (Jan. 28, 2019) *available at*, https://www.utilitydive.com/news/behavioral-demand-responsegives-baltimore-gas-and-electric-a-business-reas/546895/
[41] *Id.*

In addition to rate design and ratemaking, the Draft EMP identifies the importance of data sharing. NRDC agrees that customer data is a critical component of DER deployment and utility business model reform. Coupled with AMI deployment, customer data collection, sharing, and analysis can provide significant benefits to both ratepayers and utilities. Specifically, NRDC supports the EMP Committee's position that as AMI is implemented state-wide "NJBPU must concurrently issue guidance on such concerns as data standardization, ownership, privacy, and third-party access."[42] Again, New Jersey is in the position to leverage lessons learned from other states; including California, Illinois, New York, and Texas.[43] To that end, the EMP Committee should examine and include the 10-point framework outlined by the Mission: data Coalition in its comments on this proceeding, and in the CEA proceeding. Those 10 points are:

1. Definition of Energy Data: The definition should include customer data (name, address, phone number, etc.), billing data, usage data, and system data necessary for demand response data.

2. Format and Transmission Protocol: The BPU should find a nationally-recognized, open standard, that adhere to industry best-practices to transfer standard customer data to authorized third parties. One example of such a transmission protocol is Green Button Connect ("GBC").

[42] *Id.* at 78
[43] Murray et. al., ENERGY DATA: UNLOCKING INNOVATION WITH SMART Policy, Mission:Data, at 3. (Dec. 2017).

3. Third Party Eligibility Criteria: There should be a standard set of eligibility requirements for third parties to electronically receive customer data from utilities.

4. Binding Terms of Use: Third parties should be required to agree to binding terms of use when registering with a utility to receive customer data that includes a privacy policy, prohibited uses, as well as a waiver of liability.

5. Clear Authorization Language: Standardized information that is clear and simple to understand should be provided to the customer prior to consenting to have their data shared.

6. Streamlined Customer Experience and Ease-of-Use: Require utilities to adhere to best practices in online authorizations to streamline the customer experience.

7. Provide Certain Platform Features for Third Parties: This includes testing and production environment as well as the ability for customers to authorize two entities at once.

8. Revocation Process: The Revocation process should describe how, and under what circumstances, a customer may revoke a third party's authorization.

9. Enforcement Process Against Bad Actors: The Board should define its enforcement processes against bad actors to clarify the roles and responsibilities of utilities and third parties.

10. Quality of Service: Transparency: utilities should have a quality of service metric so that they are held to a high standard in the provision of their information and technology systems, such as uptime

NRDC is encouraged by the EMP Committee's recommendation that "NJBPU should establish statewide standards for utilities and third-party providers. . . "as well as its identification of "Green Button Connect My Data."[44] In the Final EMP, NRDC recommends the committee include the above listed data access framework to help guide any further action by BPU on data access.

v. Advanced Metering Infrastructure

Advanced Metering Infrastructure ("AMI") is a prerequisite to fully implement the smart rate design and data access policies discussed in this subsection. NRDC agrees with the EMP Committee that AMI is a "foundational component of a modernized grid," and that it will "enable the state's transition to a dynamic, bidirectional electricity grid."[45] However, the deployment of AMI without accompanying policies that fully leverage its capabilities would be a waste of ratepayer funds. Instead, AMI should be used as a tool to enhance smart rate design and data usage, rather than a technology used in isolation.

[44] Draft EMP at 78.
[45] Draft EMP at 78.

The Draft EMP correctly identifies many of the key issues and desired policy outcomes as it relates to grid modernization, including ratemaking, rate-design, AMI, and data access that together will provide significant opportunities for the state to modernize its grid and ensure utilities, customers, and third parties all benefit from the deployment of new technologies. As the EMP Committee drafts the final EMP, NRDC hopes it will include additional information on each sub-section of Goal 5 to provide a strong foundation for implementation efforts that will be required to meet the goals of the EMP.

(3) The EMP should work to identify a clear role for utilities, the Department of Transportation, and third-parties to work together towards vehicle electrification policies that utilize state-wide and regional approaches to tackling vehicle emissions while maximizing the benefits EVs can have for the electric grid.

As the largest source of GHG emissions, NRDC commends the EMP Committee for including clean and reliable transportation as the top-line strategy to meet the goals of E.O.28 as well as the GWRA. Reducing emissions from the transportation sector is a vital component of reducing New Jersey's overall carbon footprint. In its initial comments, NRDC identified three high-level barriers that must be overcome to successfully electrify the transportation sector.

First, while the number of available EV models is growing rapidly and used EVs are starting to become available, upfront vehicle costs are still a barrier for some consumers and fleet operators. Second, there is an overall lack of education and awareness of EVs that persist among customers and auto dealerships alike. Third, concerns about access to convenient charging remains a major impediment to EV purchases, particularly for those individuals who lack the capacity to install charging equipment where they live. NRDC is pleased that the Draft EMP identified each of

these barriers *Goal 1.1.2* which states, "the largest barriers to mass adoption of passenger EV's include range anxiety, the high upfront capital costs compared to their gas powered counterparts, limited model choices, and the lack of consumer and dealer awareness."[46] In the Final EMP, NRDC recommends the Committee expand upon possible solutions to overcome these barriers.

Regarding EV charging stations, NRDC urges the EMP Committee and the BPU to clarify through a policy statement or Board order whether owners and operators of EV supply equipment ("EVSE"), or charging stations, are exempt from utility regulations, as many jurisdictions throughout the country have already done. Non-utility providers of EV charging infrastructure should not be regulated as public utilities, as there is no public policy need to grant those entities exclusive service territories, and regulation will put an unnecessary burden on charging station companies and the BPU. Alternatively, were regulated public utilities to propose deploying EV charging infrastructure and receive cost recovery, the proposals should be subject to BPU review and approval to ensure they maximize the benefits to utility customers, the grid, and the environment. That being said, New Jersey's electric utilities have a central role to play in the transition toward clean transportation by managing EV charging where feasible, developing programs and policies to minimize grid impacts, facilitating the deployment of EVSE, and helping to address education and outreach gaps.

Specifically, there are three discrete roles for utilities to play that the EMP Committee should include in its Final EMP: (1) utilities should implement programs and improve rate structures to maximize customer savings and promote effective management of new EV load; (2) utilities

[46] Draft EMP at 30.

should help to accelerate strategic deployment of EV charging infrastructure needed to support widespread EV adoption, particularly through enabling third-party investment and expanding access to the benefits of electrified transportation for underserved market segments, including low- and moderate-income customers; (3) utilities should engage in education and outreach regarding the benefits of vehicle electrification.

In addition to better articulating the role for utilities in EV deployment, the Final EMP should place clear and greater emphasis on the need for New Jersey to participate in and lead the development of a regional policy to clean up and modernize the transportation sector through the Transportation and Climate Initiative ("TCI"). TCI is a regional collaborative of 12 Northeast and Mid-Atlantic states, including New Jersey, and Washington D.C.[47] In 2018, New Jersey and its TCI partners held a series of public listening sessions throughout the region to solicit stakeholder input on the opportunities, challenges, and benefits of a modern, low-carbon transportation system for the region, and potential policies to achieve it.[48] At these listening sessions, stakeholders expressed overwhelming support for a regional clean transportation policy.[49] Accordingly, in December 2018, New Jersey and the majority of TCI jurisdictions committed to develop a regional clean transportation policy together by the end of 2019.[50]

[47] TCI States include New Jersey, New York, Pennsylvania, Connecticut, Massachusetts, Maine, Maryland, Delaware, New Hampshire, Vermont, Virginia, and Rhode Island.
[48] Transportation and Climate Initiative, *On the Road to a Low-Carbon Transportation Future: The TCI Regional Listening Sessions; What We Heard: Summary Report* (Nov. 14, 2018), https://www.transportationandclimate.org/system/files/TCI%20Listening%20Session%20Summary%20Report_11-14-2018.pdf.
[49] *Id.*
[50] Transportation and Climate Initiative, *Transportation & Climate Initiative Statement* (Dec. 18, 2018), https://www.georgetownclimate.org/files/Final_TCI-statement_20181218_formatted.pdf.

The regional policy New Jersey and its TCI partners are developing would utilize a "cap-and-invest" approach to create an enforceable, declining limit on transportation carbon pollution and generate new funding for clean and modern transportation solutions.[51] This approach would build on lessons learned through the successful, decade-long and continuing regional effort to reduce climate pollution in the electricity sector under the Regional Greenhouse Gas Initiative (RGGI), which New Jersey originally helped launch in 2009, and, under Governor Murphy's leadership, will rejoin in 2020. A cap-and-invest policy for transportation is expected to work as follows. First, the policy would establish a regional, declining cap on the amount of carbon pollution from vehicle fuels across participating states. Next, the cap would be enforced by requiring major fuel suppliers to buy carbon allowances, in proportion to the pollution from the fuels they sell. These allowances would be sold at auction up to the cap level, and, as the cap ratchets down, suppliers would have to reduce their pollution. Finally, auction proceeds would be invested by New Jersey and other states in programs to accelerate the transition to cleaner, more efficient, and more affordable transportation options for all.[52]

States could prioritize investments under a TCI policy in projects that benefit communities most harmed by pollution; improve public transportation and public health; accelerate the deployment of clean, electric buses and trucks; and lower the cost of purchasing clean vehicles, all while helping to grow our economy and create jobs.[53] To help inform the policy design, New Jersey and the other TCI states have been soliciting public input through a series of public workshops in

[51] *Id.*
[52] Transportation and Climate Initiative, "TCI Video: Cap and Invest 101" (Apr. 22, 2019), https://www.transportationandclimate.org/tci-video-cap-and-invest-101; *see also* NRDC, *Modernizing New Jersey's Transportation* (Mar. 2019), https://www.nrdc.org/sites/default/files/modernizing-newjersey-transportation-fs.pdf.
[53] *See, e.g.*, NRDC, *Transportation Reimagined: A Roadmap for Clean and Modern Transportation in the Northeast and Mid-Atlantic Region* (July 2018), https://www.nrdc.org/sites/default/files/transportation-reimagined-roadmap-ne-midatlantic-report.pdf.

2019. This included a workshop held in Newark on May 15, 2019, that focused on how to advance equity and create opportunities for all communities under the TCI policy framework.[54]

A regional TCI cap-and-invest policy should be complementary to, and not a replacement for, other clean transportation policies, including those mentioned above. While a TCI carbon cap would also result in reductions in other transportation co-pollutants that impair air quality, it is critical that New Jersey simultaneously implement and adopt additional strategies both under TCI—in determining investment priorities—and through other complementary investments and policy efforts. Such efforts could include, for example, policies to ensure affordable, transit-accessible housing; create safe walkable and bikeable streets; and accelerate transit, freight, and port electrification, to ensure improvements in local air quality, particularly in communities that are overburdened by pollution from transportation and other sources. These policies should be developed in partnership with communities, with substantial opportunities for citizen input.

In addition to helping ensure broader and more equitable benefits, implementing a wide range of complementary clean transportation policies alongside TCI would also make it easier to achieve a cap on transportation carbon pollution, by making clean transportation options more accessible and available. Participating in a regional TCI policy would likewise complement these other New Jersey-specific strategies, including by providing a new source of clean transportation funding and by scaling up New Jersey's efforts to ensure that the region's interconnected transportation system supports clean mobility. An ambitious carbon pollution limit under a TCI

[54] Transportation and Climate Initiative, "TCI Workshop: Advancing Equity & Creating Opportunities for All Communities" (May 15, 2019), https://www.transportationandclimate.org/tci-workshop-advancing-equity-creating-opportunities-all-communities/

policy—consistent with achieving New Jersey and other states' economy-wide climate pollution reduction targets—would also help ensure that the region's comprehensive efforts to clean up transportation add up to the pollution reductions we need to address the climate crisis.

Given the potential for TCI to provide an overarching, regional framework for carbon pollution reductions in transportation and to provide significant new funding for New Jersey's vehicle decarbonization efforts, the EMP Committee should recommend that DEP, DOT, and BPU work collaboratively to ensure that New Jersey is a leader in the regional policy discussions among TCI states. This includes leading in the policy design discussions to create an ambitious regional commitment to cut transportation carbon pollution under TCI by the end of 2019, as well as efforts into 2020 and beyond to finalize, adopt into state law, and implement a TCI policy in New Jersey and across the region. Building on efforts under RGGI, such a policy should include a commitment to regularly assess, update, and revise the TCI policy, based on the states' own analyses and input from stakeholders, to ensure the policy is effective and achieving the intended benefits. In addition to actively participating in the TCI policy development discussions, the State should also begin to identify, with stakeholder input, the in-state policy initiatives it would pursue with TCI allowance auction proceeds as well as the suite of other complementary clean transportation policies that are needed to address the climate crisis and protect public health.

(4) The EMP Committee Should Include Principles for Distributed Energy Resource ("DER") integration to ensure clean energy technologies are deployed in a manner that maximizes economic, environmental, and grid benefits.

Similar to utility business model reform, the EMP Committee should take a holistic look at DER technologies across the EMP into a single section on DER integration alongside electrification, grid modernization, and the integrated energy plan being developed by RMI. In *Goal 2.1.5*. the

Draft EMP states that NJBPU plans to work with stakeholders to "update, enhance, streamline, and accelerate grid interconnection processes without lessening the safety or reliability of the electric distribution system in order to improve the amount and location of DER on the electric distribution grid."[55] Additionally, in *Goal 5.1*, the EMP Committee identifies the need for planning and implementation of distribution system upgrades, the establishment of Integrated Distribution Plans ("IDPs"), bi-directional grid power flow, non-wire solutions, and volt/var control.[56] Furthermore, throughout other sections of the EMP, the Committee identifies several DER technologies such as EV's, in *Goal 1*, renewable energy and storage in *Goal 2*, and efficiency in *Goal 3*.

While NRDC agrees with the EMP Committee that it should work to improve the amount and location of DERs on the electric distribution grid, the Final EMP should focus on DER integration as described by *The Role of Distributed Energy Resources in New Jersey's Clean Energy Transition* authored by Gridworks Grid Lab and the Center for Renewables Integration provides a set of recommendations that New Jersey should incorporate into its Final EMP.

DERs include a wide variety of technologies including renewable distributed generation such as energy efficiency, solar PV, smart inverters, battery storage, demand response, and electric vehicles that in isolation provide numerous grid and customer benefits. For example, clean DG systems, such as rooftop solar provide opportunities for customers to lower their energy bills, while reducing demand for distribution infrastructure, and providing clean energy to New

[55] Draft EMP at 48.
[56] *Id.* at 73.

Jersey's grid. Similarly, behind-the-meter battery storage can provide a dispatchable source of generation, while providing voltage regulation and local resiliency and reliability services.[57]

DERs can be combined to maximize their value to the grid and to customers. For example, Grid Lab provides the example of a customer-sited solar and storage installation, paired with an electric vehicle and regulated by a smart inverter can generate power when needed, store and discharge that power in response to grid conditions, energize the transportation needs of the customer, and contribute to the grid operators regulation of voltage at the point of interconnection.[58] Based on these services and others, NRDC recommends the following be included in the Final EMP:

- Create clear interconnection procedures for DERs based on collaborative stakeholder engagement and iterative processes
- As discussed in Section 1, create a compensation framework that properly values DER investments and services
- Target incentives to support local clean power generation in LMI and EJ communities
- Plan for the adoption of smart inverters
- Embrace electrification of buildings and transportation through non-wires alternatives, electric mobility, and smart charging
- Maintain an equity lens in planning
- Conduct grid planning in a holistic fashion.

[57] There are numerous benefits provided by the listed technologies. For example, demand response can shift peak, while the smart charging of electric vehicles can provide the flexibility to respond to grid events when aggregated.
[58] Grid Lab report at 7

New Jersey is further ahead on some DER technologies than others. Namely, the state already has a robust solar market that is currently undergoing a restructuring through the State's Solar Transition Stakeholder Process required by the CEA. The stakeholder process in that proceeding is in-depth and will ensure the state meets its RPS targets while keep costs affordable for ratepayers and keep the solar industry healthy. Additionally, the BPU already completed its first wind procurement, with two more scheduled for the near future. However, given the breadth of the Draft EMP, and the large number of regulated proceedings that will need to take place for the successful implementation of the EMP and CEA goals, the Final EMP should include principles on DER integration so that they can be reflected throughout the clean energy implementation process in New Jersey. If holistic criteria and goals for DER integration are included in the Final EMP, New Jersey will be well-positioned to maximize the benefits of DER as it transforms its energy sector.

C. CONCLUSION

NRDC appreciates this opportunity to provide constructive comments to the EMP Committee as it finalizes the Final EMP for release in 2019. New Jersey is at a critical inflection point in its clean energy future. The legislative mandate and legal framework exist to make New Jersey a leader in climate pollution mitigation strategies and the clean energy economy. The EMP will be New Jersey's visionary document to make guide the state to its 2050 goals. As such, NRDC is confident the EMP Committee will release a Final EMP that reflects new and innovative effective policy solutions for tackling climate change.