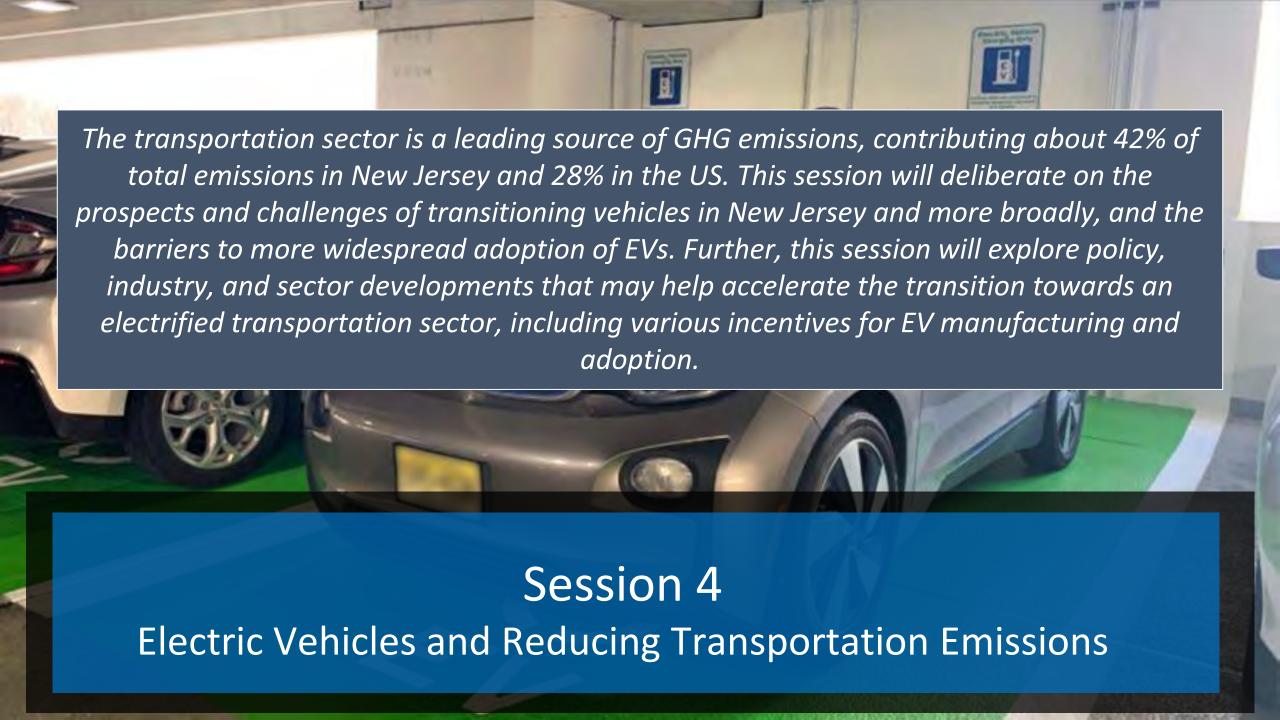


Electric Vehicles and Reducing Transportation Emissions



Moderator: Robert Kettig

Assistant Director- Air Quality, Energy and Sustainability

New Jersey Department of Environmental Protection



Bob Kettig is Assistant Director of Climate Change, Clean Energy and Sustainability at the New Jersey Department of Environmental Protection. The program which Bob leads is responsible for managing New Jersey's participation in the Regional Greenhouse Gas Initiative (RGGI), Coordinating efforts with the New Jersey Board of Public Utilities and other State Agencies in achieving GHG mitigation as outlined in the 80x50 Report and State Energy Master Plan, advancing renewable energy and energy efficiency programs, maintaining The State GHG inventory and publishing the annual GHG Inventory report, and coordinating various sustainability outreach and communication initiatives centered around recycling, waste reduction and promotion of sustainable businesses and communities.

Bob has 30 years of service with NJDEP and has previously managed the Bureau of Energy and Sustainability, The Bureau of Stationary Sources in the air permitting program and supervised stack emission testing at numerous industrial sites throughout New Jersey for The Bureau of Technical Services.

Peg Hanna

Assistant Director- Air Quality, Energy and Sustainability

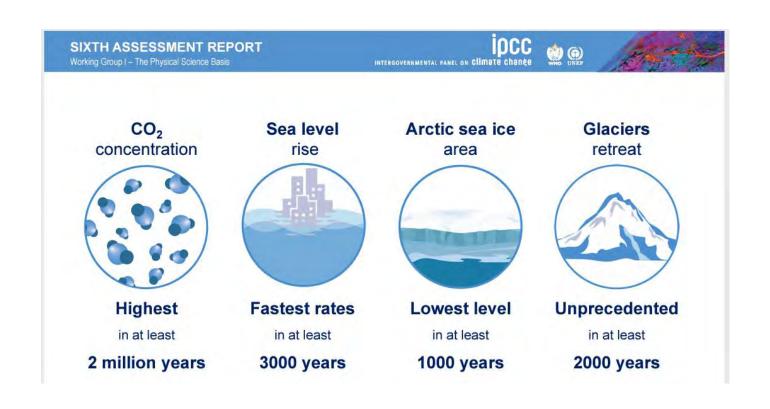
New Jersey Department of Environmental Protection



Peg Hanna has served the New Jersey Department of Environmental Protection for thirty years, and is currently an Assistant Director overseeing Air Monitoring and Mobile Source strategies. Her particular focus is transforming the transportation sector to a zero carbon footprint through legislative, regulatory and policy development.

She graduated from the University of Scranton in 1991 with a B.S. in Biology.

"It is unequivocal that human influence has warmed the atmosphere, ocean and land...at a rate that is unprecedented in at least the last 2000 years."

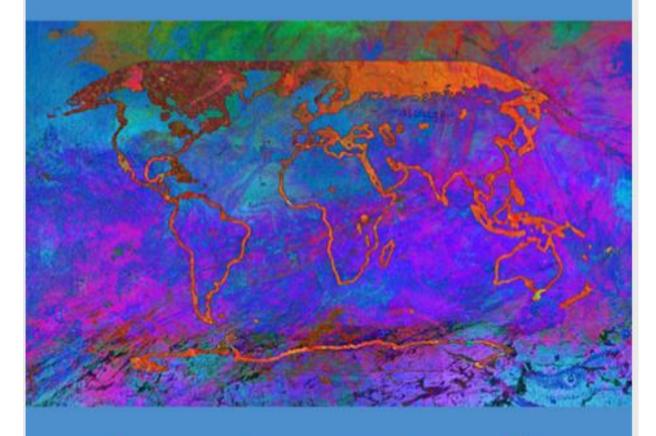


- many weather and climate extremes across the globe...heatwaves, heavy precipitation, droughts, and tropical cyclones.
- Projected changes in extremes are larger in frequency and intensity with every additional increment of global warming
- Many changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Climate Change 2021 The Physical Science Basis

Summary for Policymakers



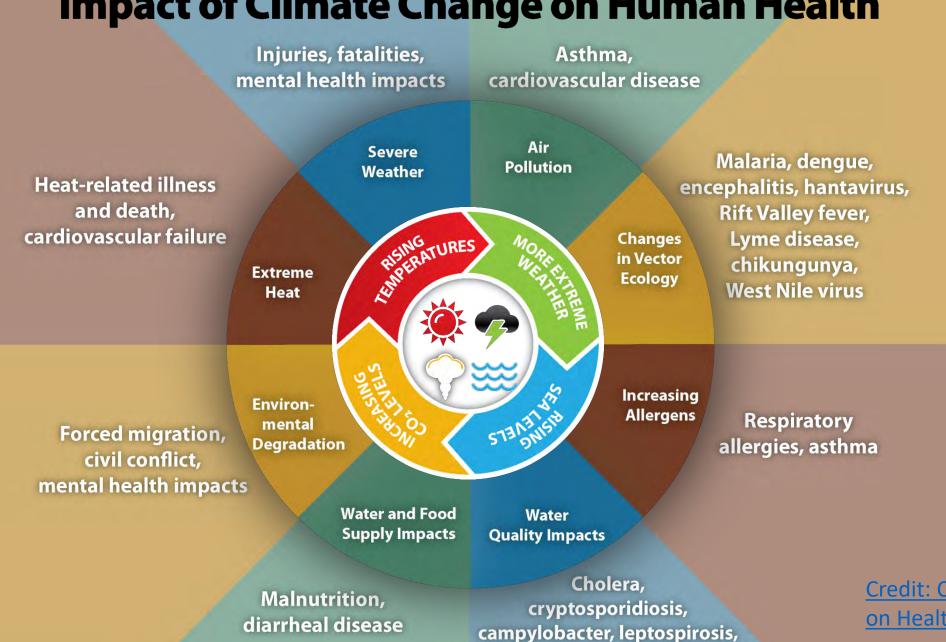


Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change





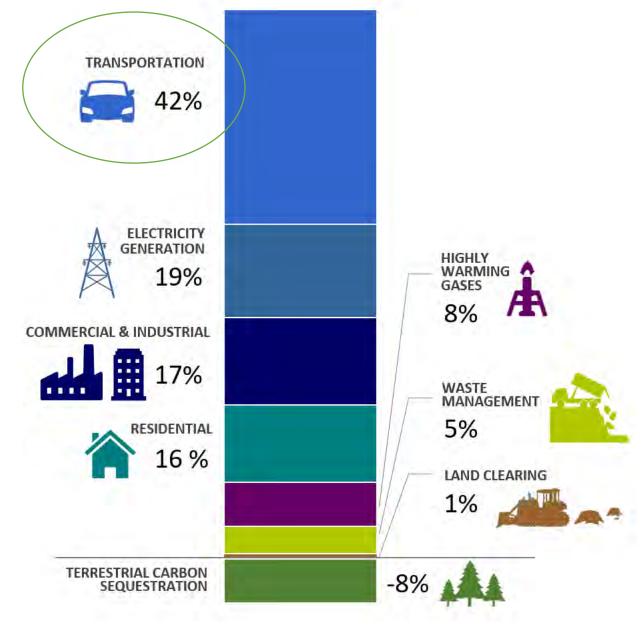
Impact of Climate Change on Human Health



harmful algal blooms

Credit: Climate Effects on Health | CDC

"Limiting human-induced global warming to a specific level requires limiting cumulative CO2 emissions, reaching at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions."



New Jersey Greenhouse Gas Sources & Sinks 2018

Transportation Focus Areas







REGULATIONS



POLICY



FUNDING



INTERAGENCY COORDINATION: PARTNERSHIP TO PLUG IN



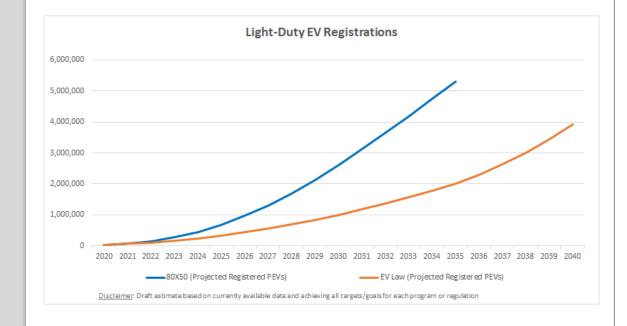
INTERSTATE COORDINATION: NESCAUM, CARB

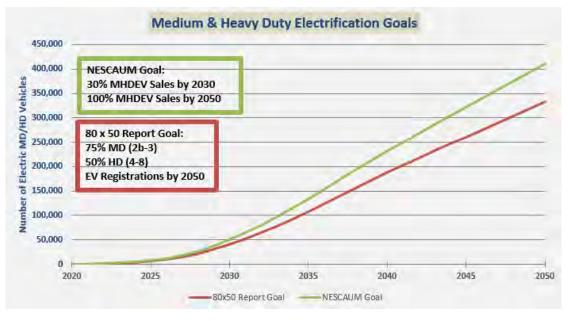


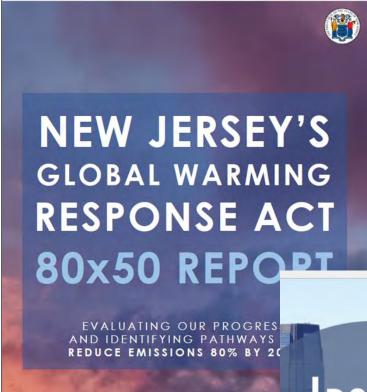
EV Law P.L. 2019, c. 362

- ✓ Establish goals for vehicle electrification and infrastructure development that address medium-duty and heavy-duty on-road diesel vehicles and associated charging infrastructure
- √ 330,000 EVs by December 31, 2025, 2 million EVs by December 31, 2035
- √ 400 fast chargers available for public use at 200 locations by December 31, 2025
- √ 1000 Level 2 chargers available for public use by December 31, 2025.
- √ 25% of state fleet shall be electric by 2025.













#NJPACT

Furthering the Promise: A Guidance Document for





Establishes framework for meeting clean energy and climate goals

Focused on all energy sources

2019 EMP

EO 100 1/27/20

- Directs DEP to take regulatory actions to reduce CO2 and SLCP
- Directs DEP to establish monitoring and report to gather additional data

NEW JERSEY PACT



Protect g Against Climate Threats

 DEP focuses on further reductions from existing stationary sources – EGU and non-EGU

Significant comments received

Initial
Stakeholdering
2/25/20

NEW JERSEY
PROTECTING AGAINST
CLIMATE THREATS:

Dramatically cut emissions of greenhouse gases.

PACT Regulatory Timeline

2020

- Solicit input on possible rule changes through a series of stakeholder meetings and issue-specific workgroups
- Proposal to reform suite of environmental land use rules and establish GHG monitoring and reporting program
- Adoption of environmental land use rules and GHG monitoring and reporting

program

 Proposal for new regulations to govern and reduce emissions of carbon dioxide and shortlived climate pollutants

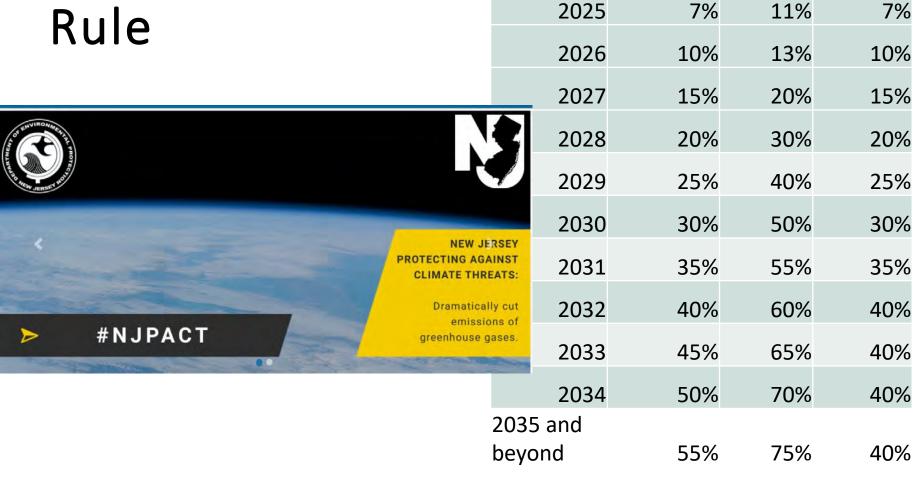
2021

 Adoption of regulations to govern and reduce emissions of carbon dioxide and shortlived climate pollutants

2022

13

Advanced Clean Truck Rule



Model Year

(MY)

2024

Class 7-8

Tractors

5%

Class 4-8

9%

Class 2b-3

5%

It Pay\$ to Plug In

DEP's Grant Program for EV Charging Stations

Up to \$4,000 per port for Level 2 chargers at public places, multifamily homes, and workplaces (including fleets)

First-come first-served. We are accepting applications now.

Apply online:

www.drivegreen.nj.gov/plugin.html



It Pay\$ to Plug In

Up to \$200,000 per location for public fast chargers

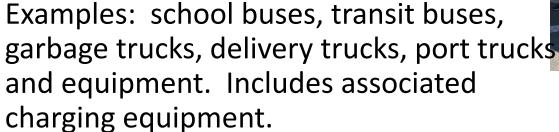


Competitive solicitation. Stay tuned for future funding rounds.



Medium & Heavy-Duty Vehicle Electrification Grants

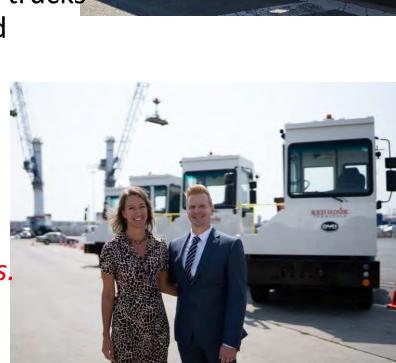
DEP grants to replace old diesel vehicles & equipment with electric.





Overburdened communities will be prioritized.

Competitive solicitation.
Stay tuned for future funding rounds.



Electric Shared Mobility Program Grants

Funding for electric shared mobility projects like electric car sharing and ride hailing services.

Programs that benefit overburdened communities will be prioritized.

Competitive solicitation.
Stay tuned for future
funding rounds.



Jersey City's new public ride-share service with VIA hits the road One of 15 vehicles part of the City's new public ride-share service.

3/5

NJ ZIP: Zero-emission Incentive Program,

Pilot funding: \$15M (with option to increase to \$25M) \$5M set aside for small and microbusinesses

Time horizon: First come, first serve with rolling approvals, open until all funds committed.

Eligible participants:

Businesses or institutions operating or registering/domiciling zero-emission medium duty vehicles in greater Newark or greater Camden areas Anticipating 100 – 300 vehicles will receive funding

Voucher amounts:

Vehicle Class	Voucher \$
Class 2b	\$25,000
Class 3	\$55,000
Class 4	\$75,000
Class 5	\$85,000
Class 6	\$100,000

Bonus criteria:

- Minority-, women-, or veteran-owned business
- Small business
- Small business scrappage
- 25% NJ-manufactured
- Public access for driver readiness and education

Basic funding requirements:

- New ZE vehicle
- 3 years NJ operation/registration:
 - 75% in NI
 - 50% in EJ
- Scrappage (if 2009 MY or earlier)
- Comply with audit requirements
- Bumper sticker / placard

LERO-EMISSIO

EV Charging Law – P.L. 2021, c. 171

- Requirements for chargers and make-ready parking places at new construction
- Zoning and permitting provisions for new construction
- Model ordinance





Visit our website for more EV info



www.drivegreen.nj.gov

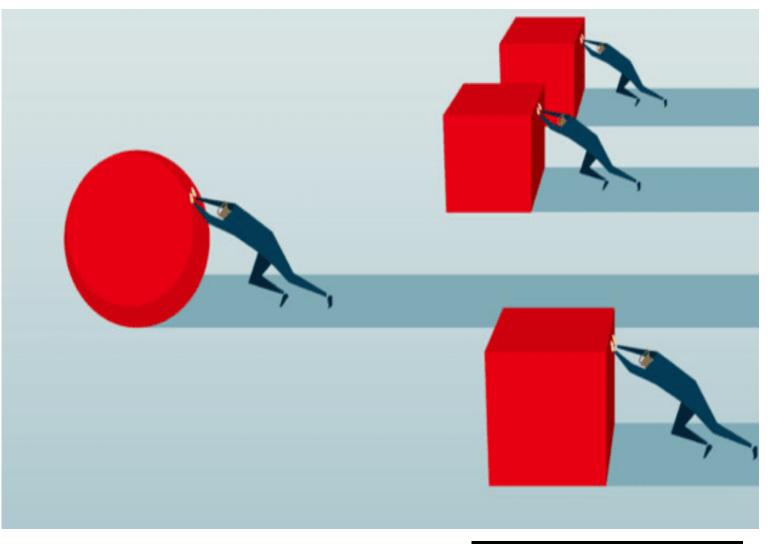
Follow us on social media



Join our listserv for updates and funding announcements www.state.nj.us/dep/stopthesoot/sts-listserv.htm

PATHWAYS

- Collaboration
- Market development
- Charging and grid upgrades
- Incentives
- Education
- Policy
- Regulation





Thank you!

Peg Hanna, Assistant Director Division of Air Quality, NJDEP

Peg.hanna@dep.nj.gov

Cathleen Lewis

E-Mobility Program Manager

New Jersey Board of Public Utilities



Cathleen Lewis is currently the E-Mobility Program Manager at the New Jersey Board of Public Utilities. Her work in transportation has focused on looking at traffic safety and infrastructure as a key piece in the state's economic development and sustainability movements. She previously worked as the Outreach Coordinator for the Division of Clean Energy at NJBPU to encourage participation in New Jersey's Clean Energy Program. As a transportation advocate she has spent much of her career advocating for complete streets and multi-modal transportation options all with an eye towards increasing safety, sustainability and economic growth.

She graduated from Rutgers University in 2001 with her BA in Political Science.

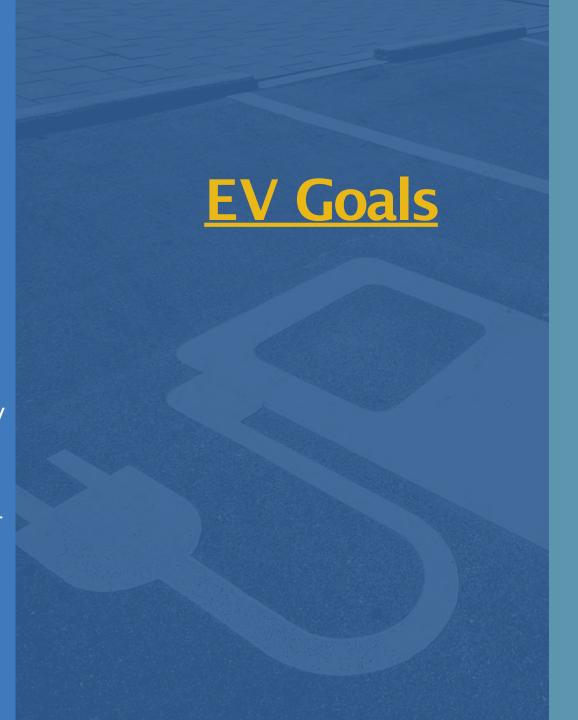


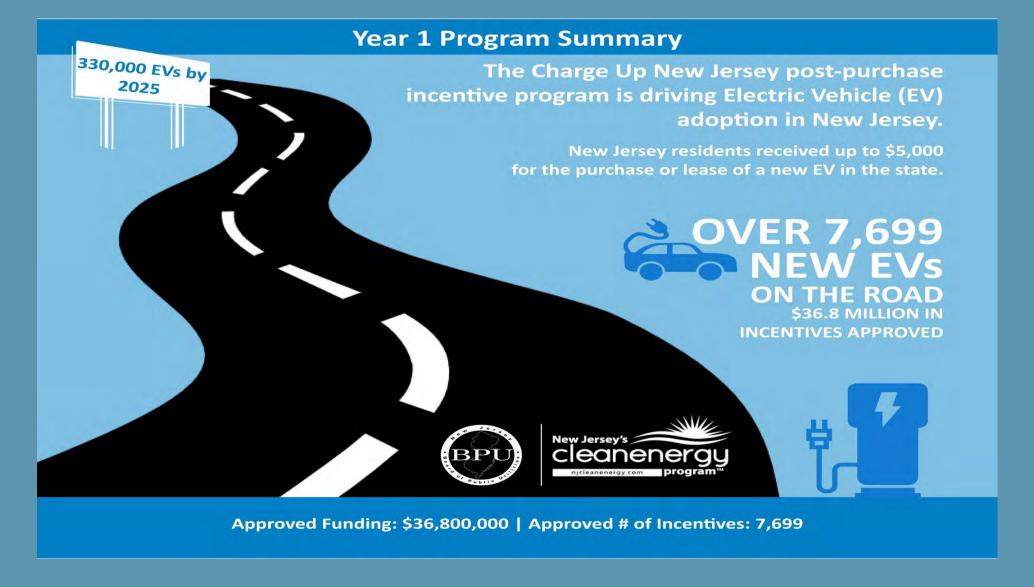
NJ BPU:

Driving EV Adoption

September 23, 2021

- At least 330,000 registered light duty EV by December 2025;
- At least 2 million registered light duty EVs by December 2035;
- At least 85 percent of all new light duty vehicles sold or leased in the State shall be plug-in electric vehicles by December 2040
- At least 25 percent of Stateowned non-emergency light duty vehicles shall be EVs by December 2025
- 100 percent of State-owned nonemergency light duty vehicles shall be plug-in electric vehicles by December 2035





Charge Up New Jersey - Year One

Year One

- Plug-In Electric or Plug-In Hybrid
 Vehicle
- Must be purchased or leased in the State of New Jersey
- Must be registered in NJ to a NJ licensed driver
- MSRP must be less than \$55,000
- \$25/emile up to \$5,000
- Post-Purchase Incentive
- Purchased between January 17, 2020 December 15, 2020

Year Two *

Plug-In Electric or Plug-In Hybrid Vehicle

Must be purchased or leased in the State of New Jersey

Must be registered in NJ to a NJ licensed driver

₩SRP must be less than \$55,000

\$25/emile up to \$5,000 for vehicles with

MSRP under \$45,000

\$25/emile up to \$2,000 for vehicles with MSRP between \$45,000-\$55,000

Point-of-Sale Incentive

Purchased after the FY22 launch until

funding is exhausted

*On September 15, 2021 the Charge Up Program was paused.

Clean Fleet Program

- Electric vehicles are now included on the State
 Purchasing Contract under Award T0099
- Clean Fleet Electric Vehicle Incentive Program
 - Designed to encourage local and state government entities to add EVs to their fleet
 - \$4,000 per battery electric vehicle and
 - \$1,500 for Level-Two EV charging station
 - Grants awarded on rolling basis until funding expended
- Questions? <u>EV.programs@bpu.nj.gov</u>



Clean Fleet EV Incentive

Award Caps

cal governments, entities, schools	EVs	Charging stations
serving populations < 20,000	2	1
serving populations > 20,000	5	2
serving populations > 50,000	7	4
cal governments		
serving populations > 100,000	10	4
ate agencies, boards, commissions, iversities, and counties	10	4

www.NJCleanEnergy.com/EV

EV Charging Goals

- At least 400 DC Fast Chargers shall be available for public use at no fewer than 200 charging locations in the State by December 2025
- At least 1,000 Level Two chargers shall be available for public use across the State by December 2025
- At least **15 percent** of all multi-family residential properties in the State shall be equipped with EVSE for the routine charging of plug-in electric vehicles by December 2025.
- At least **30 percent** of all multi-family properties shall be equipped for electric vehicle charging by December 2030.
- At least **20 percent** of all franchised overnight lodging establishments shall be equipped with EVSE for routine electric vehicle charging by guests of the establishment by providing Level Two EVSE by December 2025.



Public Charging







MHDV Charging

Straw Proposal for the Medium Heavy Duty EV EcoSystem was released on June 30, 2021. Six stakeholder meetings were scheduled and comments are due on October 5, 2021.

The Straw Proposal looks at:

- What will charging look like?
 - Public charging
 - On-site charging
- How do we encourage EV adoption for fleets
 - Light duty
 - Medium duty
 - Heavy Duty
- What role will energy storage and renewable energy play?

NJ ZIP: Zero-emission Incentive Program - At a glance

NJEDA's RGGI-funded Voucher Pilot for Medium Duty Vehicles

Pilot funding: \$15M (with option to increase to \$25M) \$5M set aside for small and microbusinesses

Time horizon: First come, first serve with rolling approvals, open until all funds committed.

Eligible participants: Businesses or institutions operating or registering/domiciling zero-emission

medium duty vehicles in greater Newark or greater Camden areas

Anticipating 100 – 300 vehicles will receive funding

Voucher amounts:

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- 25% NJ-manufactured
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Basic funding requirements:

- New ZE vehicle
- 3 years NJ operation/registration:

NJZIP

- 75% in NJ
- 50% in EJ
- Scrappage (if 2009 MY or earlier)
- Comply with audit requirements
- Bumper sticker / placard

More Information

Cathleen Lewis

E-Mobility Programs Manager

<u>Cathleen.Lewis@nj.bpu.gov</u>

Visit

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Newsletter

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Listservs

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@NJCleanEnergy





Pam Frank

Chief Executive Officer ChargEVC New Jersey

Vice President, Gabel Associates



Pamela Frank is the current Chief Executive Officer (CEO) of ChargEVC, a non-profit coalition that promotes the sustainable growth of the EV market, and the Vice President of Gabel Associates. She has more than 20 years of experience in sustainability issues and the renewable energy industry. She created GreenFaith, a not-for-profit that inspires, educates, and mobilizes people of diverse religious backgrounds for environmental leadership. She has also served as a key stakeholder in the development of the solar energy market in New Jersey, working on the state's Renewable Energy Task Force and closely with the New Jersey Board of Public Utilities

She graduated from the University of Vermont in 1987 with her BA in Philosophy, and the University of Pennsylvania Carey Law School in 1990.



September 23, 2021
Clean and Sustainable Energy Summit
Session 4:
Electric Vehicles and
Reducing Transportation Emissions

Pamela G. Frank, CEO



WHAT HAS TO HAPPEN

- KEEP THE EYE ON THE PRIZE Structure programs to meet goals
- EXPLOIT SYNERGIES BETWEEN TECHNOLOGIES Renewable generation; storage, EVSE
- TIMING FOR MFR FOR FLEETS AND MH DUTY VEHICLES —BPU Board Order, Utility Filings, Program Development Programs in the market
- DO THINGS DIFFERENTLY Innovation needed in state government work falls across multiple agency jurisdictions









EYE ON THE PRIZE



KEEP THE EYE ON THE PRIZE – Structure programs to meet goals

Example:

Goal in law: 330,000 Evs registered in NJ by 2025.

Today we have over 40,000 EVs. The popular Charge Up New Jersey Program launched in 2020 provides up to \$5,000 in "cash on the hood" rebate towards purchase/lease of eligible electric vehicle. All funding was consumed in 2020 (despite COVID). When program relaunched this past July 2021, we consumed \$30M in about 6 weeks. Program closed last week.

Consider with no rebate, run rate is about 360 EVs per week on average. In period with rebate, run rate is about 900 EVs per week on average, (excluding cars over \$55K and assuming 5400 rebates reserved in six weeks). *

We need to sustain the level of demand we saw over the last 6 weeks in order to hit our goals.

^{*} Analysis still being completed; assumptions based on best currently available data.

EXPLOIT SYNERGIES



EXPLOIT SYNERGIES BETWEEN TECHNOLOGIES – Renewable generation, storage, EVSE

Example 1:

North Jersey Community Port Electrification Project:

State of the art truck depot in community adjacent to Port of Newark/Elizabeth providing 200 **electric trucks** to end users. Depot incorporates **storage technology** to a) provide a level of resiliency to the facility; b) to help project economics allowing for revenue realized in selling services the grid; and c) all electricity used at depot will be provided by **offshore wind.**

Example 2:

Integrating storage with public high speed, high power chargers can keep the additional demand from electric vehicles charging during high times of electricity use (summer days) from driving up our overall PEAK USAGE. This saves money for all electric customers.

Example 3:

Solar canopies over parking lots and batteries co-located with EV chargers. This makes good use of already developed real estate (parking lots) and can provide "locally generated, clean electric fuel" for the cars parked under the canopy during the day.



MFR'S AND PROCESS TIMELINES

• MFR FOR FLEET AND MH DUTY VEHICLES—Renewable generation, storage, EVSE

We need to do better than last time:

ACE submits filing in February 2018; PS submits filing October 2018 Programs in the market are just starting now – October 2021

We expect MFR Board Order on Fleets and MH Duty by EOY2021.





- Innovation in state government needed to meet the moment.
- Being smart about leveraging the public dollar against the private sector funding.

Example: This past program year \$30M in rebates leveraged approximately \$162M in private investment.*

Products and services that reside across state agencies need to be coordinated.

Example: EDA provides rebates for trucks that operate around the port facilities; charging infrastructure grants will be enabled by BPU approved utility programs and/or DEP funds from RGGI and other sources. Line all of this up.

Example: Financing products from EDA need to consider higher costs of electric product – financing products alone won't get us to goals.

^{*} Assuming 5400 rebates with average of \$30K spent per vehicle by buyer/lessor after all applicable incentives; not including private money spent on EVSE



Website: www.chargevc.org

Email: info@chargevc.org

Phone: 732-296-0770

Brian O. Lipman

Acting Director

New Jersey Division of the Rate Counsel



Brian Lipman is currently is the Acting Director for the Division of Rate Counsel. Brian has been with Rate Counsel since August of 2013, when he started as Litigation Manager. He has over 25 years of experience practicing law in New Jersey. Prior to joining Rate Counsel, Brian was a Deputy Attorney General with the State of New Jersey for ten years. He represented a number of administrative agencies and ultimately was the Assistant Section Chief for the Division of Law's Public Utility Section, responsible for representing the New Jersey Board of Public Utilities in numerous jurisdictions including the Federal Energy Regulatory Commission, Federal District Court, the Office of Administrative Law and other administrative forums on behalf of the BPU. Brian is the vice chair of the New Jersey Bar Association's Public Utility Law Section and a member of the Executive Board of the Consumer Advocates of the PJM States. Brian has a B.S. in political science from The American University and graduated with honors from Rutgers School of Law-Camden.

Montclair State University Clean & Sustainable Energy Summit 2021

Brian O. Lipman, Acting Director NJ Division of Rate Counsel

Who is Rate Counsel?

Rate Counsel is a State Agency that advocates for fair utility rates for all New Jersey public utility ratepayers. Rate Counsel is a party in cases where New Jersey utilities seek changes in their rates or services at the state or federal level. Rate Counsel also gives consumers a voice in setting energy, water, and telecommunications policy that will affect the rendering of utility services well into the future.

Why Cost Matters

• In 2019 37% of Americans could not afford a \$400 unexpected expense in their monthly budget (U.S. Federal Reserve)

• In 2017 46% of New Jersey residents could not afford a \$400 unexpected expense in their monthly budget (United Way's 2019 ALICE report)

These numbers are pre-COVID

30% of New Jersey Residents Live in True Poverty*

- A July 2021 report from Legal Services of New Jersey (LSNJ), an organization serving low-income clients on a daily basis, documents true poverty levels in NJ and found that 30% of NJ Residents live in True Poverty.
- The Federal Poverty Level does not accurately measure poverty in New Jersey since it does not take into account regional differences and additional necessary expenses.

^{* &}quot;True Poverty, What it Takes to Avoid Poverty and Deprivation in the Garden State, A 'Real Cost of Living' Report Series," July 2021 by Legal Services of New Jersey Poverty Research Institute, report found at https://poverty.lsnj.org//Pages/TruePoverty2021.pdf

Hunger in New Jersey

- In New Jersey, 762,530 people are facing hunger and of them 192,580 are children.
- 1 in 12 people are food insecure.
- 1 in 10children face hunger.

Feeding America: https://www.feedingamerica.org/hunger-in-america/new-jersey

Why Does NJ Economy Matter?

• Gets to the Key issue that concerns Rate Counsel:

Who Pays?

Who Can Pay?

- EV Owners
- Regulated Utility Ratepayers
- Taxpayers through General Fund
- Others
 - Penalties on class of wrongdoers
 - Gas tax
 - Some type of carbon charge

Why Not Have Utilities Do It?

- Seems like easy solution but:
 - Regulated Utilities will require a return on their investment—it's not free!
 - Paying through rates is most regressive
 - Rates, unlike taxes are not based on income
 - People living in or close to poverty are already paying a large percentage of their income towards utilities
 - People who can least afford utility bills are also least likely to drive a vehicle, let alone an electric vehicle.

Ideas on How We Could Do It

- Focusing on minimizing ratepayer investment and maximizing federal funding and private investment.
- Federal Funding through the American Rescue Plan should be prioritized toward electrifying MHD vehicles in overburdened communities instead of solely relying on ratepayer money
- Collaboration and Incentives to the private companies who drive the bulk of the medium and heavy duty delivery trucks through overburdened communities on a daily basis.
- Tariff Design

Tariff Design

- What is a Tariff?
- Why have an EV Tariff?
 - EV Tariff will allow utilities to recover from EV users the costs associated with their use—probably not all needed infrastructure, but should more fairly allocate costs

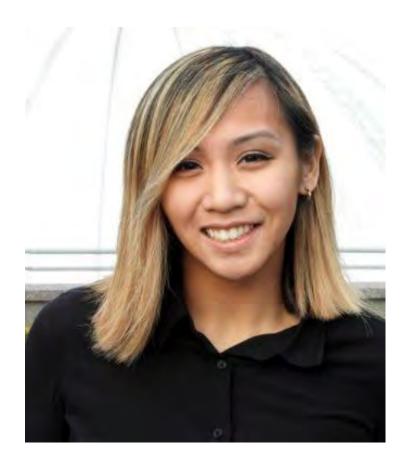
Some Thoughts on Infrastructure

- Need a Grid that can handle increased demand
- Distribution system, including proper meters, to get electricity to the EVs
- Initially, at least, we want to incent charging at off peak hours to minimize impact to the grid.
- "Main Extension" type rule for larger users

Kate Miguel

Clean Energy Advocate

Isles Inc.



Katharina Miguel manages the clean energy initiatives of Isles through policy, project management, and community organizing. This includes promoting community and rooftop solar, energy efficiency, accessible clean transportation, and workforce development for New Jersey residents. Prior to joining Isles, Ms. Miguel served as Project Coordinator of the Coalition for the Delaware River Watershed, a coalition comprised of 140 member organizations dedicated to advancing clean water protection in the region.

She received her B.A. in Political Science with a minor in Psychology from Rutgers University.



Trenton E-Mobility Pilot

KATHARINA MIGUEL, CLEAN ENERGY ADVOCATE, ISLES
KMIGUEL@ISLES.ORG







Trenton, New Jersey

- ▶ 27% poverty rate
- ▶ 30% car-free households

▶ 21% carpool rate

Trenton E-Mobility Program

- An electric mobility solution in Trenton that will improve access to essential services and opportunities while reducing air pollution and addressing health disparities in the city
- Three Services
 - Carsharing Program
 - Ridesharing Program
 - Shuttle Service
- Collaborative effort between Isles, City of Trenton, DEP, Charge EVC, Environment New Jersey, and New Jersey Clean Cities Coalition





Site Locations

Community Outreach



COMMUNITY PARTNERSHIP AGREEMENTS



COMMUNITY LISTENING SESSIONS



SURVEYS



AMBASSADOR RECRUITMENT



STAKEHOLDER ADVISORY COMMITTEE



INFRASTRUCTURE DEMONSTRATIONS AND COMMUNITY RIDE AND DRIVES



Trenton E-Mobility Pilot

KATHARINA MIGUEL, CLEAN ENERGY ADVOCATE, ISLES
KMIGUEL@ISLES.ORG