

Governor's Energy Advisory Council

June 20, 2024
9:00 AM to 12:00 PM



DELAWARE DEPARTMENT OF
NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

Agenda

1. Roll Call of Council Members
2. Opening Remarks
3. Approval of meeting minutes from December 19, 2023
4. Presentation on the State Energy Plan
5. Future Council and Public Engagement Meetings
6. Public Comment



GEAC Members

Ed Kee, Chair

Senator Stephanie Hansen

Representative Debra Heffernan

Shawn Garvin, DNREC Secretary

Nicole Majeski, DELDOT Secretary

Michael Scuse, DDA Secretary

Ruth Ann Price, Public Advocate

Drew Slater, SEU Executive Director

Dallas Winslow, PSC Chair

Dayna Cobb, Chair of WAP Policy Advisory Council

Cassandra Marshall, Economically or environmentally overburdened and underserved communities

Lisa Oberdorf, Delmarva Power

Steve Baccino, Chesapeake Utilities

Kimberly Schlichting, DEMEC

Rob Book, DEC

Don Clifton, Agriculture and/or agribusiness

Dale Davis, Solar energy

Kris Ohleth, Wind energy

Bahareh van Boekhold, Energy efficiency

Dr. Steve Hegedus, Innovative energy technology

Christian Fuess, Industrial electricity users

Mark Baker, Transportation and heating fuels

Christophe Tulou, Environmental

Dr. Alan Greenglass, Public health

Lori Murphy Lee, PJM

Update on the Draft State Energy Plan

Presented by the State Energy Office,
DNREC Division of Climate, Coastal and Energy



Roles and Responsibilities

GEAC

- Providing recommendations to the State Energy Office on updates to the Delaware Energy Plan and Climate Action Plan every 5 years from date of enactment. The updating process shall include a process for public input and measures for progress in attaining goals identified in the plans.

DNREC State Energy Office

- Develop and update, at least every 5 years, a comprehensive State Energy Plan designed to protect the health, safety and welfare of the citizens and economy of the State, support the State's greenhouse gas emissions reduction targets, and support implementation of the State's Climate Action Plan.

The Process

- GEAC convened in June 2023
- Established 4 Workgroups
 - Environmental Justice & Energy Equity
 - Renewable Energy & Clean Technologies
 - Energy Efficiency & Electrification
 - Grid Modernization
- 25 total meetings between June – December 2023
- 3 public engagement meetings in November 2023



GEAC Recommendations

- **82 approved recommendations**
 - Environmental Justice & Energy Equity – 17
 - Renewable Energy & Clean Technologies – 26
 - Energy Efficiency & Electrification – 21
 - Grid Modernization - 18

The DRAFT Energy Plan Outline



**Delaware's
Energy Profile**



**Environmental
Justice &
Energy Equity**



**Renewable
Energy &
Clean
Technologies**



**Maximizing
Energy
Efficiency &
Promoting
Beneficial
Electrification**



**Grid
Modernization**



**Workforce
Development**



**53 total
strategies**

Environmental Justice & Energy Equity

Section	Strategy	Summary Description
Community Engagement	Initiate studies to identify energy burdened communities	The State Energy Office will identify the underserved communities experiencing a disproportionate energy burden due to energy cost, access, and challenges in Delaware’s housing stock.
	Coordinate across sectors to deliver solutions to communities experiencing multiple energy challenges	The state can maximize benefits to customers by identifying synergies between energy, transportation, and climate change adaptation.
	Enlist trusted partners from community-based organizations	Feedback from the public focused on ensuring that entities responsible for energy program administration are engaged in partnerships with community leaders and community-based organizations such as community centers, libraries, NGOs, and faith organizations. This is a strategy to obtain meaningful, community-centered input on energy policy that supports community improvement requirements and goals.

Environmental Justice & Energy Equity

Section	Strategy	Summary Description
Program Improvements	Develop program targets and environmental justice metrics	Following in the footsteps of federal initiatives like Justice40, the state should establish program targets and metrics to ensure that program funds are being used for the benefit of underserved communities.
	Develop a public-facing database to report energy program metrics	A new database should be developed to track energy program implementation and performance metrics, particularly for EJ and Energy Equity communities.
	Establish a new public-facing energy program interface	A new multilingual website housing information on all energy related federal, state, utility, and nonprofit program offerings should be developed to improve accessibility. This should also include the development of simple, broadly accessible marketing and messaging that can be easily circulated on social media can help expand awareness of existing programs.
	Improve information sharing between utilities and program administrators	Utilities and program administrators should collaborate and share data on energy consumption and program subscription to improve delivery of services to those most in need.

Environmental Justice & Energy Equity

Section	Strategy	Summary Description
Reduce Costs & Maximize Funding	Expand the reach of current programs using new federal funding streams	Existing program administrators should use new funding streams to expand services to underserved communities, meet Justice40 requirements, and alleviate high energy burden and energy poverty throughout the state.
	Empower underserved communities with access to financing through green banks	Develop sources of green bank funding for programs and projects including private grants, bonds, private investments, and interest revenue from loans and financing. By focusing on underserved market sectors, green banks can complement existing clean energy programs by targeting market gaps.
	Encourage beneficial fuel-switching in environmental justice communities	Beneficial fuel switching describes the replacement of technologies that rely on fossil fuels, like a home's natural gas heating system, with one that uses electricity, like an all-electric heat pump. Fuel switching is a significant step toward building decarbonization as it lowers greenhouse gas emissions. It can also have significant health benefits.
	Expand efforts to identify and address Delaware's heat islands	The state should continue to support the work of the University of Delaware's Climate Hub and the Delaware Resilience Hub who have already begun heat mapping in Wilmington, DE. Data from heat mapping should be used by to strategically target heat mitigation programs and in coordination with community organizations.
	Asses a new rate structure for low-income electric customers	To ease the energy burden of low-income Delawareans, all utilities should work with their regulatory authorities to assess possible new rate structures for low-income ratepayers.
	Address predatory practices related to solar energy marketing	Through updated regulations, the Public Service Commission can address protections for community solar subscribers. The Renewable Energy Taskforce should identify strategies to address protections for distributed energy resources (DERs).

Renewable Energy & Clean Technologies

Section	Strategy	Summary Description
Renewable Energy Portfolio Standards	Achieve net zero emissions in the energy sector by 2050	The State Energy Office will evaluate and recommend policy mechanisms to achieve net zero emissions in the energy sector by 2050.
Solar Photovoltaic	Establish statewide goals for distributed solar generation	The State Energy Office, working with all electric utilities, needs to evaluate the current percentage of residential and commercial properties with solar.
	Expand equitable access to solar	In 2022, DNREC launched the state's first Low-to Moderate-Income Solar Program. The program, uniquely designed and among the first in the country, offers free solar installations to qualifying low-income homeowners and covers 70% of the cost for qualifying moderate-income homeowners. While the program was initially designed for Delmarva Power customers only, additional funding sources and partnerships should be explored to offer this program to all Delawareans, regardless of their electric utility. The State Energy Office will also recommend strategies to encourage the development of equity-focused solar projects, utilizing best practices from other states.
	Capitalize on co-location benefits	To maximize benefits, solar installations at all scales, including community solar, should co-locate microgrid technology, battery storage, agrivoltaics, and/or brownfield development.
	Lead by example in State and local government	State and local governments have a role to play by leading by example to promote renewable energy development through contracts and the direct installation of renewables on government property.

Renewable Energy & Clean Technologies

Section	Strategy	Summary Description
Offshore Wind	Create an offshore wind procurement process that works for Delaware	An offshore wind procurement program for Delaware requires navigating the challenges of a small state engaging effectively in an industry in which scale is paramount. The strategic value of offshore wind for Delaware is underscored by the fact that there are not many other options available for delivering sufficient renewable energy at the scale that will be needed to meet the state's renewable energy goals, which in turn will be crucial to meeting Delaware's climate goals.
	Develop partnerships with neighboring states	Coordinating procurement offers Delaware the opportunity to participate in larger projects or time a Delaware procurement to best meet market conditions; for instance, when key supply chain assets are most likely to be available.
	Participate in regional transmission planning	Delaware is participating in the Northeast States Transmission Collaborative to map out possible approaches to long-range OSW transmission planning. Delaware has asked PJM Interconnection to model the cost and grid impacts of connecting a 1,000 MW OSW project.
Emerging Technologies	Monitor and assess the development of future innovative clean technologies	The State Energy Office will monitor the development of all future innovative clean technologies and their potential application in Delaware, including advancements in nuclear and carbon capture. The state should also support and encourage research, development, and commercialization for promising and emerging clean energy innovations.
	Prioritize clean hydrogen's deployment to hard to decarbonize sectors	Industrial decarbonization has been a significant challenge due to the lack of low-carbon alternatives. Clean hydrogen is best suited to replace current fossil-fuel based energy sources currently used in heavy duty industry and transportation.

Renewable Energy & Clean Technologies

Section	Strategy	Summary Description
Renewable Fuels	Assess the feasibility of a Low Carbon Fuel Standard	DNREC, working with relevant stakeholders, will assess the feasibility of Delaware adopting a Low Carbon Fuel Standard (LCFS).
	Complete a study of Delaware’s potential for renewable natural gas	Completing a study on the potential for RNG in Delaware can be used develop cost-effective strategies to support RNG development and for identifying opportunities to expand fueling stations for low carbon fuel dedicated vehicles. Additional opportunities for RNG development may be found in landfill gas, supporting anaerobic digestion projects, and fuel for trash collection trucks. This study may also be expanded to include the potential of biofuels and what, if any, incentives should be utilized to increase their production.
	Assess the feasibility of a Clean Energy Heat Standard	Working with relevant stakeholders, DNREC will assess the feasibility of a clean energy heat standard.

Maximizing Energy Efficiency & Promoting Beneficial Electrification

Section	Strategy	Summary Description
Buildings EE & E Programs	Incorporate Greenhouse Gas Emissions into Energy Efficiency Potential Studies	The State Energy Office will refresh the energy efficiency potential study for residential and commercial buildings that identifies energy efficiency and electrification programs needed to achieve Delaware’s new greenhouse gas reduction targets.
	Ensure the Energy Act is consistent with Climate Change Solution Act of 2023 Goals	Energy efficiency programs regulated by the Energy Act are instrumental in achieving greenhouse gas reduction targets outlined in the Climate Change Solution Act of 2023. However, the Energy Act processes and goals predated the Climate Change Solution Act of 2023.
	Develop Building Decarbonization Plans	The State Energy Office will identify the barriers Delawareans face in participating in energy efficiency and electrification programs. This includes identifying opportunities to reduce emissions from the largest energy users and leveraging new funding opportunities to fund innovative pilots and demonstrations.
	Support voluntary stretch code adoption	Amend state code to allow local governments to adopt more stringent building energy codes in the form of stretch codes. Stretch codes allow builders and developers in the construction industry to familiarize themselves with new building practices prior to base code changes, easing the transition into the new code.
	Support Net-zero building energy codes in new construction	Define net-zero energy-capable buildings and how to comply with the State’s net-zero energy-capable buildings code. State Energy Office will explore ways to support net-zero capable new construction through incentives, technical resources, and training.
	Assess the benefits of appliance standards	Determine feasibility and impact of appliance standards on achieving the state’s emission reduction targets. Appliance standards are minimum energy conservation targets for appliances that are used most often in a home or building.



Maximizing Energy Efficiency & Promoting Beneficial Electrification

Section	Strategy	Summary Description
Buildings EE & E Programs	Adopt and work with local governments to support enforcement of stronger State energy codes	Statewide building codes are intended to ensure durability and safety of residential and commercial buildings as well as improve the energy efficiency and indoor air quality for residents. Currently, state code does not have guidance on the process and timeline for a local jurisdiction to adopt and enforce the State's base energy code. All code enforcement and compliance fall under the local government's jurisdiction. Legislation is needed to clarify the adoption process, set timelines for adoption, as well as enforcement and compliance reporting requirements.
	Expand education and training opportunities	The State Energy Office will plan an in-state building energy and code training infrastructure for code inspectors, builders, contractors, and designers. These educational and training offerings could be coupled with code training certifications and continuing education credits. Furthermore, entities that manage and regulate Delaware energy systems should create a resource platform to educate and empower appraisers and realtors about the value of energy efficiency and opportunities to include homes' energy performance in their reports.
	Improve Existing Buildings Energy Performance by Developing Statewide Building Performance Standards	The State Energy Office will assess existing building stock characteristics and needs to identify the appropriate building performance standards policies. As part of building performance standards policy development, the state will work with key market actors in the Delaware building industry to understand their concerns and limitations.
	Lead by example in State and local government	State and local governments have a role to play by leading by example to promote energy reduction, responsible energy behavior, and energy efficiency strategies in government facilities through education, outreach programs, and building improvements.

Maximizing Energy Efficiency & Promoting Beneficial Electrification

Section	Strategy	Summary Description
Vehicle Electrification	Adopt, and work with local governments to support enforcement of, EV-Ready residential and commercial building codes	In 2023, Delaware enacted a law to require that newly constructed single-family and multifamily residential dwellings include electric vehicle charging infrastructure. The State Energy Office is adopting “EV-Ready” building and engaging and educating developers, local officials, homeowners, and businesses on new requirements.
	Encourage on-street charging	Partnerships between utilities, municipal, and county governments can demonstrate charging pilots. Local governments should develop electric vehicle charging ordinances to permit the placement and installation of on-street charging stations and mechanisms must exist for residents to request the installation of on-street or pole-mounted chargers outside their property or in their neighborhoods.
	Ensure electric distribution network is ready for electric vehicles	To avoid costly and time-consuming electric distribution infrastructure upgrades, strategies need to be implemented to shift new electric load from electric vehicle charging and address electric distribution system constraints. This is achievable by improving utility demand response and time-of-use rates, implementing smart charge management, and using electric vehicles as an energy resource via Vehicle-to-Grid and other emerging technologies. Utilities can use emerging technology, create awareness, and incentivize customer behaviors to shift load and optimize the existing electric grid.
	Reduce barriers for commercial customers	Demand charges for nonresidential customers, particularly those with direct current fast chargers, can result in unexpectedly high energy costs. Solutions include educating commercial customers, piloting programs, and designing rates that incentivize load management technologies.
	Educate consumers about new programs and incentives	The State and other program providers have a role to play to promote public awareness and provide education on utility, state and local vehicle electrification policy and programs. Program providers, dealerships and consumers must be kept abreast of electric vehicle, charging infrastructure incentives and qualifications to receive these incentives.
Tracking & Measuring Progress	Tracking and measuring progress towards energy efficiency and electrification	Uniform tracking, reporting, and accountability systems are essential for designing effective programs and measuring progress toward state goals.



Grid Modernization

Section	Strategy	Summary Description
Transmission & Substation Infrastructure	Deploy grid-forming inverters and controls that integrate inverter-based renewable energy resources	“Grid-forming” power electronic inverters, such as Static VAR Compensators (SVCs), are not yet widely deployed in the U.S. for utility scale renewable energy. Promoting the ownership, operation, and incorporation of grid-forming inverters at the point of interconnection will contribute to a resilient, decarbonized grid.
	Reduce greenhouse gas emissions from grid technologies	Materials used in transmission and distribution equipment can contribute to GHG emissions. Regulating these materials (such as SF-6) in collaboration with other states can drive adoption of alternative technologies.
	Clarify the Public Service Commission’s role as siting and routing authority	New renewable energy technologies will need to connect to the grid. The Public Service Commission Certificate of Public Convenience process should align with State Energy Plan and Delaware’s Climate Action Plan strategies to reduce impacts of climate change, maintain low cost of energy, and strengthen grid reliability quickly and equitably.
	Reform transmission permitting in Delaware	Expanding electric transmission capacity throughout the region is essential to meeting growing demand and deliver new clean energy to customers. However, over the past decade, transmission lines in the United States have been built at half the rate of the previous three decades, often due to permitting and financing challenges. To deploy renewable energy quickly, it is imperative that permitting and licensing for energy infrastructure projects in Delaware are streamlined to balance the need to new renewable energy resource with protection of natural resources.
	Incorporate the social cost of carbon into the cost analysis for utility-scale decarbonization	Transmission upgrades require extensive cost-benefit analysis. The State Energy Office has an important role to play in putting climate costs and benefits are considered in transmission planning and ensure that planning, interconnection, market rules, and cost allocations for connecting utility scale solar and wind are just and reasonable. Transmission planning will also need to assessing climate risks in placing and maintaining grid infrastructure

Grid Modernization

Section	Strategy	Description
Distribution Infrastructure & Smart Grid Technology	Use Advanced Distribution Management Systems (ADMS) and Distributed Energy Resource Management Systems (DERMS)	Advanced Distribution Management Systems (ADMS) and Distributed Energy Resource Management Systems (DERMS) are software solutions that leverage Advanced Metering Infrastructure (AMI) at homes and businesses to allow operators to aggregate and control disparate DERs on the grid, provide various grid services, and mitigate peak load, congestion, and voltage deviation scenarios. Utilities should create a programs to deploy DERMS on feeders or substations having high DER penetration.
	Require Integrated Distribution System Planning from electric utilities	In the grid of the future, homes and businesses could have solar panels and electric vehicles capable of bidirectional power flow, returning energy to the grid. Using our buildings and vehicles as a resource to balance peaks and valleys of demand can result in substantial efficiency savings for customers and grid stability. Integrated Distribution System Plans should facilitate bi-directional flow, propose physical, operational changes necessary to open closed circuits integrate DER and non-wires solutions.
	Promote microgrid projects in Delaware	Microgrids are a crucial tool to ensure grid reliability, especially during extreme weather events and emergencies. Microgrids utilize renewable energy sources, and energy storage systems to power small populations such as towns. Microgrids, while still connected and interactive with the bulk power grid, are ways for communities to reap the benefits of renewable energy and sustain service to customers and resilience from power outages. There are financial, institutional, and technical barriers that exist across the state limiting microgrid development.
	Pilot energy storage projects at different scales in Delaware	Energy storage technologies, especially batteries, will be increasingly important to Delaware’s transition to a clean and resilient energy system. Batteries can store excess energy from renewable sources, such as solar or wind, for later use. This reduces reliance on fossil fuels and can increase grid stability. New technologies in energy storage blur the boundary between power generation and power delivery, so stakeholders will need to address regulatory and market barriers to the use of distribution-scale and customer-sited energy storage projects.



Grid Modernization

Section	Strategy	Summary Description
Rate Design	<p>Enable proactive utility investment into smart grid technologies, 'modern' substations, and other critical infrastructure to interconnect DERs and manage two-way power flow</p>	<p>Transforming substations into versatile energy hubs that facilitate two-way power flow will require regulatory reform to allow for the integration of - and compensation for - DER at the substation level. Financial incentives and funding mechanisms need to be established to mitigate the upfront costs associated with upgrading infrastructure and incorporating new technologies. This effort requires a clear framework for cost recovery, ensuring that investments made today are financially sustainable and align with regulatory policies and customer interests. Metrics should encompass outage reductions, grid reliability, cost impacts per customer, and greenhouse gas emissions reductions.</p>
	<p>Modify rate design to encourage customer-controlled energy management</p>	<p>Time of Use (TOU) rates offer a dynamic pricing model that varies according to the time of day, day of the week, and season. TOU rates are structured to reflect the varying costs of generating electricity at different times, with higher rates during peak demand periods and lower rates during off-peak times. This pricing mechanism is designed to encourage consumers to shift their electricity usage to reduce peak load on the electric grid and allow utilities to operate more efficiently. TOU rates should include analysis to assess why electric vehicle and other TOU rates are currently under-utilized and establish improvements to increase adoption.</p>

Workforce Development

Strategy	Summary Description
<p>Complete a Workforce Needs Assessment for the Clean Energy Economy</p>	<p>DNREC’s Division of Climate Coastal and Energy is already engaged in a workforce needs assessment to evaluate the current and future needs of the energy and climate-related jobs sector in Delaware. Sectors include energy efficiency, renewable energy, energy transmission, distribution, and storage, clean transportation, adaptation, and resilience jobs. The objectives of this assessment are to baseline existing workforce and workforce development efforts, identify skills gaps and needs, and identify workforce development strategies at the state, regional, and/or local level resources that are equipped to help address identified workforce shortages.</p>
<p>Expand Clean Energy Workforce Development Programs</p>	<p>Meeting the current and future employment demands in the energy industry will require significant collaboration amongst state agencies, educational institutions, community organizations, and the private sector. Drawing from the lessons learned through the needs assessment, close collaboration and partnership with these institutions will ensure that available courses, programs, and certificates are aligned with workforce assessment findings. In developing programs, funding must be focused on improving the lacking ethnic, racial, and gender diversity among the clean energy industry.</p>
<p>Build Awareness of Clean Energy Jobs and Training Opportunities</p>	<p>Strategic outreach and awareness campaigns particularly within disadvantaged communities are crucial for extending the benefits of workforce development to all Delawareans. Alongside awareness, equitable access is essential to foster stronger economic outcomes statewide. Collaborating with organizations deeply rooted in underserved communities, offering services and support, builds trust and enhances program reach. Delaware should establish a comprehensive clean energy jobs and training effort to raise awareness about both existing and new career and employment prospects within the state. This effort must include partnerships with employers including energy utilities to showcase careers in the energy sector and highlight success stories across Delaware, inspiring youth to pursue careers in the clean energy sector.</p>

Next Steps

- Presentation of the draft Energy Plan strategies
 - Today
- Public Engagement Meetings
 - Late July, early August 2024
 - 3 meetings, one in each county
- Release of the final Energy Plan
 - Fall 2024
- Next GEAC Meeting
 - Fall 2024



Thank You

For additional information about the
State Energy Office please visit:

<https://dnrec.delaware.gov/climate-coastal-energy/energy-office/>

