



CHANGING THE COURSE OF ENERGY

ANNUAL REPORT
2020



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2020 Somerset County Energy Council Projects List

Somerset County Energy Council - State Energy Master Plan Implementation Presentation

I. Chairman's Comments

Since the Energy Council's inception in 2008, there has never been a time of more rapid change in federal and state energy and climate policies and programs. These changes are necessary to ensure Somerset County, New Jersey and our nation are healthy, sustainable, equitable and resilient places to live, work, learn and play both now and in the future. The need for these efforts has been underscored by the COVID-19 Pandemic, which has revealed the degree to which issues such as climate change, public health, social justice and environmental equity converge. These issues must be addressed in a comprehensive and collaborative way in order to achieve sustainable, just communities where everyone can thrive.

The COVID-19 pandemic, like climate change, will have lasting impacts on public health, quality of life and the environment. Some communities have been impacted by these crises more than others. For example, a recent Harvard Study identified higher Covid-19 death rates among people living in areas with degraded air quality - a hallmark of climate change. Scientists have also found a linkage between the proliferation of pandemics and human exposure to habitats populated by virus-carrying wildlife wherein drought, flooding and extreme weather associated with climate change are forcing food production activities into wildland interface areas.

The World Meteorological Organization's November 2020 Annual Report shows that the shutdowns, shift to remote working and learning, and other emergency actions taken to curtail the pandemic had minimal impact in reducing the greenhouse gas emissions that contribute to climate change. It has become clear that very significant changes in land use, energy and transportation are needed to reduce greenhouse gas emissions enough to curtail climate change. The Council's role as an advisor to County leaders on energy matters has become even more important given the pressing need for strategies and solutions that will help us both recover from the pandemic and solve the climate change crisis. This will be the focus of the Council's efforts going forward.

These pages highlight the Council's accomplishments from 2020. Most notably, our Board of Commissioner liaison and the members of the Council's Renewable Energy and Technology Committee led an examination of the 2019 State Energy Master Plan and identified a set of realistic, do-able; high-impact energy

initiatives that the County can undertake to reduce energy costs and GHG emissions and serve as models.

I am very grateful for the contributions of each of our volunteer members, support from the County Planning Board and leadership provided by the County Board of Commissioners. I want to personally thank them for their ongoing dedication and hard work. Please visit the Council's website at <https://www.co.somerset.nj.us/government/public-works/planning/energy-council> for the information and resources described in this report. Your involvement is welcomed. Please subscribe to the Council's e-mail service list at <https://www.co.somerset.nj.us/about/email-subscriptions> and come to our meetings.

A handwritten signature in black ink that reads "William Amann". The signature is written in a cursive style with a large, looped initial "W".

William Amann, PE, LEED Fellow, DCEP, Chairman

II. 2020 Energy Council

Established by the Somerset County Board of Chosen Freeholders (referred to now as the Board of Commissioners) in 2008, the Council is comprised of 11 volunteers interested in helping all of Somerset County transition to a clean energy future, save energy and money; and create a modern, reliable energy system. The guidance provided by this group of dedicated experts during the past year aligned with the County Board of Commissioner's priorities and focused on:

- **supporting economic prosperity** through green industry job growth and by harnessing emerging clean energy opportunities that will help the pandemic-impacted economy to recover in a better, more sustainable and equitable way.
- **enhancing the health and safety of our communities** through fossil fuel emissions reductions and other climate change solutions; and by promoting grid modernization to successfully accommodate both the increase in renewable sources and electrification of the transportation system while ensuring grid reliability even when hazards strike; and
- **increasing energy savings and reducing energy costs** by conserving energy, making our public buildings, homes and businesses more energy efficient; and supporting an equitable and transparent energy market.

The Council's members are constantly looking for fresh, bold new ideas to help accomplish these goals. They have diverse backgrounds and bring a wealth of knowledge, broad-ranging perspectives and specialized expertise in energy-related matters to support and serve the greater good of Somerset County.

A. Mission

To advise the Somerset County Board of Commissioners on energy matters, to advocate for energy efficiency, conservation and renewable energy, and to promote public understanding and awareness of opportunities, choices, and resources.

B. Members

All members of the Council are residents of Somerset County or work in companies and at establishments located within the County. The members of this group have diverse, complementary backgrounds and experience in energy, science, technology, economics and other related fields.

Meet our new members....

William Dondiego

Mr. Bill Dondiego currently serves as the Director of Energy Efficiency at Total Energy Service, located in Manville Borough. He performs home energy audits and facilitates participation in New Jersey's Clean Energy Programs by both residential and commercial property owners. He holds licenses with the Building Performance Institute, specializing in building analysis & envelope, thermal by-passes, air infiltration/duct leakage testing and infrared analysis. Since 2010, Mr. Dondiego

earned Certifications in Green Technology, Corporate Sustainability, Business of Solar and Carbon Reduction from the Rutgers Advanced Technology Extension. He has an education in Civil Engineering from Polytechnic Institute of Brooklyn. As a long-term resident of Hillsborough, he served on the Township's Environmental Commission, Sustainable Hillsborough Steering Committee and worked with the Green Schools Program in partnership with the Hillsborough Board of Education to establish a Teach Energy Awareness with Children's Help (T.E.A.C.H.) Program in the High School. He is a founding member of BoroGreen, where he currently serves on the Board of Directors.

Monica Lazer

Ms. Monica Lazer is Principal Technology and Services Architect with AT&T's Network Design Performance Analysis and Advanced Technology and Architecture Planning Divisions. She represented AT&T on the Optical Internetworking Forum (OIF) Board of Directors until 2009, and continues to represent AT&T as member of this organization. She served as chair of the OFC/NFOEC Subcommittee on Optical Architecture and Services until 2010. Ms. Lazer holds a Master of Science in Electrical Engineering from Polytechnic University, New York. She is a long-term resident of Somerset County.

...Who joined our existing members in 2020...

William Amann, PE, LEED Fellow, DCEP, Chairman

Mr. Bill Amann is President of M & E Engineering, a "green" mechanical and electrical engineering consulting firm serving the Mid-Atlantic region. He has over 35 years of experience in sustainability, engineering, design and advisory services for HVAC, electrical, plumbing and fire protection systems. He was named as a LEED Fellow by GBCI, the certification branch of the U.S. Green Building Council (USGBC) in 2015. He is a current board member of the NJ Chapter of the USGBC-NJ Chapter, a sponsoring member of Urban Green (the NYC branch of the USGBC), a Climate Reality Leader, Data Center Energy Practitioner, licensed professional engineer in the states of NJ, NY, PA and DE, and member of the Somerset County Business Partnership Board, in addition to serving as Chairman of the Somerset County Energy Council. He is a proud father and grandfather.

Jeanne Perantoni, AIA, LEED AP, Vice Chair

Ms. Jeanne Perantoni is the Chief Executive Officer of SSP Architectural Group, a woman-owned business based in central New Jersey. She leads SSP's planning and design services and is a licensed architect, LEED-accredited professional and certified Educational Facility Planner. Her portfolio of work is nationally recognized for seamlessly incorporating energy efficiency, environmental regeneration, and smart growth planning principles into public sector projects. She has served on the Foundation Boards of Somerset Medical Center, Raritan Valley Community College, and on the NJ State Board of Architects. Ms. Perantoni continues to advise Somerset County Freeholders on matters pertaining to energy, resiliency, and renewable resources as Vice Chair of the Energy Council. She has served for many years on Princeton's Historic Preservation Review Committee and

advocates for both open space preservation and Green Schools. Ms. Perantoni holds an A.B. in Architecture and Urban Planning from Princeton University and a Masters in Architecture from Rice University. She became licensed in New Jersey in 1984 at a time when less than 2% of the state's registered architects were women and is the proud mother of two young men.

Wayne DeFeo, LEED AP, Secretary

Mr. Wayne DeFeo is the principal and founder of DeFeo Associates, a full-service environmental consulting firm that provides clients with environmental expertise with a strong emphasis on sustainability. Wayne has been "green" consulting for over 25 years. He has shown many clients how sustainability has evolved from being "admirable but impractical" to comprise streamlined, cost-effective conservation strategies and technologies. Mr. DeFeo specializes in the development of sustainable solutions for commercial, institutional and residential buildings, including every component of building operation, while maximizing comfort, safety and efficiency. He is experienced in developing environmentally friendly purchasing policies, recycling and solid waste handling systems. He is well-versed in energy reduction strategies and LEED building practices. He works with organizations to assess environmental impacts and develop cost and resource saving designs, guidelines and practices. He holds a MA in Environmental Studies from Montclair State College, is a Certified Teacher of Science, serves as a Faculty Coordinator for Rutgers University's School of Continuing and Professional Education and is course instructor in NJ's Recycling Coordinator Certification Program. He is a board member of the USGBC-NJ Chapter and a licensed Energy Auditor.

Axel Breidenbruch

Mr. Axel Breidenbruch currently serves as Vice President of Sales & Marketing and Board Director at INDUSTRIAL Inc., and is responsible for successfully establishing it as a subsidiary for the German parent organization Industronic GmbH & Co KG. Before joining Industronic in 2008, he was Executive Vice President, Global Strategic Development at SAI Global Assurance Services, in addition to leadership positions at several other organizations. He graduated from Northeastern University with degrees in Engineering and Economics.

Paul Drake

Mr. Paul Drake is a Professional Planner with over 30-years of urban planning, real estate development and natural resources experience in government, public utility and the private sector. He has a Master of City and Regional Planning from Rutgers University and is a part-time professor at Rutgers, teaching courses in planning, urban design and public health. Prior to his current roles as Regional Public Affairs Manager and Licensing Project Manager for PSEG Corporation, he was a professional planner for Gladstone Design, Inc., Director of Planning for the NJ Office of Smart Growth and Principal Environmental Specialist for NJDEP Land Use Regulation.

Jeffrey J. Foose

Mr. Jeffrey Foose is a commodity executive and is nationally-recognized for his accomplishments in energy market development, electronic trading technology, commodity derivative valuation methods, and commodity portfolio risk management. He has extensive experience in the development of portfolio risk modeling and zero-latency trading interfaces to capture energy market physical/financial arbitrage, monitor real-time risk metrics, and the management of physical energy and storage logistics across all North American and global delivery hubs. He currently serves as Managing Member-Strategic Resources Consulting of AERIS Capital LLC. Previously, he held leadership positions at First New York Securities LLC, PSEG Energy Resources & Trade LLC, KCS Energy Corporation and other firms. He has a BS degree from LaSalle University and completed coursework at the University of Pennsylvania. He currently serves as a member of the local Zoning Board.

Jeffrey Grant, PE, CEM, CEP

Mr. Jeff Grant has over 30 years of experience in commercial real estate building systems, energy management and electricity procurement. He has expertise in strategic procurement rate reduction, implementing best-operating practices that minimize energy consumption, rate engineering for maximum tenant electric revenue and developing efficiency improvement projects that – in concert with regulatory incentives, generate significant internal returns. He holds a degree in Mechanical Engineering from Tulane University and a MBA from Rutgers University. He currently serves as the Senior Director of Commercial Real Estate and Director of Corporate Energy at Mack-Cali Realty Corporation. He is the former Project Manager at MEP Consulting Engineering/RG Vanderweil Engineers. He serves on the educational and environmental committees of the NJNAIOP and NJBOMA, and is a member of the Association of Energy Engineers, the NJ American Society of Heating, Refrigeration & Air Conditioning Engineers, and the American Society of Mechanical Engineers.

William T. Knox IV, JD, CFA

Mr. William Knox IV earned a BA degree from Wesleyan University. Following his volunteer service as a Peace Corps Volunteer in Malawi, he earned a JD from Harvard Law School. Mr. Knox worked as a federal tax lawyer in private practices located in Somerset and Hunterdon Counties for many years and served as chair of the Section of Taxation, NJ Bar Association. He later worked in private wealth management, earning Certified Financial Planner and Chartered Financial Analyst designations. He is now retired, but continues to serve as Trustee of Drew University in addition to his role on the Energy Council. He is a proud father of three and hosted over 80 foreign exchange students and YMCA camp counselors over the years.

Walter C. Lane, PP, AICP

Mr. Walter Lane serves as the Director of Planning at the Somerset County Planning Division where he oversees a staff of 18 employees. He is responsible for all of the County's planning efforts, the Agriculture Development Board, the County's Cultural and Heritage Commission, the Regional Center Partnership of Somerset County, the Somerset County Green Leadership Hub and the Somerset County Energy Council. He began serving as the Director of Planning in July of 2014. Previously he had served as a Supervising Transportation Planner, Principal Planner and Senior Community Planner

during his tenure at the County. He has over twenty-two years of land use, regional planning and transportation planning experience and has managed numerous award-winning projects. Walter is a licensed New Jersey Professional Planner and is a member of the American Institute of Certified Planners. He currently serves on the Executive Committee of the NJ County Planners Association and the Somerset County Business Partnership and is leading NJ County Planners Association COVID-19 Long-term Recovery Work Group. Walter also serves as the co-chair of the Sustainable Jersey Transportation and Land Use Committee and the Obesity Task Force of Healthier Somerset. He has served on the APA-NJ Executive Committee and is a past chair of the Regional Transportation Advisory Committee at the North Jersey Transportation Planning Authority. He frequently presents on a wide range of planning issues at various statewide conferences, seminars and workshops. He is a graduate of Cook College, Rutgers University and holds a BS in Environmental Policy.

...Are assisted by the 2020 Board of Commissioners (formerly Board of Chosen Freeholders) Liaison to the Council...

The Honorable Melonie Marano, 2020 Board of Commissioners Liaison

Ms. Melonie Marano holds a degree in Accounting from Rider University and is a Certified Public Accountant. She is currently Vice President of Business Development at Universal Vending Management, in addition to being elected to the Board of Commissioners commencing January 3, 2020. She is also a long-term member of the Somerset County Federation of Democratic Women, the NJ Sierra Club, the NJ Audubon and Pinelands Preservation Alliance. As County Commissioner, she serves as ex officio to the Public Works Department, including the Engineering, Facilities & Services, Fleet Management, Planning, Recycling, Roads and Bridges, Solid Waste Management and Transportation Divisions. She serves as liaison to several county boards and commissions in addition to the Energy Council. She has been a resident of Somerset County since 1989.

....And are supported by the following staff.

Laurette Kratina, PP, AICP, Chief of Strategic Planning

Ms. Laurette Kratina has been a member of the County Planning Division for over 30 years. Some of her major contributions include the development and adoption of the County Investment Framework as an update of the Land Use Element of the County Master Plan, updated Master Plan Housing Element, and Updated Multi-Jurisdictional Hazard Mitigation Plan for Somerset County. She manages the wastewater planning process and provides technical and administrative support to the Somerset County Energy Council and to each of its committees. She is a licensed New Jersey Professional Planner and is a member of the American Institute of Certified Planners. She has a Master in City and Regional Planning from Rutgers, the State University.

III. Projects

The SCEC developed an updated projects list that identifies and prioritizes the county government-specific projects and initiatives it will focus its resources on accomplishing, many of which are a continuation of work from previous years. The projects and initiatives on this list underwent a comprehensive review and update during 2020 under the direction of the County Board of Commissioners. The development of the list was informed by a PowerPoint Presentation produced by the Energy Council that describes the strategies and objectives contained in the State Energy Master Plan (EMP); identifies those that have the greatest impact on the County; and recommends projects and actions aligned with the EMP that the County can potentially undertake. The updated list reflects a renewed focus on tangible actionable demonstration projects aimed at strengthening the County's leadership role in addressing climate change and advancing the transition to a clean energy economy. These projects are supported by the Board of Commissioners and are in various stages of the planning and implementation process.

The highest-priority projects pertain to energy benchmarking and auditing of County facilities. Energy Audits are among the first steps recommended by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) and are used to identify where energy waste is occurring. Updated Level II energy audits are recommended for all county-owned facilities and are available free of charge through the NJ Clean Energy Program (NJCEP) Local Government Energy Audit Program (LGEAP). Benchmarking using the US EPA's Energy Star Portfolio Manager Tool can be used to identify and prioritize those facilities most in need of energy efficiency improvements. Enhancement and implementation of the County's Electric Vehicle Readiness Plan, which was adopted in 2018 is also a top priority. This plan will be updated to reflect changes in policies, economics and technology, and will be undertaken as part of the update of the County Master Plan – Circulation Element to commence in 2021. Green energy sourcing feasibility, the establishment of sustainability policies for County facilities and development of an energy element of the County Master Plan are also included on the list of projects, which is provided in the appendix.

The Council, with support from the Board of County Commissioners and assistance from the County Planning Division, formed a new County Greening Economy Taskforce in November 2020, which began to explore potential opportunities to expand workforce development programs in clean energy and energy efficiency at the County Vo-Tech and Raritan Valley Community College. This activity is consistent with the State Energy Master Plan (Strategy 7), which identifies clean energy industry growth as a springboard for building back New Jersey's economy in a better, more sustainable way.

IV. Focus Areas

A. Renewable Energy and Technology

RE&T Committee: Jeffrey Grant - Chair, Axel Breidenbruch and Bill Dondiego

1. **Topics:** Demand Response, Solar, Wind, Storage, Smart Grid, Electric Vehicles

2. Guiding Principles

- Support the deployment of smart grid, smart metering and energy storage technologies throughout Somerset County, which can add resiliency to the grid, enable the implementation of demand response and enhance energy and cost savings for both customers and electric utilities.
- Help Somerset County serve as a leader statewide in the transition from fossil fuel-based to electric vehicles and motorized equipment and position the County to attain the wide range of benefits that can thus be achieved.
- Promote the development of cost-effective renewable, clean distributed energy resources including but not limited to solar and wind; and the expansion of the clean energy industry sector within Somerset County.

3. Actions

State Energy Master Plan Recommendations: The members of this committee, were joined by a few other Council Members in creating a PowerPoint presentation that describes the strategies and goals contained in the 2019 State Energy Master Plan (EMP), identifies those that have the greatest impact on the County, and recommends projects and actions aligned with the EMP that can potentially be implemented to benefit Somerset County. Several recommendations involve public-private partnerships that would expand access to resources and expertise and generate lasting energy efficiency and resiliency improvements. The recommendations provided in this presentation served as the basis for the Board of Commissioners-endorsed Energy Council Project List that was developed this year. Both the Project List and the EMP Presentation are provided in the appendix.

Electric Vehicle Readiness Planning: Chairman Amann and Walter Lane, Council Member and Director of the County Planning Division continue to serve on the Somerset County Electric Vehicle Implementation Task Force, which was established by the Freeholder Board in March 2018. The work of the task force included the adoption of the Somerset County Electric Vehicle Readiness Plan in September 2018. Important strides were taken to implement the plan during 2020 including the ongoing phased substitution of conventional vehicles with electric vehicles in the County motor pool fleet and planning for additional charging stations to be installed at

County facilities. Ongoing EV usage countywide is being tracked by the County Planning Division using the NJ Division of Motor Vehicle data. The County submitted an application for funding through the VW settlement program being administered by the NJDEP for an electric van for inclusion in the County's para transit fleet. Additional information on EV planning and implementation is provided on the County's EV Readiness webpage: <https://www.co.somerset.nj.us/government/public-works/planning/electric-vehicles>

Council members monitored market trends including the roll-out of new electric vehicle models by various automakers, emerging EV policies, regulations and trends pertaining to charging infrastructure and acquisition and operating costs. Issues pertaining to EV battery technology have been explored.

Energy Analysis: Work is underway by this committee on a comparative analysis of the costs, benefits and economic impacts of solar, wind and nuclear power versus conventional power sources from a Somerset County perspective. It includes an examination of how the grid may be impacted as renewable power sources increase, and the strategies that will be needed to integrate more renewable energy generation in a reliable and cost-effective way. The Committee sees the need for new operational and market solutions in order for the State to achieve its renewable energy goals.

Off-shore Wind Initiative: The Council continues to monitor implementation of the State's off-shore wind development and transmission strategy. It is exploring potential opportunities to support growth of the wind energy industry and supply-chain operations within Somerset County through the newly formed Greening Economy Taskforce. This new group recognizes the need for job training in this area, and has begun to explore opportunities to expand clean energy education programs at RVCC and the Somerset County Vo-Tech.

B. Education and Awareness

E & A Committee: Jeanne Perantoni-Chair, Wayne DeFeo, Monica Lazer and Walter Lane

1. **Topics:** Events, Publications, Reports, Presentations, Website

2. **Guiding Principles**

- Expand the Energy Council's outreach efforts using social media, infographics, videos, workshops, presentations, webinars and other venues.
- Improve public awareness and understanding about energy sustainability and resilience, energy conservation and efficiency, clean and renewable energy, and the relationship between energy choices, climate change mitigation, and adaptation solutions.
- Provide resources that can be used by educators in schools and other learning centers for the teaching of energy conservation, efficiency and renewable energy concepts.
- Identify and establish partnerships with agencies, organizations and individuals to work collaboratively, share energy and climate change information, and promote cost-effective solutions that can be implemented in Somerset County.

3. **Actions**

Somerset County Green Leadership Hub: This committee supported the re-convening of the County's Green Leadership Hub on January 30th. It was attended by municipal green team representatives and Sustainable Jersey (SJ) staff who provided an overview of certification program updates and the support SJ can provide to participating municipalities. Members of the Hub expressed interest in undertaking local initiatives in the areas of recycling, anti-idling ordinances, electric vehicles and energy efficiency during the coming year.

Energy Efficiency Promotion: The Council continues to promote use of its Energy Efficiency Video completed in 2019 that demonstrates effective ways to save energy. It also continues to promote its Household Energy Self-Assessment Tool, also completed in 2019. Both of these resources have been posted on the Council's website at the following links respectively: [Energy Council Projects | Somerset County](#) and [Residential Information and Case Studies | Somerset County](#), and have been shared with the County's Green Teams and various partner organizations.

Energy Council E-mail Service List: Members of the public can subscribe to a County-based e-mail service list through which information about the Energy Council's programs, events, and initiatives is shared, which is available at the following link: <https://www.co.somerset.nj.us/about/email-subscriptions>.

C. Resilience and Sustainability

R & S Committee: Jeff Foose-Chair, Paul Drake, William Knox and Walter Lane

1. **Topics:** Grid hardening, gas infrastructure, Microgrids, CHP

2. **Guiding Principles**

- Advocate for the identification and implementation of programs, initiatives and investments that will ensure the energy system is reliable, sustainable and resilient.
- Support the transformation of the energy system to renewables in order to mitigate climate change, improve air quality, enhance the quality of life in the region, achieve public health improvement outcomes and expand the clean energy and green industry sectors of the County's economy.
- Encourage the provision of clean, reliable back-up power solutions that will allow critical facilities, services, and infrastructure to remain operational especially during widespread, prolonged power outages.

3. **Actions**

Energy Resilience: To kick-off the year, and as a continuation of the Council's review of potential energy system vulnerabilities, Douglas Vornlocker, Director of the County's Office of Emergency Management provided the Council with an overview of his office's roles and responsibilities during each response phase at the Council's February meeting. The prevention phase includes adoption of flood protection ordinances and ensuring emergency generators are on hand at critical facilities. The preparedness phase includes the dissemination of information by the County OEM and Health Office. The response phase involves the carrying-out of response actions after a hazard event occurs. The National Incident Management System (NIMS), County Emergency Management Operation Center, County Community Emergency Response Team (CERT), Search and Rescue Team and Animal Response teams were described, along with the functions included in the County's Emergency Operations Plan. The County OEM has a great working relationship with PSE&G and JCP&L whose representatives frequently work side-by-side with County staff at the County Emergency Operation Center during a hazard event and help to identify restoration needs and priorities at the local level. Utility employees have been trained in the County emergency response system for this purpose. Power outage notifications are received by the County in a timely manner. Most outages are managed at the local level. The County has an Emergency Management Council, which complements the work of local emergency operations planning committees. The County OEM's key function is communication and coordination. It recognizes the interdependence between communications and power supply infrastructure and its importance in terms facilitating the response and recovery processes. The County OEM functions under NIMS directives that are managed by the State Attorney General's Office and State OEM.

In April, the Council brought in guest speaker Joe Bowring, who serves as the Market Monitor for PJM and helps ensure the reliability of the power grid. Mr. Bowring provided information to the Council about how the grid will be managed and operated as reliance on renewable energy sources increases in New Jersey. Mr. Bowring allayed the Council's concerns about black-start capabilities in the event of a widespread power outage when renewable sources become dominant. Currently, renewable energy comprises a very small fraction of total supply. There is enough diversity among PJM's power sources and adequate reserve capacity and transmission capacity to avoid black-start issues. Even though NJ will make significant strides toward its renewable energy goal, it will always need thermal generation sources such as gas-fired and nuclear power plants unless cost-effective grid-scale battery storage becomes available.

The Committee provided information about the Basic Generation Service (BGS) Auction, which determines energy costs. 2020 prices were 5% higher than in the previous year, even though the wholesale prices for crude oil, natural gas and even uranium are 30% lower than they were the previous year. The added costs are coming from increased regulation, to the point where power prices are now being driven more by regulation than by commodity prices. NJ imports more power from outside sources as compared to other States that have higher levels of in-state generation.

Committee members continue to monitor planned improvements to the Roseland-Branchburg-Pleasant Valley transmission facility by PSE&G and PJM, including replacement of aged towers, power lines and co-located cellular facilities in the Branchburg Township vicinity. These improvements will benefit grid resilience.

Somerset County Hazard Mitigation Plan: The Multi-Jurisdictional Hazard Mitigation Plan for Somerset County was adopted by the Federal Emergency Management Agency (FEMA) and the NJ Office of Emergency Management in June 2020. It contains a Draft Energy Resiliency Framework document developed by County Planning Division staff with guidance provided by the Energy Council. The Energy Resiliency Framework is intended to serve as a platform for developing a new Energy Element of the County Master Plan. The Hazard Mitigation Plan includes several County-level mitigation projects aimed at improving energy resilience and ensuring back-up power is available for critical/essential facilities and infrastructure which will enable them to remain operational during emergencies. By including these projects in the HMP, they have become candidates for future funding and technical assistance opportunities.

D. Conservation and Efficiency

C & E Group: William Amann - Chair and all Energy Council Members

1. **Topics:** Eliminate waste and improve efficiency across all sectors

2. **Guiding Principles**

- Support the identification and implementation of energy savings improvements by the County and local municipal governments, school districts, residents, businesses, corporations, and non-profit entities.
- Promote the use of energy audits to identify energy-and-cost-savings opportunities that can also improve the comfort, health, and safety of home and work environments.
- Encourage the utilization of energy benchmarking tools such as the USEPA Energy Star Portfolio Manager (ESPM) for assessing and monitoring building/facility energy use by both government and private-sector entities.
- Advocate for the adoption of higher energy efficiency construction code standards and promote energy code enforcement.
- Support the expansion of energy management capabilities at all levels of government and also within the private sector by sharing findings, encouraging the use of analytics, and the development of innovative science/data-based resources that can help inform investments in energy conservation measures.

3. **Actions**

LEED for Buildings and Communities: Members of the Council’s Executive Committee continue to serve as Board Members of U.S. Green Building Council- New Jersey and continue to advise the Board of Commissioners on opportunities to apply Leadership in Energy and Environmental Design (LEED) building standards to County facilities, and have recommended that the County’s proposed new storage facility be designed and operated as a “net-zero” building.

Energy Aggregation Program: The Energy Council has been monitoring the potential energy savings that electric customers could achieve while also buying a greater percentage of Class 1 renewables through energy aggregation program participation. The committee obtained information from Food and Water Watch, an organization in New Brunswick that has been monitoring several renewable energy aggregation programs underway in New Jersey.

Sustainable Jersey: Members of the Council serve on Sustainable Jersey’s Energy Task Force and provide feedback on proposed updates to certification actions in the energy category. Municipal participation in the SJ certification program is supported by the Council. The activities of this SJ Committee during 2020 include but are not limited to the release of a new “Energy

Management Guide for Municipalities and School Districts”, development of a new Community Solar Action proposal, completion of Comfort Partners and Energy Efficiency Outreach Toolkits, updates to the GHG Emissions Calculator Tool and significant progress on its Utility Data Project.

Somerset County Participation in the LGEAP: Members of the Council, together with the County Public Works Director reached out to officials from NJBPU’s Clean Energy Program in September 2019 with the goal of identifying the Clean Energy Programs that the County is eligible for and to initiate the application process. The County’s bill management company provided the County’s energy utility billing records directly to Local Government Energy Audit Program (LGEAP) Officials at that time.

Green House Gas Inventories: The Council learned about a new utility data gathering initiative underway by Sustainable Jersey that is nearing completion and is very supportive of this work. It includes the compilation of aggregate data from electric and gas utilities by municipality that is intended to support the development of municipal-level greenhouse gas (GHG) inventories to provide tools for municipalities and the county to establish a baseline and monitor and track progress in emissions reduction for which SJ certification points can be earned. The Council hopes to partner with SJ in order to take advantage of this resource.

Energy-Efficient Affordable Housing: The Council supports the application of green design and energy efficiency standards in new low- and moderate-income housing resulting from the Mount Laurel IV settlements that have been recently reached by many of the County’s municipalities. Affordable housing developers that demonstrate cost savings from applying these standards are potentially eligible for funding incentives through the NJ Housing and Mortgage Finance Agency (NJHMFA). For more information about the NJHMFA’s Low Income Housing Tax Credit Program – Green Points initiative, please visit the following website: [New Jersey Housing and Mortgage Finance Agency | Green Points \(njhousing.gov\)](http://New Jersey Housing and Mortgage Finance Agency | Green Points (njhousing.gov)).

E. Policy & Legislation

PP Committee: Wayne DeFeo-Chair, William Amann and Bill Dondiego

1. **Focus Areas:** Legislation, regulations, NJ Clean Energy Program, Energy Construction Code, NJ Energy Master Plan
2. **Guiding Principles**
 - Promote the enactment of energy policies, regulations and programs to advance the goals of the State Energy Master Plan and align with the mission and goals of the Energy Council to help advance climate change mitigations and adaptations.
 - Provide feedback to legislators and community leaders at all levels of government regarding opportunities to strengthen and enhance proposed energy policies, regulations and programs along with identifying potential unintended consequences.
 - Foster an understanding of the potential costs and benefits of proposed energy policies, programs and regulations in terms of equity, economic growth, quality of life and environmental protection.

3. **Actions**

State Energy Policy Framework: To assist the Council in tracking the myriad of emerging state legislation and policies, Planning Division staff developed a spreadsheet which can also be used to identify opportunities for green industry growth centered on clean energy, energy efficiency and climate resilience that can spur economic recovery and provide opportunities to re-position displaced workers due to the COVID-19 pandemic. The pandemic has had broad impacts on the local and regional economy, including but not limited to supply-chain disruptions, shifts to remote work in some sectors, and service worker shortages, especially in the healthcare industry. The Commissioners looked to the Energy Council for assistance with identifying opportunities to re-position displaced workers to support green industry growth opportunities that align with implementation of the new state energy and climate resilience policies and regulations. The Committee identified the following recently enacted bills having potential benefits to the County's residents and businesses:

- **New Jersey's Electric Vehicle Incentive Act:** This newly adopted legislation provides a \$5,000 state tax credit for EV purchases, and hybrid vehicles also qualify for incentives. Combined with the federal tax credit, substantial savings can be achieved.
- **New Jersey Car Efficiency Standards:** New Jersey, like 12 other northeastern states and 5 major automobile manufacturers conform to California's higher standards, which supersedes the recent roll-back of the Federal Car Efficiency Standards.

V. Partners

The Energy Council champions a collaborative approach for identifying solutions to complex energy issues through its affiliations with various organizations as well as representation by its members on various national, state and regional organizations, committees, and agencies. Successes achieved thus far are attributed to the work of many county and municipal leaders, dedicated residents, members of our business community, academia and public employees who come together to support each other, collaborate, and achieve common energy-related goals. These partnerships enable the pooling of resources, expertise, and manpower in order to produce policy and planning resources, provide information to the public, and implement energy improvement projects on a regional scale. Members of the Energy Council actively seek to maintain and promote these partnership connections by sharing reports, publications of interest and news about upcoming events. The Council also co-hosts events with organizations such as the Somerset County Business Partnership, RideWise, Sustainable Jersey, NJ County Planners Association, NJ Chapter of the American Planning Association and the NJ Chapter of the Green Building Council, and its members serve as guest speakers at events hosted by diverse organizations throughout the State.



For more information:

[Visit](#)

<https://www.co.somerset.nj.us/government/public-works/planning/energy-council>

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APPENDIX

2020 Somerset County Energy Council Projects List

Somerset County Energy Council - State Energy Master Plan Implementation Presentation

SOMERSET COUNTY ENERGY COUNCIL - SUMMARY OF RECOMMENDED ACTIONS

PROJECT/INITIATIVE	PRIORITY	BENEFITS	IMPLEMENTATION TASKS/PARTNERS
Energy Benchmarking of Existing Facilities	1	Identify buildings which are wasting energy and dollars	Free service available from NJ Office of Clean Energy to obtain Energy Star score
Energy Audits	2	Perform energy audits of buildings, starting with those with lowest Energy Star scores	Free audits are available from NJ Office of Clean Energy
EV Readiness Plan Refresh	3	Revisit and update County EV plan and publish model ordinance	Re-engage EV Task Force
Solicit Requests for Qualifications (RFQs) to determine what the cost would be if the County were to switch to specific Green Energy Sources for County Facilities	4	Major reduction in County Carbon footprint at little to no cost (possible savings)	If the RFQ shows savings can be achieved, the information generated can be used to craft an Request for Proposals (RFP)
Establish Sustainability Policies for County facilities	5	Implement best practices for building construction and operations	Freeholder Initiative
County Energy & Resiliency Master Plan	6	Establish baseline and identify strategies	Build upon The Draft Energy Resiliency Framework included in County Hazard Mitigation Plan update/ Sustainable Jersey, etc.

Prepared by the Somerset County Energy Council, 10-2020

New Jersey's Energy Master Plan & Recommended Somerset County Responses

A Report to the Somerset County Board of Chosen
Freeholders

By the Somerset County Energy Council

October 2020



Seven Top-Level Strategies of the Energy Master Plan (EMP)

1. Make Transportation More Efficient and Emission-Free
2. Obtain All Electricity From Emission-Free Sources by 2050
3. Increase Energy Efficiency Everywhere and Reduce Peak Demand
4. Make Buildings More Efficient and Almost Emission-Free
5. Update Electricity and Natural Gas Distribution Systems
6. Include LMI and Environmental Justice Communities in the New Green Economy
7. Seize this Chance to Grow NJ's Green Economy and Job Opportunities

1. Make Transportation More Efficient & Emission-Free

The EMP calls for de-carbonization of the transportation system (which currently accounts for 42% of NJ's GHG emissions). The pace will depend on grid modernization, especially "last mile" upgrades.

Somerset County Recommendations:

- Refresh & implement its EV Readiness Plan to
 - support build-out of EV charging stations and EV deployment;
 - increase awareness of EV benefits; and
 - phase-out the county's fleet of gas and diesel vehicles.

The EMP calls for improving multi-modal connections among homes, jobs, shops, and services.

Somerset County Recommendations:

- Advance implementation of its 2016 "Complete Streets" Resolution.
- Evaluate opportunities for walkways and bike lanes when upgrades to County roads are undertaken.
- Continue to support "Transit Village" designations and promote transit-oriented development (TOD).
- Promote its 2019 Walk-Bike-Hike Plan recommendations.

2. Obtain All Electricity From Emission-Free Sources by 2050

The EMP calls for 100% green power by 2050.

Greener will not be cheaper: prices could rise 20%-30% with a green grid.

Somerset County Recommendation: *Monitor the economic impacts of green pricing.*

The EMP calls for 7.5 GW of offshore wind capacity by 2035 (compared to 0 GW today).

500+ firms are already registered in NJEDA's Offshore Wind Supply Chain Registry.

Somerset County Recommendations:

- *Promote its prime location and other assets to attract green jobs and skilled workers as the supply-chain for offshore wind expands in NJ.*
- *Support the provision of workforce development programs at Somerset Vo-Tech and RVCC to help grow the "green economy."*
 - *Conduct a business needs survey*

The EMP calls for 17 GW of solar panel capacity by 2035 (compared to 3 GW today, NJ ranked 7th in US).

235 square miles are required to reach this capacity goal.

Somerset County Recommendations:

- *Encourage "Community Solar" projects, where private developers build larger arrays at a lower cost that serve multiple resident subscribers.*
- *Leverage county properties to host solar installations.*

2. Obtain All Electricity From Emission-Free Sources by 2050 (cont.)

The Governor initiated an Integrated Fixed Resource Requirement (FRR) Procurement Study by the NJBPU in response to FERC policy changes.

- If FRR is chosen, a capacity cost increase may be required to ensure wind plants can sell power, which would artificially raise ratepayer costs by \$2B annually (~24% rate increase).

Orsted's (NJ's EPC offshore wind project developer) capacity revenue loss is limited to \$18M - \$40M annually when its 1,100 MW plant begins operation in 2024.

- It may be less costly to subsidize offshore wind development by \$18-40 M annually.

Somerset County Recommendations:

- *Continue to monitor changes to FERC regulations and FRR status in NJ.*
- *Review the draft NJBPU Procurement Study when released for public input, and submit formal review comments and recommendations if appropriate.*

3. Increase Energy Efficiency Everywhere & Reduce Peak Demand

The EMP indicates that the 2018 Clean Energy Act mandates should be better thought-out, and calls for streamlining and removal of administrative roadblocks.

- There is huge work ahead in creating a smarter grid which “will provide the backbone on which other efforts to transition to a clean energy economy will rely”.
- The adoption of time-of-use pricing and smart home technology that will shape consumer use patterns, enable customers to monitor and manage usage, and incentivize EV owners to adapt EV charging schedules can maximize grid capacity.

Somerset County Recommendation: *Monitor progress and advocate as appropriate.*

The EMP calls for building and energy codes and appliance standards that are higher than national codes.

Somerset County Recommendations:

- *Monitor increases in new construction and renovation capital costs that could impact business development, economic competitiveness and housing affordability.*
- *Support the provision of education programs for local code officials and developers on updated energy code requirements (through RVCC).*

3. Increase Energy Efficiency Everywhere & Reduce Peak Demand (cont.)

The EMP calls for maximizing efficiency, reducing emissions and increasing energy conservation.

- Replacement of gas cooking and heating equipment with electric is recommended beginning in 2030.
- Office efficiency upgrade costs currently range from \$10 - \$12/sf (prisons higher).
- Thermal ice and/or battery storage for grid resiliency is also supported.

Somerset County Recommendations:

- *Obtain current energy audits for all county facilities and implement energy conservation measures (“ECMs”).*
- *Perform energy efficiency benchmarking of all County facilities and build upon existing Avid Exchange (Energy Solve) services to:*
 - *Demonstrate efficiency improvement compliance & track savings; and*
 - *Maintain best operating practices, maximize efficiency, and enable “Real Time Energy Management” (RTEM).*

3. Increase Energy Efficiency Everywhere & Reduce Peak Demand (cont.)

The EMP advocates for Public - Private Partnership to achieve resiliency upgrades to infrastructure and facilities

- Ensures governmental function during power outages.
- Achieves EMP 50% peak load curtailment by 2030.
- Leverages both the existing pool of federal funding and private capital funding.
- Encourages integration of renewable, conventional and energy storage technologies.

Somerset County Recommendation: *Advocate for the Removal of regulatory roadblocks restricting microgrid deployment*

4. Make Building More Efficient and Almost Emission-Free

The EMP calls for transitioning new construction to net zero carbon

- All new state buildings will be 100% electric and wired for EVs and Distributed Energy Resources (DER)
- State to monitor private new construction compliance with EMP requirements

The EMP calls for transitioning existing buildings to 100% electric beginning in 2030

- Plan conversion of natural gas, oil and propane fueled structures to heat pumps
- End incentives to convert from oil/propane to natural gas

The EMP recognizes NJBPU's major role of identifying practical solutions for EMP implementation including grid resources, cost constraints, yet-to-be developed required technologies and changes to regulatory landscape

Somerset County Recommendation: *Plan for designing new and retrofitting existing county buildings in parallel with this EMP strategy, and take advantage of all available funding incentives and subsidies.*

5. Update Electricity & Natural Gas Distribution Systems

The EMP calls for electric distribution system upgrades to handle increased demand and enable integration of clean distributed energy resources (DER) and

- recognizes that NJ must play a bigger role in regulatory and PJM processes concerning grid transmission upgrades and inter-state cost allocations;
- calls for an overhaul BPU rate-making process to better align with green goals; and
- recommends the preservation of existing gas distribution resources with 75% decline in usage.

Somerset County Recommendation: *Support prioritization of utility investments in grid modernization that will enable a successful and timely transition to a green economy, and that will improve energy system resilience and reliability.*

6. Include LMI & Environmental Justice Communities in the New Green Economy

The EMP includes four goals to spread the benefits of the new green economy across all communities by:

- encouraging municipal “Community Energy Plans” (CEPs);
- supporting development of both community solar and individual solar projects;
- Promoting deployment of EV charging stations and “shared mobility programs”; and
- increasing awareness of state-sponsored and state-subsidized programs

Somerset County Recommendations:

- *Encourage NJBPU policies that standardize client credit criteria and harmonize access to efficiency improvement programs by all users*
- *Promote the development of municipal CEPs by building awareness, obtaining BPU seed money, providing a blueprint for the CEP committee process, and helping with data analysis, ideas, and connections*
 - *Create a County Energy Plan to facilitate this goal*
- *Engage partnering organizations in developing and deploying information about state programs, with savvy use of social media, especially to underserved groups.*

7. Seize this Chance to Grow NJ's Green Economy & Job Opportunities

The EMP encourages research and development and the growth of supply chain clusters that support the green energy sector.

Somerset County Recommendation: *Collaborate with SCBP, GRWDB, RVCC, area research universities, industry leaders and other partners to recruit/attract green energy industry sector businesses and expand the work force.*

The EMP calls for building workforce development programs.

- Counties are directly responsible for workforce training in their vo-tech high schools and community colleges. Refer to existing clean energy workforce development models established in MA, CT, NY and CA.

Somerset County Recommendations:

- *Help the County Vo-Tech and RVCC become statewide leaders in clean energy, energy efficiency and grid modernization education and job training & certification programs.*
- *Encourage the expedited completion of RVCC's needs assessment (by 12-2020), in advance of the EMP needs assessment target of Dec 2021 in order to gain a competitive advantage.*
- *Support the identification and recruitment of industry partners who will assist RVCC with curriculum design and the establishment of certification programs, and provide career paths.*

7. Seize this Chance to Grow NJ's Green Economy & Job Opportunities (cont.)

The EMP proposes the establishment of a NJ Green Bank (as in CT, NY, RI and elsewhere) to leverage state-provided capital with multiples of private capital.

Somerset County Recommendation: *Support the expeditious establishment of the Bank and for a representative from Somerset County to have a seat on the board when the bank launches.*

NJEDA is launching life sciences R&D start-ups hub in New Brunswick. The EMP proposes another hub for helping clean energy R&D start-ups.

Somerset County Recommendation: *Investigate the development of a clean energy start-up hub including a clean energy industry incubator and/or a green building hub and incubator within the County.*

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THANK YOU



For more information and to discuss these recommendations in greater detail, please contact the Somerset County Energy Council, which is part of the Somerset County Planning Division:

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