



SOMERSET COUNTY ENERGY COUNCIL  
ANNUAL REPORT  
2017



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## I. MISSION

To advise the Somerset County Board of Chosen Freeholders on energy matters and to advocate for energy efficiency, conservation and renewable energy, and promote public understanding of opportunities and choices regarding energy issues.

## II. OVERARCHING OBJECTIVES

Somerset County Government, as well as the County's residents, businesses and non-profit organizations continues to benefit from the leadership and guidance provided by the Council and the initiatives it has underway. These initiatives are closely aligned with its purpose as established in its bylaws as follows:

The purpose of the Somerset County Energy Council is to

- a. recommend alternative energy, energy conservation, resiliency and other sustainability initiatives;
- b. promote an environmentally sustainable and responsible future;
- c. establish partnerships between government and the private and non-profit sectors that serve to advance the Mission Statement;
- d. leverage alternative energy sources and energy saving strategies to foster economic development and growth;
- e. provide information that empowers community leaders so they can advocate for and adopt advanced energy initiatives and strategies dedicated to sustainability and public health protection;
- f. educate citizens and County-based businesses to enhance receptivity and ensure active participation;
- g. provide technical and policy guidance to the Board of Chosen Freeholders;
- h. maximize the use of Somerset County's natural and other resources to achieve alternative and more sustainable energy production and reduced energy consumption;
- i. advocate and implement sustainable building design and advance related County programs; and
- j. recommend public policy and legislative positions that serve to achieve the vision and Mission Statement, especially as it relates to optimal sustainability practices

In sum, it is the Council's intent to continue to recognize, communicate, and celebrate best practices, verifiable results, and demonstrated examples of high performance success stories and models of sustainability, energy-efficiency, and resiliency in the County.

## III. BACKGROUND

The Somerset County Energy Council ("the Council") was established in January 2008 by the Somerset County Board of Chosen Freeholders (the Freeholders), with the intention of advising the Freeholders on energy issues, and educating the public on effective ways to reduce energy consumption. Since its establishment, the Council has implemented programs to assist Somerset County and its local government entities in conserving energy and reducing energy costs. It implemented the County Energy Audit Program in 2009-10 and supported the establishment of the County's Solar Program in 2011. The Council provides information on new and emerging policies, regulations and energy technologies to

the Freeholders on an on-going basis. It also implements public education initiatives that promote alternative energy options and conservation strategies by hosting conferences and events; and sharing information including case studies and links to other energy resources through its website. It has also formed strong partnerships with external agencies such as the NJ Chapter of the U.S. Green Building Council, Sustainable Jersey and associated Somerset County Green Leadership Hub, as well as the Somerset County Business Partnership's Sustainable Somerset Committee in order to work together to achieve energy sustainability and resiliency goals.

The Council can be comprised of up to 11 members appointed by the Freeholders. All members must be County employees, residents of Somerset County or employees of organizations/companies located within Somerset County. They must also have specialized knowledge and interest in energy issues. It is housed under the Somerset County Planning Board and is staffed by the Somerset County Planning Division, with the Director of Planning serving as a voting member. Planning Division staff support the Council in carrying out its programs and initiatives; and helps the Council to forge partnerships and identify resources that can advance its mission and goals.

The Council's 2017 reorganization meeting was held on Tuesday, February 21, 2017. The Council met approximately every other month thereafter as follows: May 23<sup>rd</sup>, June 20<sup>th</sup>, October 17<sup>th</sup> and December 5<sup>th</sup>. This bi-monthly schedule allows the Council's standing committees to meet on the off-months to address specific projects and/or issues. It also affords members appropriate time for research, information-sharing and follow-up actions, while giving the Council the ability to focus on emerging and changing energy issues, policies, programs and technologies. The Council's Meeting Agendas, Minutes, Annual Reports and Bylaws are available online at: <https://www.co.somerset.nj.us/government/public-works/planning/energy-council>.

The roster of 2017 officers and members is as follows:

William Amann, PE, LEED Fellow, DCEP, Chairman  
 Jeanne Perantoni, AIA, LEED AP, Vice Chair  
 Wayne DeFeo, LEED AP, Secretary  
 Susan Dorward  
 Paul Drake, PP, AICP  
 Jeffrey Grant, PE, CEM, CEP  
 Donald Kasten  
 Walter Lane, PP, AICP  
 J.D. Majewski, PhD

The 2017 Freeholder Liaison to the Council was the Honorable Patrick Scaglione. The term as Freeholder Liaison is for one year, and is reassigned annually. The Honorable Brian G. Gallagher will serve as Freeholder Liaison during 2018. Members of the Council serve 3-year terms, and may be reappointed by the Board of Chosen Freeholders. Three (3) of the above Council's members (Vice Chairman Wayne DeFeo, Jeffrey Grant and Walter Lane), whose terms were due to expire on December 31, 2017 were reappointed by the Board on January 5, 2018. 2017 concluded with two vacancies. Both of these vacancies were *carried over from previous years. One of these vacancies was filled by Jeff Foose, who was named*

as a new member of the Council at the January 5, 2018 Freeholder Meeting. As a result, one vacancy remains at the start of 2018. The roster of officers and members of the Council beginning in 2018 is as follows:

William Amann, PE, LEED Fellow, DCEP, Chairman  
 Jeanne Perantoni, AIA, LEED AP, Vice Chair  
 Wayne DeFeo, LEED AP, Secretary  
 Susan Dorward  
 Paul Drake, PP, AICP  
 Jeff Foose  
 Jeffrey Grant, PE, CEM, CEP  
 Donald Kasten  
 Walter Lane, PP, AICP  
 J.D. Majewski, PhD

Amendments to the Council's Bylaws were adopted by the Freeholders on September 26, 2017. The changes comprise minor non-substantive edits, make people who are employees of organizations/companies located within Somerset County eligible to serve as members of the Council, and remove the specification that the first meeting of the year (the annual reorganization meeting) must occur in January.

#### IV. IN THE SPOTLIGHT

- Chairman Amann, PE, LEED Fellow, DCEP served the second year of his term on the Board of Directors of the NJ Chapter of the U.S. Green Building Council. His current term commenced in 2016. He has been named a 2015 LEED Fellow by the Green Business Certification Inc. (GBCI). LEED Fellow is the most prestigious designation for the recognition of significant achievement in the green building, energy efficiency, and sustainability community. Chairman Amann currently serves as the chairman of the Climate Reality Central New Jersey Chapter. He completed training as a Climate Reality Leader at the Climate Reality Leadership Corps Training event held in Denver, Colorado in March 2017. He is also a sponsoring member of Urban Green (the NYC branch of the USGBC).
- Council Member Walter Lane, PP, AICP was elected to the New Jersey County Planners Association Executive Committee in December 2017. His term commences in January 2018, and affords him the opportunity to increase County awareness and support of initiatives that implement energy efficiency, conservation and renewable energy statewide.
- Susan Dorward serves as Sustainability & Energy Coordinator at Raritan Valley Community College (RVCC), and is responsible for a variety of campus sustainability initiatives. As a result of her leadership and hard work, RVCC is one of 11 colleges and universities nationwide honored with a 2016 U.S. Department of Education – Green Ribbon Schools Postsecondary Sustainability Award. It was the first community college in the country to sign an environmental stewardship agreement with the U.S. Dept. of Environmental Protection (EPA). RVCC is the second community College in the U.S. and second college in NJ to commit to 100% green electricity through the EPA Green Power Partnership. It was the first NJ institution to receive a national sustainability rating through the Association for the Advancement

of Sustainability in Higher Education's (AASHE) STARS Program, and RVCC is the first NJ college to earn River Friendly certification.

## V. 2017 ACCOMPLISHMENTS AND ONGOING INITIATIVES

### 1. PARTNERSHIPS

The Council is represented on several national, state and regional organizations with the goal of expanding and sharing its expertise on energy-related policies, regulations, programs and technologies. The Council strives to keep the Board of Chosen Freeholders informed of the activities of these organizations and how their efforts might benefit Somerset County. The Council also invites experts to speak at its meetings in order to acquire and share information on major energy-related issues and opportunities with County leaders. Likewise, Council members are frequently asked to share their expertise as speakers at various events, and often serve on the boards, committees and task force groups of various partner entities. The partnerships the Council has fostered with these organizations represent opportunities for enrichment and collaboration; as well as the pooling of resources to successfully achieve common goals. The following is a summary of ongoing partnership activities the Council has been engaged in during 2017:

**A. Sustainable Jersey (SJ):** The Council's mission and objectives align closely with those of Sustainable Jersey, which focuses on providing tools, training and financial incentives, that support and reward municipalities for implementing sustainability initiatives. Sustainable Jersey is a non-profit organization that was established in 2009 as an outgrowth of collaboration among the NJ League of Municipalities, the NJ Department of Environmental Protection and other supporters. It is housed at the College of New Jersey. The Council strongly supports municipal participation in the SJ Certification Program, particularly those actions aimed at implementing energy conservation and efficiency measures (for more information see: <http://www.sustainablejersey.com/actions-certification/actions/>). This year, a new "Energy Efficiency for Municipal Facilities" action was established, which replaces the previous "Energy Audits and Implement Energy Efficiency Measures" action. Municipalities can earn variable points by engaging in this action, ranging from 5 to 50. A number of previous energy-related actions are no longer eligible for points, and the following new actions have been added which count toward a "Gold Star": 1) Commercial Energy Efficiency Outreach and 2) Residential Energy Efficiency Outreach. Gold Star is a new level of recognition for municipalities that are certified at SJ's "Silver" level. The following is a list of Somerset County municipalities involved in SJ's certification program and their current status:

Name of Municipality	SJ Certification Status
Bedminster Township	Bronze
Bernards Township	Silver
Bernardsville Borough	Bronze
Bound Brook Borough	Registered
Branchburg Township	Registered
Bridgewater Township	Bronze
Franklin Township	Silver



Far Hills Borough	Registered
Green Brook Township	Bronze
Hillsborough Township	Silver
Manville Borough	Registered
Montgomery Township	Bronze
North Plainfield Borough	Registered
Peapack & Gladstone Borough	Registered
Raritan Borough	Registered
Rocky Hill Borough	Registered
Somerville Borough	Bronze
Warren Township	Silver
Watchung Borough	Registered

Source: <http://www.sustainablejersey.com/actions-certification/participating-communities/>

Members of the Energy Council serve on SJ's Energy Efficiency and Greenhouse Gas Emissions Task Force and Land Use Task Force, in order monitor and evaluate the effectiveness of current actions and weigh-in on the Taskforce's proposed new and modified actions. Council representatives helped shape SJ's new Gold Star-eligible Energy actions and the updated Energy actions that took effect this year. The Council also supports implementation of SJ's "Green Fleet" actions. The Council also helps keep County leaders informed of SJ's activities. Council representatives attended the June 21, 2017 New Jersey Sustainability Summit sponsored by SJ held at The College of New Jersey. The Honorable Peter Palmer, Director of the Somerset County Board of Chosen Freeholders was a recipient of SJ's 2017 Leadership Award for his lifetime of public service and support for sustainable communities.

**B. Somerset County Green Leadership Hub:** The Hub was established through a partnership between Somerset County and Sustainable Jersey in 2014. This organization aims to facilitate and support municipal involvement in the SJ certification program. The Council supports the Hub's efforts to empower community, business and non-profit leaders and maximize the benefits of their sustainability initiatives in order to enhance quality of life, revitalize the economy, protect natural resources and create thriving communities. Involvement in this organization is part of the Council's efforts to help municipalities succeed in implementing SJ's energy and other certification actions. Jeanne Perantoni, Vice Chair of the Council serves as a member of the Hub's Steering Committee, and attended the Hub's January 24<sup>th</sup> and October 8<sup>th</sup> 2017 Steering Committee meetings. Council members attended the Green Leadership Hub Scavenger Hunt held at Raritan Valley Community College on July 14, 2017. Administrative support for this organization is provided by the County Planning Division. For more information about the Hub, please contact Walter Lane, Director of Planning via e-mail: [PlanningBd@co.somerset.nj.us](mailto:PlanningBd@co.somerset.nj.us).

**C. New Jersey Sustainable Business Registry (NJSBR):** The Council actively supports participation by the County's growing green business sector in the NJ Department of Environmental Protection's NJSBR (<http://registry.njsbdc.com/>). Participation in this registry is linked to the Somerset County Business Partnership's "Green Challenge" described below. (<https://www.scbp.org/legislative-affairs/sustainable-somerset/go-green-somerset>). Businesses that implement sustainability initiatives can become part of this registry, through which they can gain recognition for their leadership, distinguish themselves from their competitors and capitalize on the registry as a marketing/promotion tool. Council Chairman William Amann

owns one of the first businesses to meet the NJSBR standards and join the registry. The following Somerset businesses have joined the registry thus far:

NJSBR-REGISTERED BUSINESSES	SOMERSET COUNTY MUNICIPALITIES
Hipcycle	Bernards
Organic Nest	Bernardsville
Raritan Valley Community College	Branchburg
Dutch Hollow Farm	Bridgewater
Duke Farms Foundation	Hillsborough
Honor Yoga	Hillsborough
Bridgepoint Run Farm	Montgomery
Great Road Farm	Montgomery
J M Sorge, Inc.	Somerville
M & E Engineers	Somerville

The NJSBR is also linked to Sustainable Jersey's municipal certification program, and includes useful savings calculators. More information is available at the following link: <http://registry.njsbdc.com/>.

**D. Together North Jersey:** The Council was involved in the development of the Together North Jersey Plan, which was published in 2015 and applies to the North Jersey Region, of which Somerset County is a part. The plan outlines a vision for the region organized around the following themes: competitive, livable, efficient and resilient. The Plan's priority goals are to:

- Grow a strong and inclusive regional economy
- Increase access to opportunity
- Protect the environment
- Work together

Council representatives serve on TNJ 2.0 standing committees designed to guide the plan implementation process. They also serve on the "Resilient" and "Efficient" implementation task forces. In this capacity, Council Members attended the three Task Force meetings held during 2017.

**E. Somerset County Business Partnership and its Sustainable Somerset Committee:** The Council supports implementation of the Business Partnership's Strategic Plan "Advancing a Sustainable Community" objectives (see <http://www.scbp.org/images/uploads/file/SCBP%202010%20Strategic%20Plan.pdf>) and promotes participation in the Business Partnership's "Green Business Challenge", which is linked to the NJSBR. More information about the Green Business Challenge can be found at (<https://www.scbp.org/legislative-affairs/sustainable-somerset/go-green-somerset>).



Several members of the Council are members of the Somerset County Business Partnership and serve on its Board and various committees, including the Business Partnership's Executive Committee and the Sustainable Somerset Committee. Members of the Council attended each of the monthly Sustainable Somerset Committee Meetings and nearly all Business Partnership meetings and events held during 2017. Chairman Amann served as a guest speaker at the June 13, 2017 Sustainable Somerset Committee meeting, providing a presentation entitled "*Climate Change and Opportunities for Green Economic Growth*". The Council continues to collaborate with the Business Partnership to advance business sustainability and energy conservation goals; support growth of the green business sector in the County and work with the Business Partnership in co-sponsoring educational events and initiatives. It will be reaching out to the leaders of the Sustainable Somerset Committee to identify ways to work together in the coming year.

**F. Local Colleges and Universities:** The Energy Council maintains strong ties with Rutgers University and Raritan Valley Community College. Council member Paul Drake serves as adjunct professor at the Bloustein School in New Brunswick. Chairman Amann provides curriculum guidance for Raritan Valley and on the Industry Advisory Board for Rutgers College of Engineering. Council member Susan Dorward serves as the Sustainability and Energy Coordinator at RVCC. Council Member Don Kasten serves as the Manager of Technical Operations in the Department of Industrial Systems Engineering at Rutgers University. As part of this role, free energy audits and advice on industrial energy conservation and sustainability solutions are provided to area industries. Representatives of the Council attended the Rutgers Energy Institute Annual Energy Symposium on May 3, 2017.

Michael Kornitas, CEM, LEED, Director of Sustainability and Energy at Rutgers, the State University of New Jersey was a guest speaker at the Council's February 21, 2017 meeting. He described the energy conservation and renewable energy initiatives underway at the Piscataway Campuses.

The Council submitted an internship proposal to the Rutgers University Sustainable Raritan Scholars Program, and was successful in obtaining an undergraduate student to assist the Council with some of its education and outreach work during the 2017 fall semester. The intern developed a matrix that contained a set of potential outreach initiatives aimed at promoting energy conservation and efficiency, for which potential partners and implementation resources were identified. This matrix is included in the Appendix. The development of infographics is one of the initiatives identified in the matrix. The intern prepared several infographics for the Council as part of his internship responsibilities, which are also included in the Appendix.

**G. NJ Association of Energy Engineers:** The Council's Chairman is a member of this organization and gave a presentation on designing buildings for LEED certification at their September 20, 2017 meeting held at the NJ Institute of Technology.

**H. Somerset County Planning Board –** The County Planning Board continues to integrate the goals, objectives and recommendations of the Council into its plans, studies and programs. Below are the initiatives that the Energy Council has significantly influenced during 2017:

Somerset County Planning Partners Forum: The Council Chairman gave a presentation of the new LEED for Cities certification program at the September 13, 2017 Planning Partners Forum hosted by the Somerset County Planning Board.

Updated Housing Element: The Council was instrumental in the inclusion of several new concepts in the updated Housing Element of the County Master Plan, which was adopted in November 2017. The plan promotes the integration of community resiliency and sustainability principles into new residential development and redevelopment. The plan recommends designing new homes and retrofitting the existing housing stock with enhanced energy efficiency in mind. The plan promotes the use of renewable energy systems; optimizing climate conditions through site orientation and design; conserving water and re-using stormwater; and incorporating building materials that are locally-sourced and environmentally safe. The plan promotes the use of high-performance green building principles and low-impact site design standards in all residential structures. It also promotes the inclusion of pedestrian facilities that expand mobility options such as walking and biking as a strategy for reducing vehicular trips and associated energy consumption.

Supporting Priority Investment in Somerset County, Phase III: This study, which is part of the Division's ongoing work with the County's municipalities to implement the County Master Plan's Investment Framework builds upon the goals and objectives of the Council by including environmental justice, sustainability and resiliency concepts into the area-specific site design and redevelopment recommendations for the County's priority growth investment areas.

Update of the Somerset County Multi-jurisdictional Hazard Mitigation Plan: Energy resiliency is a major focus of the Energy Council. The County Planning Board is leading the update of the 2014 Somerset County Multi-Hazard Mitigation Plan, which is undertaken every 5 years, in accordance with FEMA requirements. Based on the Council's recommendations, the plan will include an "Energy Resiliency Framework" chapter, which is intended to raise awareness about the potential impacts of hazard events on the energy system and the effects power and fuel supply disruptions can have on communities and essential facilities, based on what we learned from Superstorm Sandy and other major storms. This chapter also will strive to identify recent initiatives that have been planned, completed or are underway to make the energy system more reliable and resilient; as well as identify unmet energy resiliency needs. It will include an implementation toolkit comprised of strategies for improving and protecting the energy system and ensuring access to power is preserved and/or expeditiously restored in the event of a severe storm or other hazard event. By including energy resiliency initiatives in the updated plan, participating jurisdictions could become eligible for public implementation funding. A member of the Energy Council is serving as a member of the Steering Committee for this project, which commenced in July 2017 and will conclude in October 2018.

## **INITIATIVES**

The Council engages in a number of initiatives in order to advise the Somerset County Board of Chosen Freeholders on energy matters ranging from proposed legislation and new Federal and State programs to emerging energy technologies and how they can be applied in Somerset

County. Ongoing initiatives that the Council has been involved in during and prior to 2017 are summarized below.

**A. Energy Plans, Policies and Legislation:** The Council monitors proposed energy legislation, programs and initiatives at the State and Federal levels, and offers guidance on the impacts and potential benefits they could have on Somerset County, its municipalities, businesses and residents. Below is a summary of some of the initiatives the Council has been closely monitoring during 2017.

VW Settlement Funds: The Council has reviewed proposals concerning the use of New Jersey's share of the Volkswagen Emissions Settlement Trust Funds. A portion of this funding is being made available for supporting electric vehicle usage and the provision of electric vehicle charging stations, which is strongly supported by the Council, as noted in a letter from the Council submitted to the NJDEP dated November 15, 2017, which is posted on the Council's website.

RPS & SREC: New Jersey is one of 30 states with a Renewable Portfolio Standard (RPS), which is intended to increase the amount of renewable energy production and use. NJ's RPS requires all electric suppliers serving retail customers to procure 20.38% of their electricity from eligible renewable energy sources by June 2020; and an additional 4.1% of their sales from eligible solar energy sources by 2027. These standards have helped clean energy industries, solar generation to expand in Somerset County and statewide, and are closely linked to the Solar Renewable Energy Certificate (SREC) program, created by the RPS statute. SRECs can be traded via the State's SREC market. In New Jersey, SRECs have significant value, and it has the largest SREC Market in the nation. This is driving an influx of electricity supplied by solar systems, which can lead to supply-demand imbalances. The Council is monitoring legislation (S2276) which if adopted, would establish the NJ Solar Energy Study Commission and increase the state's solar renewable energy portfolio standard and ensure the continued success of New Jersey's solar industry.

NJEDEC Act: When New Jersey's Electricity Discount and Energy Competition Act was instated in 1999, residents of the state were given the unique opportunity to shop for their own gas and electricity rates, enabling customers to choose clean energy sources. The Council hopes to see increased voluntary selection of clean energy choices going forward.

De-Coupling: Somerset County is divided between the deregulated service areas of Jersey Central Power and Light (JCPL) and Public Service Enterprise Group (PSE&G). The Somerset County Energy Council closely monitors policies and regulations that impact the County and its utility providers. Decoupling is an important potential solution to the century-old rate system that encourages utilities to sell as much energy as possible. The Council supports transitioning to a new business model that would prevent revenue and profit loss to utilities resulting from energy efficiency and conservation programs and initiatives. By decoupling sales from distribution, implementation of energy efficiency and conservation measures by public and private sector entities could increase significantly across the State. Companies such as JCPL and PSE&G, due to their close contact with consumers, are uniquely positioned to support, and potentially fund energy efficiency and conservation programs if decoupling becomes a reality. In

fact, PSE&G has expressed support for legislation that would decouple utility rates from energy usage. This is an area that has been and will continue to be closely monitored by the Energy Council.

Smart Metering: New Jersey is considerably behind other states when it comes to smart metering, ranking 47<sup>th</sup> in the nation. Smart meters are two-way enhanced communication devices that offer multiple benefits by giving residents and businesses real-time data on their electric usage so that consumers can make more informed choices that can lead to greater energy efficiency and conservation. The NJ Board of Public Utilities approved Rockland Electric's proposal for smart meters and advanced metering infrastructure in September 2017 within its service area, but this opportunity has yet to be extended across the State. Additional action by state legislators and NJBPU leaders that will allow smart metering to move forward is supported by the Council.

RGGI: Future participation by New Jersey in the Regional Greenhouse Gas Initiative (RGGI) of the North east and Mid-Atlantic States of the U.S. is supported by the Council. Legislative action will be required in order for the State to re-join this initiative. This program enables participating states to issue CO2 allowances which are distributed through regional auctions, resulting in proceeds that are used for reinvestment in strategic energy and consumer programs including energy efficiency and renewable energy.

CPP: The Energy Council reviewed, and has been monitoring the impacts of the Federal Clean Power Plan (CPP) Rule aimed at improving air quality; reducing associated public health risks; supporting clean energy investments and job growth; and addressing climate change. Enactment of this rule in August 2015 was followed by strong opposition from the energy industry, resulting in a February 9, 2016 Supreme Court Decision to stay enforcement of the rule while litigation proceeds. The compliance period for the CPP was scheduled to begin in 2022, with requirements to achieve emissions reductions (specific to each state) by 2030. On March 28, 2017, President Trump signed an executive order calling for a review of the CPP. On October 25, 2017 EPA issued an Energy Independence Report which identifies four initiatives intended to reduce unnecessary regulatory burdens on the development and use of domestic energy resources, which may negatively impact the clean/renewable energy sector.

IECC & ASHRAE: The Council continues to support implementation of the 2015 International Energy Conservation Code (IECC) which was adopted by the NJ Department of Community Affairs on September 21, 2015 and came into effect on March 21, 2016. All building permits filed as of this date must meet these new requirements. The IECC contains separate provisions for commercial and low-rise residential buildings. The Council Chairman served as a guest speaker at the June 22, 2018 AIA New Jersey East Coast Green 2017 event where he provided an overview of the new ASHRAE Energy Code.

NJ Energy Master Plan: The Council has reviewed and continues to monitor implementation of this plan, which was adopted in December 2011 and updated in December 2015. The Council supports the five over-arching goals of the plan, which are as follows: 1) Drive Down the Cost of Energy for All Customers, 2) Promote a Diverse Portfolio of New, Clean, In-State Generation, 3) Reward Energy Efficiency and Energy Conservation/Reduce Peak Demand, 4) Capitalize on

Emerging Technologies for Transportation and Power Production, and 5) Maintain Support for the Renewable Energy Portfolio Standard.

**B. LEED:** The Council is a strong supporter of the LEED green building design rating system. It is available for virtually all building, community and home project types. LEED provides a framework to create healthy, highly efficient and cost-saving green buildings and sustainable communities. LEED certification is a globally-recognized symbol of sustainability achievement. Chairman Amann informed the Council about the new “LEED for Cities” Certification Program. The city of Newark, NJ was the first in the world to register, with assistance provided by the NJ Chapter of the USGBC. This comprehensive certification addresses energy, waste, water, crime, education and other factors. The Council is exploring the potential for other jurisdictions, including the County to get involved in this program. The Council is a strong advocate for LEED building certification and hopes to see more LEED-certified projects in the County in the future.

**C. Smart Grids:** Another technological advancement supported by the Council involves smart grid technology. For example, JCPL is a subsidiary of FirstEnergy Services Corp., which has recently commenced a Smart Grid Modernization Initiative involving the deployment of advanced metering infrastructure in Somerset County and other parts of New Jersey. These improvements will enable the company to respond to outages faster and more efficiently, improve power quality and reliability; maximize operational efficiencies thereby lowering peak demand and support smart metering applications in the future. The Council strongly supports expanded use of this technology by the power companies serving Somerset County in the future.

**D. Electric Vehicles:** The Council has been closely monitoring the ongoing transformation of the automotive industry to cleaner and more efficient technologies. The market share of hybrid vehicles has grown in recent years, as both the public and private sectors increasingly recognize the benefits of this technology. For example, the Somerset County’s Board of Chosen Freeholders has successfully transitioned the County’s motor pool to be almost entirely comprised of hybrid vehicles. Hybrid vehicles run on a twin-powered engine that utilizes a combination of gas and electricity. They get high gas mileage and emit less pollution than gas-only vehicles. Even as the popularity of hybrids continues to grow, a new focus on all-electric vehicles has emerged. During 2017, the State has begun to see growth in the long-range electric vehicle market, which is slated to expand in 2018. The New Jersey Board of Public Utilities (NJBPU) has recently initiated steps that can lead to toward all-electric vehicles becoming a much larger percentage of the vehicles on roadways across the State. Increased availability of EV charging stations can contribute to this outcome, and the NJBPU has begun working with the public and private sectors by forming an Electric Vehicle Infrastructure Stakeholder Group in 2017 to address emerging EV infrastructure needs. According to the Alternative Fuels Data Center ([https://www.afdc.energy.gov/fuels/electricity\\_locations.html](https://www.afdc.energy.gov/fuels/electricity_locations.html)), there were 213 electric stations and 509 charging outlets in New Jersey as of September 2017, including 13 Level 2 public charging stations within Somerset County. The Council is closely monitoring these trends.



During 2017, the Council explored incentives available through PSE&G Customer Solutions' Electric Vehicle (EV) Charging Station Incentive Program as well as the joint NJDEP/NJ Board of Public Utilities (NJBPU) Electric Vehicle Charging Grant Program, which was fully subscribed in 2017. The NJDEP/BPU program is intended to off-set the cost of providing EV workplace charging stations provided by NJ employers. The Council supports increased EV car usage as a cost-effective clean energy alternative to fossil-fuel-based vehicles, and installation of charging station infrastructure within the County. The County is exploring incentives to provide EV Charging stations in the future at the County Complex in Somerville based on the Council's recommendation.

**E. Energy Resiliency:** The Council continues to support and monitor initiatives underway by PSE&G and JCPL to harden the electric grid and improve reliability. Of particular interest to the Council are initiatives aimed at reducing lifestyle and economic disruptions, ensuring essential facilities such as hospitals, nursing homes, emergency shelter, etc. that are located within the County remain powered and minimizing other adverse impacts caused by widespread, long-term power outages and disruptions to the liquid fuel supply chain. Access to funding available through the NJ Energy Resiliency Bank for microgrid feasibility studies has been limited thus far to the nine NJ counties (of which Somerset is not a part) that are eligible for FEMA's Superstorm Sandy Recovery Funds. The Council continues to monitor the results of the NJBPU Town Center Microgrid Initiative through involvement in the TC-DER Microgrid Stakeholder Work Group as well as potential opportunities to fund microgrid feasibility analyses and implement microgrids as a hazard mitigation strategy within Somerset County.

As noted under V.1. Partnerships above, a representative of the Energy Council is serving as a member of the Steering Committee associated with the process of updating the Somerset County Multi-jurisdictional Hazard Mitigation Plan (HMP). This plan will include for the first time an *Energy Resiliency Framework* component aimed at providing information and resources that can be used to inform the update of the HMP's mitigation strategies. Work on this project commenced in July 2017 and will conclude in October, 2018.

**F. Emerging Energy Technologies:** The Council continues to examine emerging energy technologies and inform the Freeholder Board of those that may be of benefit to the County and its municipalities. The Council continues to monitor technological advances concerning distributed energy systems and energy storage. The Council also supports the deployment of smart metering, smart grid and microgrid technology in Somerset County.

During 2017, Council representatives served on the NJBPU's TC-DER Microgrid Stakeholder Work Group, which includes over 90 interested individuals from government and the private sector. This group helped to finalize the microgrid feasibility grant program, which was released in early February. 13 applicants were awarded amounts ranging from \$130,000 to \$175,000, for a total of approximately \$2 million in funding. Studies were selected to move forward in each of the state's electric utility service areas, although none are located within Somerset County. The outcome of these studies will be used to shape State microgrid policies and regulations, as well as potentially result in microgrid projects aimed at providing back-up power solutions for key essential facilities across the State.

The Council's Chairman served as a panel facilitator at the October 25, 2017 event entitled "Exploring New Jersey's Approach to a Modern Grid: Opportunities and Pathways to a Clean Energy Future", which addressed the current state of New Jersey's electric grid, technologies being adopted in New Jersey and across the country and grid modernization needs and opportunities.

This year, the Council Chairman introduced its members and the Freeholders to the new Well Building Standard. This is the first building standard focused exclusively on the health and wellness of people in buildings. It is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being.

**G. Energy Conservation and Efficiency:** The Council continues to support implementation of the energy saving improvements identified through the County Energy Audit Program by the County and local government entities, and encourages the auditing of additional public facilities so that needed energy improvements can be identified and implemented. The Council also supports performing updated audits on facilities that were audited more than 10 years ago.

Thomas Quigley, Account Manager, NJ Clean Energy Program attended the May 23, 2017 Council meeting and provided a PowerPoint presentation describing each component of the Clean Energy Program and upcoming 2018 changes aimed at streamlining the application process and making the programs more flexible/customizable.

**H. Energy Tracking and Monitoring:** The Council remains very supportive of increased utilization of facility energy use monitoring and tracking systems by all levels of government and the private sector. Use of the free USEPA Energy Star Portfolio Manager (ESPM) tool is strongly encouraged. During 2017, Green Team representatives from two municipalities involved in Somerset County's Green Leadership hub agreed to explore utilization of this tool, through which SJ certification credits can be earned. Neither municipality has been successful in completing this work thus far. The Council contacted the County's billing management company, and found that one of the services offered to its customers involves entering billing record data into the ESPM database for a monthly per facility/meter fee. Utilization of this service by the County was recommended by the Council. The Council is also supportive of legislative and policy changes that would enable utility companies to enter billing record data directly into the ESPM database if desired by the customer.

**I. Public Education:** Building public awareness of strategies for improving energy conservation and efficiency; as well as clean, renewable energy options is a high priority of the Council. Since the Council's formation in 2008, it has partnered with the County Freeholders, Planning Board, Business Partnership, Sustainable Jersey and associated Somerset County Green Leadership Hub, and other organizations in sponsoring workshops and events. The Council recognizes that government entities play an important leadership role in promoting these concepts; and the importance of working with municipalities, businesses, non-profit entities and residents to achieve energy sustainability and resiliency.

In 2017, the Council, with the help of its Raritan Scholars intern, developed a Proclamation entitled, "Celebrating National Energy Efficiency Day", which was acted upon by the Board



of Chosen Freeholders on October 5, 2017. A copy of the proclamation is contained in the Appendix. The purpose of the proclamation is to educate the public about the benefits associated with implementing energy conservation and efficiency measures.

The Raritan Scholars Intern also assisted the Council by preparing an Outreach Matrix listing a variety of projects and initiatives the Council could consider pursuing to achieve the Council's goals, which is included in the Appendix, as well as infographics aimed at highlighting energy cost savings that can be achieved through several energy saving strategies by both the public and private sectors.

The Council partnered with the Somerset County Planning Division to add a new "Energy Conservation and Resiliency Category" to the annual Land Development Awards Program in 2015. The 2015 award was given to Dutch Hollow Farm in Bridgewater/Bedminster Townships for implementing the first approved roof-mounted solar array on a preserved farm in NJ. The Borough of Somerville received a 2016 award in the Resiliency and Sustainability Category for its exemplary Severe Weather Policy Statement and Sustainability Initiatives. In addition, three Somerset County farms (Dutch Hollow Farm, Great Road Farm and Johnson Farm) were recognized with a 2016 award in the Renewable Energy & Energy Conservation Category. There were no nominations for this award category in 2017.

The Council Chairman authored an "Energy Primer" for the NJ Chapter of the American Planning Association, for potential inclusion in the next edition of the "Complete Guide to Planning in New Jersey" in early 2017. A modified version of this document is being developed by the Council, which is intended to serve as a guide for County and local leaders and the general public. Completion is anticipated in 2018.

***Somerset County Energy Council Website:*** Updates and enhancements to the Council's webpage were made during 2017 and will be pursued in the year ahead.

## VI. PAST PROJECTS

**1. Energy Smart Somerset Progress Report:** This report was prepared by the Council to provide a point-in-time "benchmark" of the level of participation in, and accomplishments made through various renewable energy projects, energy efficiency programs and other initiatives by both public and private stakeholders in Somerset County. The baseline information in this first report is intended to serve as the basis for monitoring and tracking progress in attaining regional and local energy sustainability goals, which could be accomplished through future updates. A copy of the report can be found at: <http://www.energysmartsomerset.org/council/2011Progress.pdf>.

**2. Somerset County Energy Audit Program:** In 2008, the Freeholders allocated one million dollars to launch the Somerset County Energy Audit Program (EAP). This program provided Level II Energy Audits for forty-two municipal buildings and forty-one school buildings across Somerset County. Specialized consultants hired by the County analyzed one year of energy usage data and surveyed all the existing equipment for each facility as part of the audit process. Energy conservation and efficiency recommendations were

identified and documented for each facility along with all funding programs and incentives available for implementation. Each facility was then provided with a final audit report; and data for audited facilities were entered into the Energy Star Portfolio Manager tool, which facilitates monitoring of energy savings over time as improvements are made. Finally, all audit results were analyzed by the Council to determine the payback periods associated with various types of energy improvements and capital investment requirements.

The EAP program was intended to serve as a platform through which local government entities could move forward with energy conservation and efficiency measures that lead to energy and cost savings. It has been estimated that this program yielded an annual cost savings of \$390,594 in 2011. Many recipients took advantage of additional funds for implementing energy improvements available through New Jersey's Direct Install Program in 2012 and the subsequent PSE&G Direct Install Program. Following the Somerset County Energy Audit Program, the Council facilitated municipal and school district participation in the New Jersey Board of Public Utilities' Direct Install Program, which offered funding for the installation of the energy conservation measures identified in the Audits. The Council promoted the use of American Resource and Recovery (ARRA) grants to meet the matching fund requirements associated with the Direct Install Program; and raised awareness of savings opportunities available through the NJBPU's rebate programs. Many local government entities participated in the subsequent PSE&G Direct Install Program and made use of the free program available through the NJBPU for providing audits for additional facilities.

**3. Model Renewable Energy Ordinances:** In 2012, the Council collected a series of sample municipal ordinances from throughout New Jersey that establish guidelines and standards for the siting and installation of solar and wind facilities. These sample ordinances served as a resource for the County's municipalities. Sustainable Jersey is currently working on a set of actions that promote the adoption of ordinances that promote solar and wind-based renewable energy systems, which are supported by the Council. Roll-out of SJ's New Solar and EV Actions is anticipated in the coming year.

**4. Somerset County Comprehensive Economic Development Strategy (CEDS) Energy Sub-committee:** The Council's Alternative and Renewable Energy Committee served as the CEDS Energy Sub-committee from 2011 – 2013. The role of this committee was to provide feedback on all aspects of the Draft Comprehensive Economic Development Strategy for Somerset County. Chairman Amann and Laurette Kratina, PP, AICP, who provides staff support to the Council from the Somerset County Planning Board, served as members of the CEDS Steering Committee. In these roles, the Council helped shape the development of the CEDS, which was approved by the United States Economic Development Authority in December 2013, and adopted as an element of the County Master Plan in April, 2014. The Adopted CEDS is available at the following website: <https://www.co.somerset.nj.us/planweb/sustainable/index.htm>. The Council continues to support implementation of the energy-related projects included in the CEDS Strategic Project Inventory.

**5. Somerset County Solar Renewable Energy Program:** The Council supported the Somerset County Improvement Authority (SCIA) in establishing and promoting its highly successful Power Purchase Agreement-based program for funding the design, acquisition,

installation, tax ownership, commissioning, operation and maintenance of solar systems located on appropriate county, municipal and school district facilities.

#### **6. Somerset County Energy Savings Improvement Program (ESIP) Feasibility Study:**

The Council partnered with Hillsborough Township, a Sustainable Jersey Certified municipality, in successfully obtaining a Sustainable Jersey Small Communities Grant in 2013, which was used to perform an ESIP Feasibility study for the County. The Center for Building Knowledge at the New Jersey Institute of Technology (NJIT) was contracted to perform this work. Paul Romano from the Center for Building Knowledge and his team used data from the Department of Treasury, the Energy Star Portfolio Manager, NJBPU's Clean Energy Program and Somerset County's GIS-based Community Facilities dataset were used to build a database comprised of 419 local government and school facilities, which were grouped by use/type as part of this analysis. Detailed information was available for 35 facilities that have implemented some portion of the conservation measures identified in their energy audits. The 35 facilities were also grouped by use/type, and the savings they achieved was extrapolated to estimate future potential savings countywide. The results of this study show that the most frequently implemented recommendations from the audits were those that were the least disruptive to daily operations. Overall, one million dollars of ECMs were implemented in Somerset County, creating \$500,000 in savings annually. Establishment of an ESIP Program would be most cost effective if a group of municipalities joined together to form an aggregate, preferably involving similar facility types.

The findings and recommendations in this study were presented by Council representatives as part of a presentation entitled, "Public/Private Partnerships and Opportunities" given at the NJ Association of Counties Annual Conference in Atlantic City on May 7, 2015 and at the joint meeting of the Business Partnership's Sustainable Somerset Committee and the County Green Leadership Hub held on June 17<sup>th</sup>. Chairman Amann also provided an overview of this initiative and other work underway by the Council to the Somerset County Planning Board at its regularly scheduled April 21<sup>st</sup> meeting. Chairman Amann hand-delivered a copy of the report to the Director of the NJ Board of Public Utilities in the spring, then discussed the report with NJ BPU Officials in December, who expressed interest in looking into this work further with the Council. Electronic copies of the report were also distributed to municipal leaders, green team members, county and state officials.

**7. Third-party Bill Payment Service:** The Council provided information about the potential benefits of third-party energy tracking and utility bill monitoring and payment services to the Freeholders, noting that government entities and corporations that use these services have realized significant cost savings. In 2014, the County hired Energy Solve, Inc., a Somerset County-based company, to electronically monitor and track its utility bills (water, sewer, electricity, gas). As a result, substantial savings have been achieved by the County.

**8. County Energy Aggregation Program:** In 2013 and 2014, the Council provided information and technical guidance to the Freeholders regarding the establishment of a Countywide Energy Aggregation Program. Implementation of this program moved forward in 2015 with assistance from Murray Bevan, Esq. of the firm Bevan, Mosca, Giuditta & Zarillo, P.C. The program was discontinued by the County in 2016 due to declining savings margins, limited local participation, and opportunities for joining other aggregation programs.

## STANDING COMMITTEES

There are four standing committees within the Somerset County Energy Council:

***Energy Efficiency and Conservation  
Alternative and Renewable Energy  
Education and Awareness  
Legislation***

The Committees are charged with reviewing issues that come before the Council and recommending potential solutions, performing research, and developing potential events, programs and initiatives for consideration by the Council. The Committees meet on a regular basis during the off-months when the Council does not meet, and report on their progress at the subsequent Council meetings.

### ***1. Energy Efficiency and Conservation Committee***

The Energy Efficiency and Conservation Committee (EE&C) is charged with developing and implementing programs that promote and support the identification and implementation of energy efficiency improvements in Somerset County. It was comprised of the following members in 2017:

Jeffrey Grant (Chair)  
William Amann  
Paul Drake  
Donald Kasten

The EE&C Committee continues to promote the use of energy audits as a tool for identifying potential energy efficiency measures that can be implemented in both private and public sector facilities in order to both reduce operating costs and save energy. The committee continues to devote considerable time and effort into identifying opportunities to apply the findings of the Somerset County ESIP Feasibility Study. This committee continues to explore and promote strategies and funding opportunities for public and private-sector implementation of energy conservation measures (ECMs). This committee recognizes the value of benchmarking and measuring facility energy consumption and costs, since there is no better way to promote implementation of ECMs than to demonstrate the savings that can be achieved. It will continue to play a lead role in examining proposed legislation aimed at creating public-private partnerships and funding opportunities for implementing ECMs.

### ***2. Alternative and Renewable Energy Committee***

The Alternative and Renewable Energy (ARE) Committee's role is to identify local opportunities for alternative and renewable energy generation; promote energy efficient alternative transportation modes; support sustainable energy initiatives that facilitate economic growth in the County; and encourage increased utilization of renewable energy. This committee was comprised of the following members in 2017:

Judith D. Majewski (Chair)  
William Amann

The ARE Committee invested considerable time and effort during 2017 in evaluating emerging energy technologies and their potential applicability in Somerset County from the perspective of improving the resiliency of the electric power supply system, identifying cost-effective clean-energy alternatives, and expanding energy technology-based economic growth opportunities. It completed a draft Energy White Paper, which was reviewed by Council members during 2017. The Council plans on adding graphics and is currently pursuing editorial assistance so that the document can be finalized in during 2018.

### **3. Education and Awareness Committee**

The Education and Awareness (E&A) Committee is responsible for gathering and sharing information in the furtherance of the goals of the Council. It was comprised of the following members in 2017:

Jeanne Perantoni (Chair)  
 Walter Lane  
 Susan Dorward  
 Wayne DeFeo

The E&A Committee focused on guiding the work of the Council's Rutgers University - Raritan Scholars Program intern, including reviewing draft deliverables and providing feedback. The intern's final deliverables are included in the appendix. The committee is currently refining them and looks forward to utilizing them during 2018. Committee members also participated in shaping Sustainable Jersey's emerging energy actions during 2017, attending SJ Energy Task Force meetings. It continues to play a key role in supporting the efforts of the Somerset County Green Leadership Hub and initiatives underway by the Somerset County Business Partnership's Sustainable Somerset Committee.

### **4. Legislation Committee**

The Legislation Committee is involved with reviewing and tracking pertinent energy-related legislation as well as proposed plans, regulations and programs. This Committee presents major policy and regulatory initiatives that are advancing at the Federal and State levels to the Council for discussion at its regularly scheduled meetings. The committee was comprised of Wayne DeFeo (Chair) in 2017.

## **VIII. GENERAL RECOMMENDATIONS**

- The use of energy audits to identify potential energy savings opportunities at county and other public and private facilities is recommended by the Council.
- Building upon the Council's ESIP Feasibility Study, establishment of an ESIP for the purpose of funding energy efficiency measures (ECMs) that serves a small aggregate of municipalities within the County is supported by the Council. Support from the NJBPU Clean Energy Program for establishing the ESIP should be pursued.
- Expanded education and outreach to municipal officials and planners regarding site and building design strategies that can make new development and redevelopment projects more energy efficient and energy resilient is recommended; and the incorporation of appropriate new energy

technology such as renewable and/or distributed energy generation, microgrid (islanding) capabilities and/or smart meters should be explored.

- Increase the provision of guidance to municipalities regarding location, design and management of electric charging stations.
- Expanded use of tools such as the Energy Star Portfolio Manager for tracking building energy performance by public and private entities is encouraged.
- Additional infographics and enhanced messaging tools should be developed that emphasize the dollars and energy savings that can be achieved through various energy conservation measures; and illustrate the environmental and quality of life benefits that can be achieved.
- The provision of reliable and efficient backup/standby power for essential/critical public facilities and services in the event of prolonged power outages is recommended, such as microgrids that involve distributed energy and energy storage, which can enhance grid resilience and leverage prior investments in renewable/solar generation facilities.



**2018 Somerset County Board of Chosen Freeholders**  
Patrick Scaglione, Director, Brian D. Levine, Deputy Director,  
Patricia L. Walsh, Mark Caliguire, Brian G. Gallagher



This report was finalized and approved for distribution at the Somerset County Energy Council's April 17, 2018 Meeting.