

SOMERSET COUNTY ENERGY COUNCIL REVIEW COMMENTS
2019 DRAFT STATE ENERGY MASTER PLAN (DSEMP)

DSEMP GOALS	SCEC REVIEW COMMENTS
Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector (Pg. 27)	
Goal 1.1: Electrify the Transportation Sector	<ul style="list-style-type: none"> • It is critical that all factors be taken into consideration if NJ is to be successful in creating an electrified transportation system that is sustainable and resilient, including the impacts on infrastructure systems and associated upgrade costs. • EVs weigh more than comparable conventional vehicles, and could have a negative impact on road infrastructure due to increased wear and tear. Updated roadway design and construction standards and corresponding roadway upgrades may be needed to achieve this goal, and likely increase transportation infrastructure costs. • The transition to EVs will result in reduced gasoline tax revenue. Alternative funding sources will be needed to finance transportation infrastructure in the future. • The update of regional, county and local master plan transportation/circulation elements are needed that support the transition to electric vehicles. The process for developing these plans should be maximized as a way of increasing public understanding and buy-in.
1.1.1 Support the deployment of 330,000 light-duty electric vehicles (Eves) on the road by 2025, per the Zero Emission Vehicle MOU	<ul style="list-style-type: none"> • Re-design of the energy system, grid modernization and integration of DER must be accomplished in a resilient manner as a precursor to achieving this goal. • The timeline for accomplishing the energy system upgrades needed to support EV deployment must be a factor in the establishment of this goal.
1.1.2 Deploy electric vehicle charging infrastructure throughout the state	<ul style="list-style-type: none"> • "Last Mile" issues must be resolved. Electric distribution system upgrades will be needed to meet load requirements. • "Peak" and "of-peak" demand timeframes will shift as EV deployment increases, leading to potential "last mile" overloading and power supply constraints. Capacity enhancements must be designed and implemented (for example distribution cable upgrades), for which funding must be identified. • Smart/managed chargers that control when charging occurs will be necessary to achieve this goal.
1.1.3 Encourage electric vehicle adoption through incentives for charging station installation in certain locations and the purchase of electric vehicles	<ul style="list-style-type: none"> • Market demand for EV charging stations should result in increased deployment by the private sector. The need for public incentives for EV charging stations should be monitored and evaluated over time. • Assurance that power generation companies have the ability to meet projected EV demand is needed. Charging station installation mandates, if they add to the cost of doing business in this area ,could become a disincentive for businesses to locate here unless they help attract and retain quality employees.

1.1.4 Increase consumer and fleet owner awareness and acceptance of electric vehicles	<ul style="list-style-type: none"> • Strategies that raise consumer awareness of the benefits of clean transportation and increase their acceptance of EVs are needed.
1.1.5 Rollover the state light-duty (passenger) fleet to electric vehicles	see 1.1
1.1.6 Continue to improve New Jersey Transit's environmental performance	
1.1.7 Increase clean transportation options in low- and moderate-income and environmental justice communities	
1.1.8 Partner with industry to develop incentives to electrify the medium-and-heavy-duty vehicle fleet with battery or fuel cell technology, or to support R&D that will enable such electrification	see 1.1
1.1.9 Explore policies that can accelerate adoption of alternative fuels in the transportation sector	<ul style="list-style-type: none"> • A more adequate definition for zero emission vehicles should be included in the plan. • Financial incentive programs have been developed in Germany and other countries that encourage residents to drive less, which should be examined in terms of potential applicability here.
Goal 1.2: Decrease vehicle miles traveled	
1.2.1 Identify opportunities to reduce vehicle miles traveled	<ul style="list-style-type: none"> • Align the DSEMP with land use planning by reinvigorating the State Planning Process. Undertake a comprehensive update of the Plan to provide direction to State agencies including the Department of Transportation, the Board of Public Utilities and integrate land use and infrastructure planning, which is needed to achieve this goal. • Promote the principles of smart growth that align infrastructure investments with mixed-use, compact, center-based development patterns which support the provision of pedestrian and bicycle connections and access to mass transit. • Incentivize development patterns that increase mobility options, reduce auto dependence and increase the efficiency of goods and service distribution. • The MPOs such as the North Jersey Transportation Planning Authority should be a partner in this effort.

1.2.2 Accelerate the implementation of the Transit Village Program	<ul style="list-style-type: none"> • Grants should be provided to municipalities for implementing transit-oriented development plans. • The State should prioritize investments in Transit Village municipalities.
1.2.3 Relieve congestion and idling throughout New Jersey	
Goal 1.3: Reduce port and airport emissions	
1.3.1 Support electrification of diesel-powered transportation and equipment at the ports and airports	
1.3.2 Support a diesel truck buy-out program	
1.3.3 Support Community Solar developments on port property	
Other	<ul style="list-style-type: none"> • The extraction of cobalt and lithium is needed for EV battery production. Mining issues have become a global concern, which can impact battery production and availability. • Current studies estimate that there are 17 years-worth of these minerals remaining to support EV battery production if global EV deployment projections are reached. Investment in the development of alternative battery technologies; the identification of new mineral supply sources and other solutions are needed. • Environmental impacts associated with EVs are not fully understood. There is currently no proper system for battery recycling, decreasing overall EV industry sustainability. • The high cost of batteries is another concern. Battery replacement costs could increase to the point where achieving EV deployment goals are impacted.

Strategy 2: Accelerate Deployment of Renewable Energy and Distributed Energy Resources

<p>Goal 2.1: 100% clean power by 2050</p>	<ul style="list-style-type: none"> • Maximize development of renewable natural gas sources, including landfills, sewage treatment plants, food waste and farms. • Address the importance of energy diversity from a resiliency perspective. • Strategies and goals aimed at eliminating greenhouse gas emissions must be enhanced in the DSEMP. Reducing and mitigating emissions from natural gas consumption is a core problem that must become a priority goal. • "Negative emissions strategies that off-set or capture and store carbon are needed that are tied to natural gas power plants that must remain operational for energy reliability and resiliency purposes. Other carbon capture strategies in addition to terrestrial sequestration must be included in the DSEMP. • Enhance energy system resilience. For example, once storage is economically feasible, couple it with solar arrays (microgrids) so that they can provide power behind the meter during power outages.
<p>2.1.1 Establish a 50% RPS by 2030</p>	<ul style="list-style-type: none"> • Promote voluntary purchasing of green power by linking the NJ Power Switch website to the Green-e website and promoting same. • Support adoption of energy elements within municipal master plans and associated implementation ordinances. Use the energy element to guide solar and DER development in coordination with land use and infrastructure planning. • A model energy plan element and the provision of training opportunities for plan development should be provided.
<p>2.1.2 Establish specific in-state Class I renewable energy goals and milestones including but not limited to solar and offshore wind generation to enable a significant majority of electricity consumption to be produced from renewable resources by 2050</p>	<ul style="list-style-type: none"> • The DSEMP must address the end-of-life of solar panels and recycling thereof. The costs and environmental impacts of panel production, installation and recycling must be taken into account.

<p>2.1.3 Model scenarios and pathways to achieve 100% clean, carbon-neutral electricity generation by 2050 with consideration for least-cost options</p>	<ul style="list-style-type: none"> • Set deadlines for accomplishing net-zero carbon emissions from new and existing natural gas power plants, processing and conveyance systems. • Place a moratorium on new natural gas pipelines in NJ except for renewable natural gas sources. • Establish deadlines for closing remaining in-state coal plants and out-of-state coal plants that contribute to the PJM region of which NJ is a part. • The DSEMP goals of 50% RPS by 2030 and 100% RPS by 2050 goals will lead to significantly increased retail electricity costs (possibly doubled). Energy efficiency improvements may offset this rate increase. However, the electrification of the built environment will drive up total costs since heat pump temperatures reach only about 120 degrees, requiring at least a doubling of heat exchange. The proposed modeling is critical, and may not lead to a pathway with acceptable costs that meet the stated goals.
<p>2.1.4 Explore regulatory authority to achieve 100% clean energy by 2050</p>	<ul style="list-style-type: none"> • The State should offer incentives and resources to help offset costs associated with achieving this goal.
<p>2.1.5 Update interconnection processes to address increasing DER and EV charging</p>	
<p>2.1.6 Develop a mechanism to compensate DER for its full value stack at the regional and federal level</p>	
<p>2.1.7 Develop low-cost loans or financing for DER</p>	<p>The provision of low-cost loans and other financing mechanisms for DER development is strongly supported by the SCEC.</p>
<p>2.1.8: Coordinate permitting and siting processes</p>	<ul style="list-style-type: none"> • The goal to coordinate permitting and siting processes at the municipal level states that municipalities should “assess methods to improve coordination, transparency, and predictability” to reduce soft costs. We suggest that the assessment also strive to reduce approval time, which can take 3 months from contracting to installation for a simple residential rooftop system. Perhaps the NJDEP’s Office of Permit Coordination or other state agency could develop or endorse model ordinances and processes that municipalities could adopt to meet these goals. (See Sustainable Jersey’s “Make your town solar friendly” action and “Guidance for creating a solar friendly ordinance.”)

<p>2.1.9: Begin stakeholder engagement to explore rules to limit CO2 emissions from Electric Generating Units</p>	<ul style="list-style-type: none"> • Presuming that gas-powered plants will be needed for reliability, the state needs to consider promoting/requiring carbon capture technologies for point-source emissions, CO₂-separating power generators¹, and offshore carbon storage capabilities² (which may impact wind turbine siting). • Carbon offset programs will be needed. The recently-adopted NJ RGGI rules allocate funding for accelerating carbon storage in forests and tidal marshes. RGGI has a carbon offset protocol for forests but one for tidal marshes needs to be developed. Programs and offset protocols for wetlands and soils (from improved farming practices) are also needed. The State may want to partner with/promote the federal Environmental Quality Incentives Program (EQIP), which provides financial and technical assistance to agricultural and forestry producers.
<p>Goal 2.2: Develop 3500 MW of offshore wind power by 2030</p>	<ul style="list-style-type: none"> • The location and design of off-shore wind facilities must be accomplished in a way that does not preclude the ability to sequester carbon in the geological formation under the sea floor along the eastern Atlantic coast which has been documented to be suitable for this purpose by the U.S. Geologic Service in partnership with research universities.
<p>2.2.1 Develop offshore wind power generation</p>	<p>See 2.1.9</p> <ul style="list-style-type: none"> • This effort is supported by the Energy Council.
<p>2.2.2 Develop the offshore wind supply chain</p>	
<p>2.2.3 Develop job training programs to support the offshore wind industry</p>	<ul style="list-style-type: none"> • Research and development focused on battery technology and battery recycling is needed, which is a potential green technology industry growth opportunity that could be promoted through business incentive programs such as business incubators and university partnerships. • The expansion of workforce training programs that support the development of all renewable DERs should be supported in the DSEMP.
<p>2.2.4 Support the offshore wind industry through port infrastructure development and inter-regional collaboration</p>	
<p>Goal 2.3: Maximize local (on-site or remotely-sited) solar development and DER by 2050</p>	
<p>2.3.1 Establish and grow a community solar program</p>	<ul style="list-style-type: none"> • The provision of specific guidance to counties and municipalities on how they can effectively support community solar is needed. Technical assistance should be provided to assist them in developing and adopting Master Plan - Sustainable Energy Elements and associated implementation ordinances. Changes to MLUL may be appropriate to ensure and broaden application thereof. • Community solar subscribers will need price assurances, such as a guarantee that their solar electricity will not cost more than electricity from the grid. This is especially true for LMI subscribers, who will need immediate savings rather than making an upfront investment with payback over time.

2.3.2 Transition to a successor solar incentive program	<ul style="list-style-type: none"> • Prevent a gap in solar incentives by extending the current SREC program until the successor program is in place or by retroactively providing incentives from the successor program. • The reduction of SREC incentive lifetimes from 15 years to 10 years made some proposed institutional solar projects no longer viable. The successor program should be carefully designed to ensure that solar projects are sufficiently incentivized.
2.3.3 Maximize solar rooftop and community solar development in urban and LMI communities using the local workforce	<ul style="list-style-type: none"> • see 2.3.1 • The Council fully supports adding solar training programs to community college workforce programs and vo-tech schools.
2.3.4 Mandate non-wires solutions on state-funded projects, including new construction and rehabilitations	<ul style="list-style-type: none"> • State guidelines for non-wires solutions for state-funded building projects should be voluntarily adopted and incentivized at the county and municipal levels.
2.3.5 Develop mechanisms for achieving 600 MW of energy storage by 2021 and 2,000 MW of energy storage by 2030	
2.3.6 Maximize the use of source separated organic waste for energy production and encourage anaerobic digestion for electricity production or natural gas pipeline injections	<ul style="list-style-type: none"> • The adoption of proposed bill [], in its original form is recommended to achieve this goal.
Other	<ul style="list-style-type: none"> • To incentivize in-state solar projects, the BPU should require that a percentage of the Renewable Portfolio Standards (RPS) be generated in-state and that this percentage be increased over time.
Strategy 3: Maximize Energy Efficiency and Conservation and Reduce Peak Demand	
Goal 3.1: Increase New Jersey’s overall energy efficiency	<ul style="list-style-type: none"> • Clarification is needed regarding the role of the proposed energy efficiency advisory group, how its members will be selected and other aspects.
3.1.1 Implement the Clean Energy Act requirement that electric and gas utilities reduce consumption by at least 2% and .75%, respectively, including the establishment of clear performance indicators and evaluation, measurement, and verification methods while continuing to review and develop cost recovery mechanisms for utility-run energy efficiency and peak load reduction programs	<ul style="list-style-type: none"> • Enact an Energy Efficiency Portfolio Standard. • Energy efficiency is the most cost-effective solution. Therefore this goal should be set higher than 2% per year. • This goal should be clarified to indicate that these are annual consumption reduction goals. • Incentives are needed that encourage landlords to implement energy conservation measures, which is more effective than relying on tenants to do so.

<p>3.1.2 Increase funding for, awareness of, and access to New Jersey’s Clean Energy Program and its suite of statewide programs</p>	<ul style="list-style-type: none"> • The current energy audit protocol does not consider the relative efficiency of a building. Buildings with Energy Star scores get the same recommendations regardless whether they are in the lowest percentile or highest percentile. Therefore, prioritize and examine in greater detail buildings that are poor performers. • An increase in funding to implement the Clean Energy Program is supported. • NJPACE is also supported as a strategy for financing energy efficiency improvements.
<p>3.1.3 Adopt equitable clean energy financing mechanisms that enable greater penetration of energy efficiency opportunities for all customers</p>	<ul style="list-style-type: none"> • Modify the legislation for PACE financing. • Establish an independent Green Bank for financing efficiency projects.
<p>3.1.4 Streamline marketing, education, awareness, and program administration</p>	<ul style="list-style-type: none"> • The C & I Incentive program should be better aligned with industry practices and timelines.
<p>3.1.5 Revise street lighting tariffs as necessary to incentivize mass adoption of energy efficiency initiatives</p>	<ul style="list-style-type: none"> • This goal is supported by the Energy Council.
<p>Goal 3.2: Manage and reduce peak demand</p>	
<p>3.2.1 Support and incentivize new pilots and programs to manage and reduce peak demand</p>	<ul style="list-style-type: none"> • Promote thermal energy storage.
<p>3.2.2 Pilot alternative rate design to manage EV charging and encourage customer-controlled demand flexibility</p>	
<p>Goal 3.3: Strengthen building and energy codes and appliance standards</p>	
<p>3.3.1 Advocate for net zero carbon buildings in new construction in the upcoming 2024 International Code Council code change hearings</p>	<ul style="list-style-type: none"> • Some members feel this may be an overly ambitious goal. Development of net-zero buildings is very difficult and would be hard to mandate without significant economic impacts. • Direct the NJ Department of Community Affairs (DCA) to allow municipalities to adopt the International Green Construction Code for "green zones", redevelopment projects and any projects that are receiving tax credits.
<p>3.3.2 Establish mechanisms to increase building efficiency in existing buildings</p>	<ul style="list-style-type: none"> • Adopt the International Green Building Code for state buildings and for projects receiving tax credits or other incentives.

3.3.3 Build state-funded projects and buildings to the tightest thermal envelope	<ul style="list-style-type: none"> The goal should be to achieve the highest energy efficiency through integrated design, which is much more holistic than addressing just the thermal envelope.
3.3.4 Improve energy efficiency and retrofit state buildings to the tightest thermal envelope	See 3.3.3
3.3.5 Increase compliance of mandated building and energy codes	<ul style="list-style-type: none"> Improved enforcement of compliance by the NJ Department of Community Affairs is strongly supported by the Energy Council.
3.3.6 Establish benchmarking and energy labeling	
3.3.7 Adopt more stringent appliance standards	
Strategy 4: Reduce Energy Use and Emissions from the Building Sector	
Goal 4.1: Start the transition for new construction to be net zero carbon	<ul style="list-style-type: none"> Building construction codes must be updated to include higher energy efficiency and conservation standards. Investments in research and development of technologies that will enable the electrification of the building sector are needed. This represents a technology industry growth opportunity for which public-private partnerships and the establishment of technology incubators with research universities should be supported.
4.1.1 Expand and accelerate the current statewide net zero carbon homes incentive programs for both new construction and existing homes	
4.1.2 Study and develop mechanisms and regulations to support net zero carbon new construction	<ul style="list-style-type: none"> Incentives that support the expansion of heat pump technology utilization is needed (such as air-to-water systems that are not currently available in the U.S.)
4.1.3 Develop EV ready and demand response ready building codes for new multi-unit dwelling and commercial construction	
Goal 4.2: Start the transition for existing oil- and propane-fueled buildings to become electrified	

4.2.1 Incentivize transition to electrified heat pumps, hot water heaters, and other appliances	<ul style="list-style-type: none"> • Building electrification and associated rate increases will lead to a high cost burden on commercial real estate, which according to the DSEMP accounts for 25.6% of NJ's total end-use energy consumption. Capital expenditures for efficiency improvements, EV charging and demand management could increase costs by \$12 to \$15 per sq. ft., excluding the cost of heating system conversion. Financial incentives will be needed in order to attain this goal.
4.2.2 Develop a transition plan to a fully electrified building sector	<ul style="list-style-type: none"> • It is unclear how the transition to fully-electrified buildings will be monitored and enforced, particularly for commercial buildings. Will mandatory energy usage reporting be necessary, carbon footprints for facilities be publicly disclosed and penalties levied for non-compliance? (See NYC Urban Green Building Emission Law Model, Local Law 97).
Strategy 5: Modernize the Grid and Utility Infrastructure	
Goal 5.1: Plan for and implement the necessary distribution system upgrades to handle increased electrification and integration of distributed energy resources	<ul style="list-style-type: none"> • Require electric utilities to plan and upgrade networks in accordance with the PEER Rating System. • Make energy system resilience a high priority. Identify and implement energy system design strategies and locate system components in order to minimize vulnerability to natural and man-made hazards. Ensure utility companies and grid operators maximize and update emergency response strategies concurrent with the design and roll-out of new grid and DER technologies.
5.1.1 Require utilities to establish IDPs within one year to expand and enhance the location and amount of DER and EVs on the electric distribution system	<ul style="list-style-type: none"> • Coordinated access to secure, adequate, dedicated Broad Band services by for electric utilities is needed to accomplish this goal.
5.1.2 Support bi-directional grid power flow	
5.1.3 Assess integration of Volt/Var Control	
5.1.4 Instruct utilities to propose and adopt non-wires solutions that encourage complementary private sector investments when seeking expansion or upgrade of the distribution and transmission system or generation sources	
Goal 5.2: Exercise regulatory jurisdiction and increase oversight over transmission upgrades within the state to ensure prudent investment and cost recovery from New Jersey ratepayers	<ul style="list-style-type: none"> • Greater transparency regarding planning, design, construction phasing, cost, operation, monitoring and reporting of grid modernization and transmission system upgrades is needed in order to provide a solid basis for accomplishing this goal.

5.2.1 Exercise regulatory jurisdiction to review and approve the need for transmission projects	
5.2.2 Advocate for Return on Equity (ROE) reform	
5.2.3 Advocate for federal policy changes to address inter-regional cost allocation issues	
Goal 5.3: Modify current rate design and ratemaking process to empower customers' energy management, align utility incentives with state goals, and facilitate long-term planning and investment strategies	
5.3.1 Strategic and coordinated rollout of Advanced Metering Infrastructure	<ul style="list-style-type: none"> • Adopt advanced metering as soon as possible. More studies are not required. • Adopt advanced technology that will not become obsolete or that will not handle advanced energy reduction/timing strategies. • Identify and implement cyber-security standards and practices.
5.3.2 Develop standards to ensure customers have control of and accessibility to free and standardized energy management data	
5.3.3 Pilot and implement modified rate design to encourage customer-controlled demand flexibility, managed electric vehicle charging, and support demand response programs	
5.3.4 Assess existing and modified utility rate structures and consider how to ensure rate structures are aligned with implementation of state energy goals	

Other	<ul style="list-style-type: none"> • Strengthening the resiliency of the energy system must be a primary consideration in the grid modernization process and transition to clean energy. • Elevate the importance of grid modernization and resilience; and prioritize investments therein, since it is a necessary platform that supports all other strategies in the DSEMP as well protects the security and stability of communities and economies and expedites the hazard recovery process. • Incentivize partnerships among research and engineering universities to strengthen and expand curriculum, degree programs and professional certifications; as well as support research and development in advance energy and grid technology and economics.
Strategy 6: Support Community Energy Planning and Action in Low- and Moderate-Income and Environmental Justice Communities	
Goal 6.1: Develop a comprehensive Community Energy Plan in concert with local community groups to identify energy needs and establish ways to participate in and benefit from the clean energy	<ul style="list-style-type: none"> • See 2.1.1. • The existing organizational framework should be maximized and supported, rather than re-inventing or duplicating efforts. • Support tapping into existing local Green Teams and Sustainable Jersey outreach as vehicles to help organize local CEP assessment and feedback on how “all” can participate and benefit. • Maximize use of “free” energy audits offered by utility companies; provide subsidies or grant programs targeting EE measures implemented on residential level. • Link municipal revitalization efforts with comprehensive community energy planning (by assessing solar RT potential, apprentice training, industry partners, etc.). • Promote the use of county guidance, resources, and tools (i.e. online residential energy assessment tool).
Goal 6.2: Support local, clean power generation in low- and moderate-income and environmental justice communities	<ul style="list-style-type: none"> • Support installation of RT & community solar projects by the local workforce (once training has been provided and certification achieved). • Support the creation of training programs for developing the clean energy workforce. (tap into programs already under way at RVCC's Workforce Training Center and expand opportunities there).
6.2.1 Support community-led development of community solar projects	<ul style="list-style-type: none"> • Encourage all communities to establish community solar projects.
6.2.2 Incentivize maximum installation of rooftop and community solar by the local workforce	

6.2.3 Develop clean energy workforce opportunities and training programs	<ul style="list-style-type: none"> • Build upon the existing workforce development programs and initiatives that are successful across the State. Foster collaboration among these organizations to build new curriculum standards and certification programs to develop necessary energy industry skill-sets.
Goal 6.3: Prioritize clean transportation options in low-and moderate-income and environmental justice communities	<ul style="list-style-type: none"> • Support clean transportation throughout communities; make connections, disseminate, and strengthen support for Complete Streets efforts. • Support implementing bike lanes, sidewalks, street improvements, etc. along with prioritizing connections between residential neighborhoods and commerce/service areas • Develop zoning policies and land use incentives to spread out EV charging infrastructure across a community (maximize connections & locate where it makes the most sense)
6.3.1 Prioritize replacement of public transportation fossil-fueled fleets with electric fleets, with a focus on environmental justice communities	
6.3.2 Build or incentivize electric vehicle charging infrastructure in lower-income communities	
6.3.3 Develop an e-mobility program, including electric taxis and car sharing, neighborhood electric vehicles, scooters or e-bikes, and bicycles	
Other:	<ul style="list-style-type: none"> •Community Energy Planning and action is needed and should be supported in ALL NJ communities. Planning and Implementation resources and assistance should be prioritized and allocated based on income levels and support elimination of environmental justice issues.
Strategy 7: Expand the Clean Energy Innovation Economy	
Goal 7.1.1 Grow world-class research and development and supply chain clusters for high-growth clean energy sub-sectors.	<ul style="list-style-type: none"> • Support innovation in CO₂ capture, both from point sources and direct air capture. Innovation in/implementation of carbon storage must accompany this. • Support innovation in CO₂ utilization, such as in concrete and fuels.³ <p>Incentivize open space preservation and land management best practices that maximize opportunities for terrestrial CO₂ sequestration, as well as that provide other benefits such as flood mitigation and public recreation.</p> <ul style="list-style-type: none"> • Highlight Somerset County assets that are already in place to support (and lure in) R & D companies and supply-chain clusters.

<p>Goal 7.2: Establish workforce training programs to ensure New Jersey has the local expertise necessary to support a growing clean energy economy and provide support to those in stagnating industries to refine their skills in line with new needs</p>	<ul style="list-style-type: none"> • Support the establishment of a carbon-neutral new technology incubator and green buildings hub in partnership with colleges, universities and business entities in Somerset County. • Promote Somerset County as a leader in Workforce Training. expand existing programs to help train CE technicians in grid modernization, distributed power, transport electrification, and manufacturing/servicing of EV components. • Promote Somerset County examples (like RVCC campus) as models for zero carbon building construction methodologies and retrofits. • Strengthen RVCC’s vocational training & pipeline of “energy services planner and specialists”; target a new certificate program to attract local and statewide HS students. • Expand RVCC’s role and expertise in providing holistic and comprehensive CE planning including programs in “Community Energy Planning (CEP)” and “Waste Reduction Planning” for municipalities.
<p>7.2.1 Develop a workforce needs assessment for the clean energy economy, including but not limited to support for renewable energy generation and distributed energy resources; grid modernization; energy efficiency services; transport system electrification including the installation of electric vehicle infrastructure and potential manufacturing and assembly of electric vehicle components; and zero carbon building construction and retrofits</p>	
<p>7.2.2 Establish a Clean Energy Job Training program to assist current New Jersey workers to pivot their skills as necessary to meet changing industry needs</p>	
<p>7.2.3 Establish Vocational Training to establish a pipeline of well qualified, modern energy specialists</p>	<p>Build upon the new CEM-Tech program at RVCC, Among other energy courses, the curriculum currently includes 2 courses on Energy Management & Auditing, 2 courses on Building Automation and 1 course on Building Commissioning aimed at optimizing building operation and sustainability.</p>

<p>Goal 7.3: Provide innovating financing and low-cost loans to support in-state clean energy projects and technology development</p>	<ul style="list-style-type: none"> • Support establishing NJ Green Bank; allow market forces to play a strong role, especially in initial projects and the leveraging of private capital. • Support increasing the amount of public and private funds flowing to implement CE projects and innovations (i.e. seed money, gap financing, public funds to attract capital, etc.). • Model NJ's GB after successful programs (like CT & NY); Use best practices for financial protocols which benefit communities and all sectors (via lowering the cost of capital for EE and solar projects).
<p>7.3.1 Establish a New Jersey Green Bank</p>	<ul style="list-style-type: none"> • Establishment of a Green Bank using the Connecticut Model is strongly supported by the Energy Council which should be designed to benefit all communities and maximize opportunities to leverage private funding opportunities.
<p>7.3.2 Develop financial protocols to support New Jersey's clean energy economy and the goals of the Energy Master Plan, such as lowering the cost of capital for renewable energy projects, enabling community solar projects, and supporting energy efficiency projects</p>	<ul style="list-style-type: none"> • Support expanded deployment of energy aggregation programs that are consistent with the New Brunswick model.
<p>Goal 7.4: Capitalize on the offshore wind economic development opportunity including establishment of the WIND Institute to provide the coordination and connection to resources, including workforce training, research and development, and capital investments to make New Jersey the home of the American offshore wind industry.</p>	

<p>Goal 7.5: Establish a Carbon-Neutral New Technology Incubator to fund and support research, development, and commercialization for promising and emerging clean energy innovations.</p>	<ul style="list-style-type: none"> • With its R & D and manufacturing businesses, available R & D and industrial space and highly educated, highly skilled workforce, Somerset County is an ideal location for a Carbon-Neutral New Technology Incubator and Clean Buildings Hub. It is centrally located in terms of proximity to Raritan Valley Community College (Branchburg), Rutgers (New Brunswick), Solidia (Piscataway), RRTC (Belle Mead), U.S. Green Building Council (Morristown), Princeton University (Princeton), and ExxonMobil's low carbon R & D Facility (Clinton). Locating this Incubator and Hub in Somerset County is strongly supported by the County's <u>Comprehensive Economic Development Strategy</u> (CEDS), which identifies business resources and the re-use of significant properties as two of just three high priority focus areas. (see p. 46 of the CEDS/p. 56 of the PDF version). • See also 7.1
<p>Goal 7.6: Establish a Clean Buildings Hub to develop workforce training, awareness and education for builders, architects, contractors, engineers, real estate agents, and code enforcers in the most efficient electrification, construction and retrofit building techniques.</p>	<ul style="list-style-type: none"> • Incentivize real estate brokers to promote and report on building energy efficiency metrics to prospective buyers. • Support the use of existing resources and organizations that already function (i.e. workforce training and education delivery at RVCC, Green Building Institute as clearing house for advances in building techniques). • Do not micromanage, avoid duplication, and avoid creating layers of bureaucracy; tap into resources already being offered by existing NJ businesses, organizations, and institutions. • Invest in R&D and CE clusters; Use industry and education partners to mentor CE startups, software developers, battery-storage entrepreneurs, etc.
<p>Other</p>	<ul style="list-style-type: none"> • The development and deployment of carbon capture technologies for addressing point-source emissions; CO2-separating power generators¹, and offshore carbon storage capabilities² is needed.
<p>GENERAL SCEC COMMENTS</p>	
<ul style="list-style-type: none"> • It is difficult to evaluate the DSEMP strategies and goals without the benefit of the various studies identified in the DSEMP that have been commissioned but are not yet available. • The plan should include a land use and agriculture GHG mitigation strategies. Planting trees and natural carbon sequestration should be employed where possible. 	

Footnotes:

1. such as fuel cells and the Allam Cycle (NET Power)
2. The NJ Geological Survey has identified a suitable formation off the NJ coast.
3. One such start-up, Solidia, is located in Piscataway, NJ.