AIR & WASTE MANAGEMENT
ASSOCIATION

Northern and Central New Jersey Chapter

Welcome to the 19th Annual NJDEP/A&WMA Regulatory Update Conference

November 20, 2020

Welcome!

Mike Schaffer

A&WMA-NCNJ

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Lynne Mitchell

New Jersey Department of Environmental Protection

Lynne.Mitchell@dep.nj.gov

Annual Regulatory Update Conference

- Joint venture between NJDEP and the Northern and Central New Jersey Chapter of Air & Waste Management Association
- Opportunity for regulated community to hear directly from NJDEP staff on the latest Department initiatives in environmental regulations
- 19th Year! Virtual for the first time due to the pandemic
- Honored to have Commissioner Catherine McCabe provide the opening remarks on the "State of the Department"
- Speakers include NJDEP leadership in major program areas (Air Quality, Site Remediation, Solid Waste, Land Use, and Water Resources)

AWMA- NCNJ Leadership Team

Air & Waste Management Association
Since 1907
Northern and Central New Jersey Chapter

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ERM

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SRPLB

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Surrey Environmental Consulting

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Proactive Environmental Solutions, LLC.

Website Coordinator
Chris Whitehead
AECOM

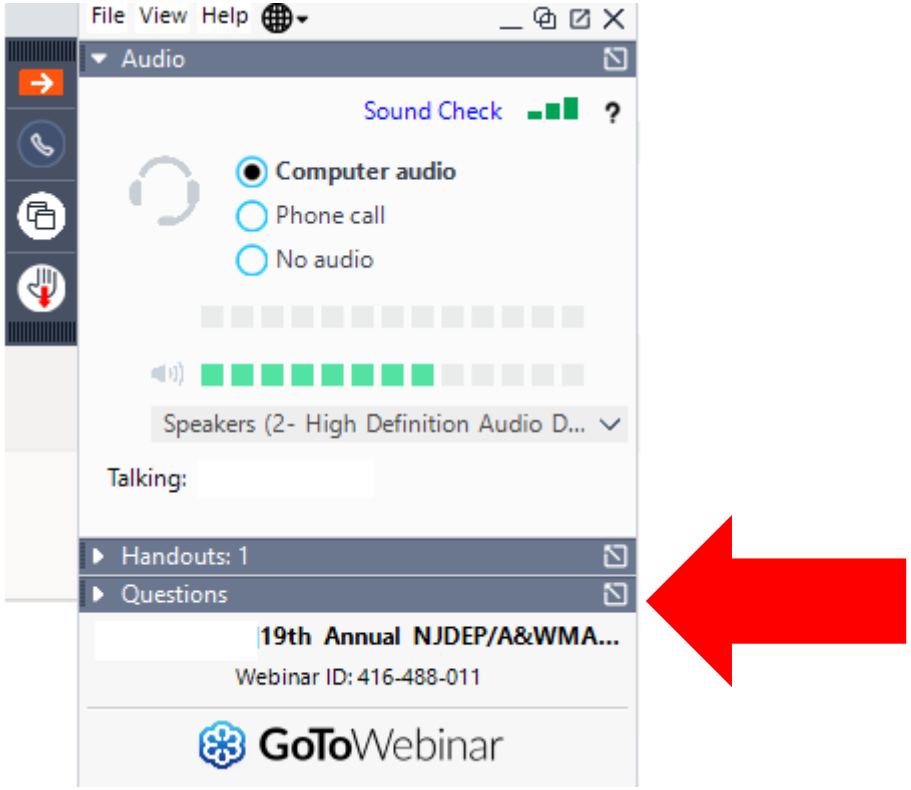
Student Liaison Committee
Jyoti Agarwal, Covanta
Gabi Carrasco, Haley & Aldrich, Inc.

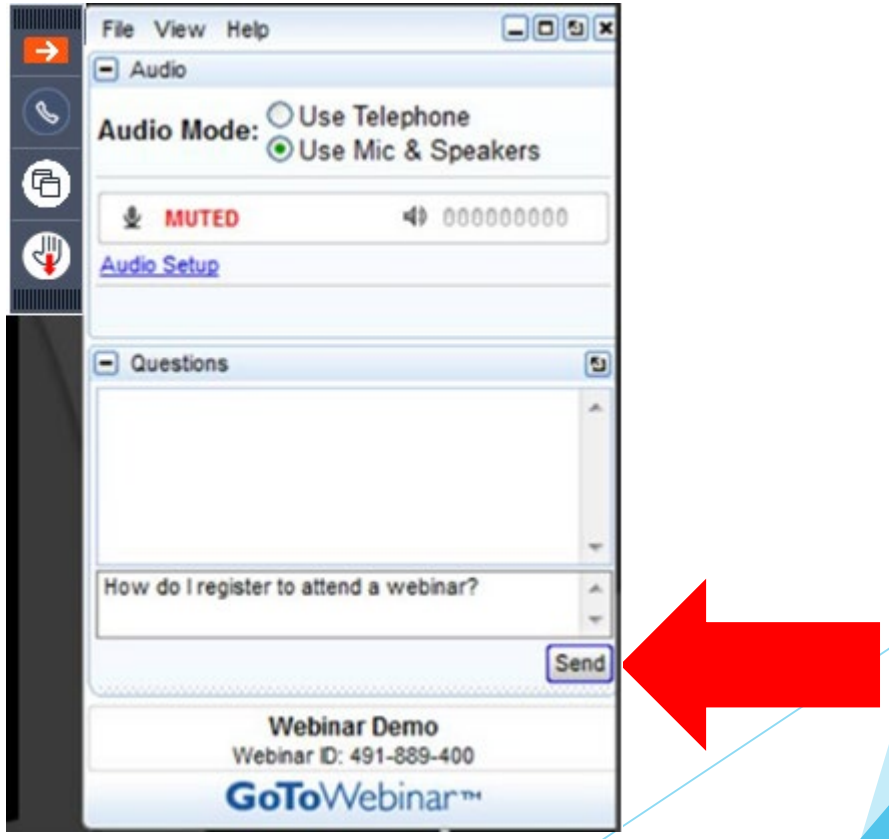
Conference Agenda (available as handout)

9:00 – 9:10 am	*Morning Session Moderators: Mike Schaffer and Lynne Mitchell- Welcoming Remarks*
9:10 – 9:45 am	Commissioner Catherine McCabe – Opening Remarks, "State of the Department"
9:45 – 10:20 am	Assistant Commissioner Mark Pedersen - Site Remediation and Waste Management Program – Update on Site Remediation and Waste Management Program
10:20 – 10:55 am	Assistant Commissioner Paul Baldauf – Air Quality, Energy, Sustainability Program –Update on Air Quality, Energy, Sustainability Program
10:55 – 11:05 am	**Morning Break**
11:05 – 11:40 am	Assistant Commissioner Elizabeth Dragon - Compliance and Enforcement Updates and Initiatives
11:40 – 12:15 pm	Director Frank Steitz – Air Program Updates, Initiatives and Climate Change
12:15 – 1:00 pm	**Lunch Break**
1:00 – 1:05 pm	*Afternoon Session Moderators: Sunila Gupta and Dr. Ron Poustchi*
1:05 – 1:40 pm	Deputy Commissioner Olivia Glenn, Environmental Justice Guidance and Projects Updates and Initiatives
1:40 – 2:15 pm	Dr. Nick Procopio, Bureau Chief, Division of Science & Research - Update on Current and Recently Completed Research Projects
2:15 – 2:25 pm	**Afternoon Break**
2:25 – 3:00 pm	Bureau Chief Kim Cenno – Water Monitoring and Standards Updates and Initiatives
3:00 – 3:55 pm	Air Program Panel Presentations on Climate Change– Director Frank Steitz, Assistant Director Peg Hanna, Assistant Director Bob Kettig, and Assistant Director Ken Ratzman
3:55 – 4:00 pm	Closing Remarks

In-House Rules Friendly Reminder

- Attendees may only ask questions by typing in the Questions panel.

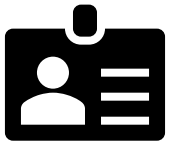




Reminders

- Keep yourself on mute and video off
- Use question feature to type in your question
- Add your name and affiliation to the questions
- Moderators will try to get as many question as we can within the allotted session




Commissioner Catherine McCabe

Opening Remarks “State of the Department”

Questions?

Assistant Commissioner Mark Pedersen

Site Remediation and Waste Management Program

Update on Site Remediation and Waste Management Program

NJDEP/A&WMA Regulatory Update Conference

Site Remediation and Waste Management Program Update

November 20, 2020

Mark J. Pedersen, Assistant Commissioner
New Jersey Department of Environmental Protection
Site Remediation and Waste Management Program

Topics

- COVID-19 update
- Site Remediation Program Metrics
- Enforcement Initiatives
- PFAS
- Regulatory update
- Solid and Hazardous Waste Update

COVID-19 Update

- DEP COVID webpage, includes all DEP programs: https://nj.gov/dep/covid19regulatorycompliance/

- Site Remediation listservs including those regarding COVID: https://www.nj.gov/dep/srp/srra/listserv_archives/

Active, New, and Closed Cases (2012-2019)

Year	Total Active	Total New	Total Closed
CY 2012	14,369	9,612	4,735
CY 2013	14,577	5,287	4,236
CY 2014	13,795	4,928	5,036
CY 2015	14,245	5,390	4,638
CY 2016	14,357	5,129	4,540
CY 2017	14,223	4,975	5,003
CY 2018	13,707	4,862	5,061
CY 2019	13,531	4,918	4,791

Total Number of RAOs by Calendar Year

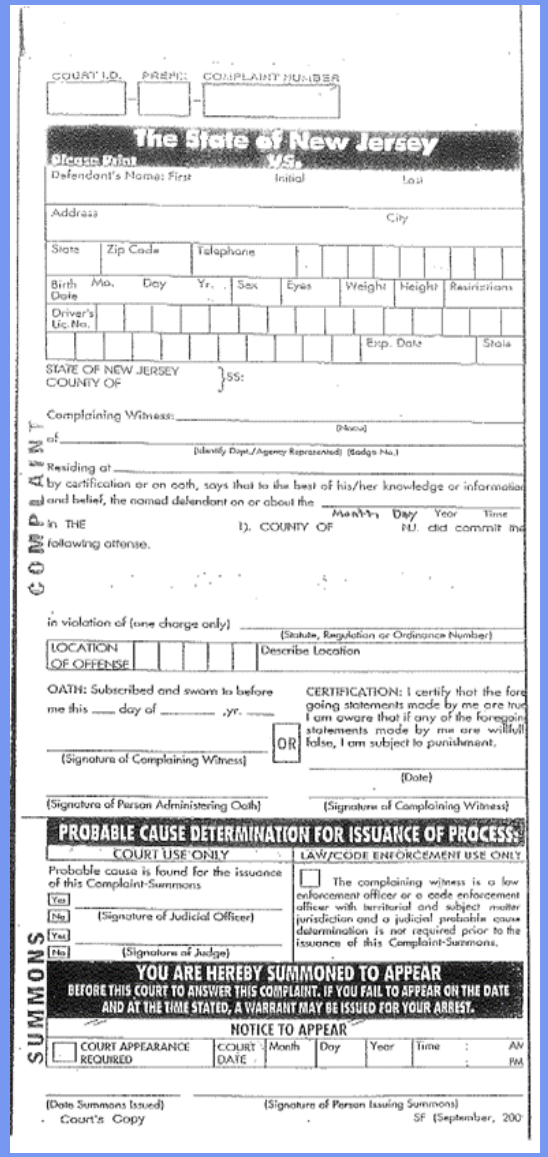
IECs and VCs Report

	As of November 18, 2020
Active IECs/VCs Cases (Total)	**568**
Active LSRP Cases	239
Active PF Cases	301
Active Traditional Oversight Cases	28
Closed IECs/VCs Cases (Total)	**712**
Closed LSRP Cases	571
Closed PF Cases	140
Closed Traditional Oversight Cases	1

Compliance Assistance & Enforcement

- Extensions for timeframes due to COVID-19
- ACOs, Direct Oversight
- The Duty Officer of the Bureau of Enforcement and Investigations can be reached at (609) 633-1480.

Municipal Ticketing Stats



COURT I.D. PRENC COMPLAINT NUMBER

The State of New Jersey

Please Print VS.

Defendant's Name: First Initial Last

Address City

State Zip Code Telephone

Birth Date Mo. Day Yr. Sex Eyes Weight Height Restrictions

Driver's Lic. No. Exp. Date State

STATE OF NEW JERSEY
COUNTY OF } SS:

COMPLAINT

Complaining Witness: (Name)

of (Identify Dept./Agency Represented) (Badge No.)

Residing at

by certification or on oath, says that to the best of his/her knowledge or information and belief, the named defendant on or about the Month Day Year Time

in THE D). COUNTY OF N.J. did commit the following offense.

in violation of (one charge only) (Statute, Regulation or Ordinance Number)

LOCATION OF OFFENSE Describe Location

OATH: Subscribed and sworn to before me this ___ day of _____ ,yr. ____

(Signature of Complaining Witness)

OR

CERTIFICATION: I certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.

(Date)

(Signature of Person Administering Oath) (Signature of Complaining Witness)

PROBABLE CAUSE DETERMINATION FOR ISSUANCE OF PROCESS:

COURT USE ONLY

Probable cause is found for the issuance of this Complaint-Summons

Yes

No

(Signature of Judicial Officer)

Yes

No

(Signature of Judge)

LAW/CODE ENFORCEMENT USE ONLY

☐ The complaining witness is a law enforcement officer or a code enforcement officer with territorial and subject matter jurisdiction and a judicial probable cause determination is not required prior to the issuance of this Complaint-Summons.

SUMMONS

YOU ARE HEREBY SUMMONED TO APPEAR

BEFORE THIS COURT TO ANSWER THIS COMPLAINT. IF YOU FAIL TO APPEAR ON THE DATE AND AT THE TIME STATED, A WARRANT MAY BE ISSUED FOR YOUR ARREST.

NOTICE TO APPEAR

☐ COURT APPEARANCE REQUIRED COURT DATE Month Day Year Time : AM PM

(Date Summons Issued) (Signature of Person Issuing Summons)

Court's Copy SF (September, 200

CY	# tickets issued
2014	11
2015	20
2016	19
2017	18
2018	54
2019	49

Per- and polyfluoroalkyl substances (PFAS)

- PFAS have been used in a wide variety of industrial and commercial processes.

- LSRPs must evaluate for potential spills and releases through air, water, and waste discharges, if PFAS was manufactured, stored, handled, or used.

Regulatory Update

- Remediation Standards – N.J.A.C. 7:26D
- Regulations of the Site Remediation Professional Licensing Board – N.J.A.C. 7:26I
- SRRA 2.0 Rulemaking – N.J.A.C. 7:26C and 7:26E

Regulatory Update

- Recycling Rules: Electronic Waste (E-Waste) Management – N.J.A.C. 7:26A-13
- Recycling Rules: Exemptions – N.J.A.C. 7:26A-1.4
- NJPACT/Climate change – EO 100 and AO 2020-01
- Environmental Justice – EO 23 and EJ Law P.L.2020, c. 92

COMMUNITY COLLABORATIVE INITIATIVE (CCI)

CCI is currently operating in:

- Bayonne — **Alan Miller, alan.miller@dep.nj.gov**
- Camden — **Armando Alfonso, armando.alfonso@dep.nj.gov**
- Perth Amboy — **TBD**
- Trenton — **Jamilah Harris, jamilah.harris@dep.nj.gov**
- Bridgeton — **Steve Olivera, stephen.olivera@dep.nj.gov**
- Jersey City — **Alan Miller, alan.miller@dep.nj.gov**
- Millville — **Steve Olivera, stephen.olivera@dep.nj.gov**
- Newark — **Tony Findley, anthony.findley@dep.nj.gov**
- Paterson — **AJ Joshi, ashish.joshi@dep.nj.gov**
- Paulsboro — **Vince Caliguire, vincent.caliguire@dep.nj.gov**
- Salem City — **Vince Caliguire, vincent.caliguire@dep.nj.gov**
- Vineland — **Steve Olivera, stephen.olivera@dep.nj.gov**

Reduce, Reuse, Recycle

- Recycle Coach – download it today!

- Recycle Right NJ!
  https://www.nj.gov/dep/dshw/recycling/promotools.html

Food Waste Reduction

- P.L. 2017, c. 136 (S3027) was signed into law on July 21, 2017 which established a goal of reducing food waste by 50%, based on 2017 food waste estimates, by the year 2030.

- Tips for reducing food waste: https://www.nj.gov/dep/dshw/food-waste/

P.L. 2020, c. 117 (Plastics law)

- Prohibits provision or sale of single-use plastic carryout bags, single-use paper carryout bags
- Limits provision of single-use plastic straws
- Limits polystyrene foam food service products

Questions?

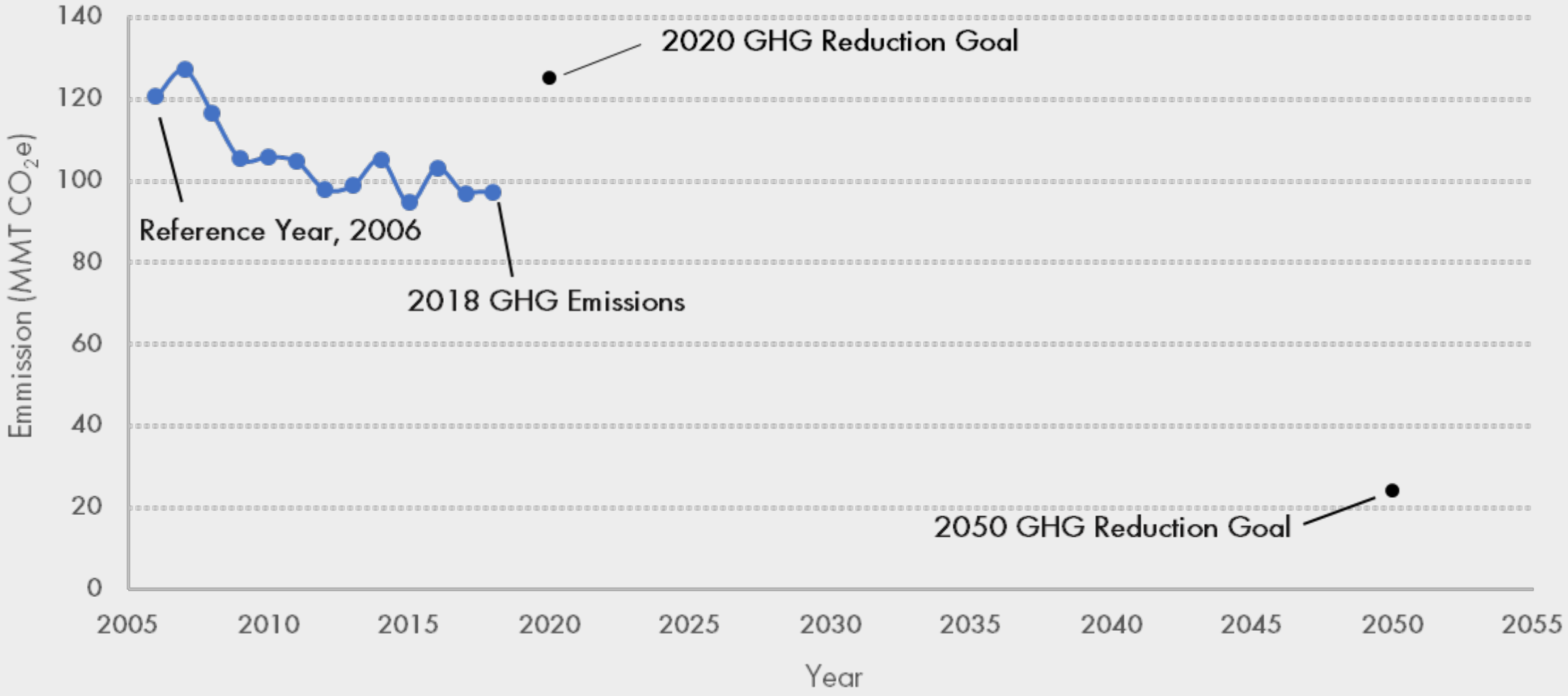
Assistant Commissioner Paul Baldauf

Air Quality, Energy, Sustainability Program

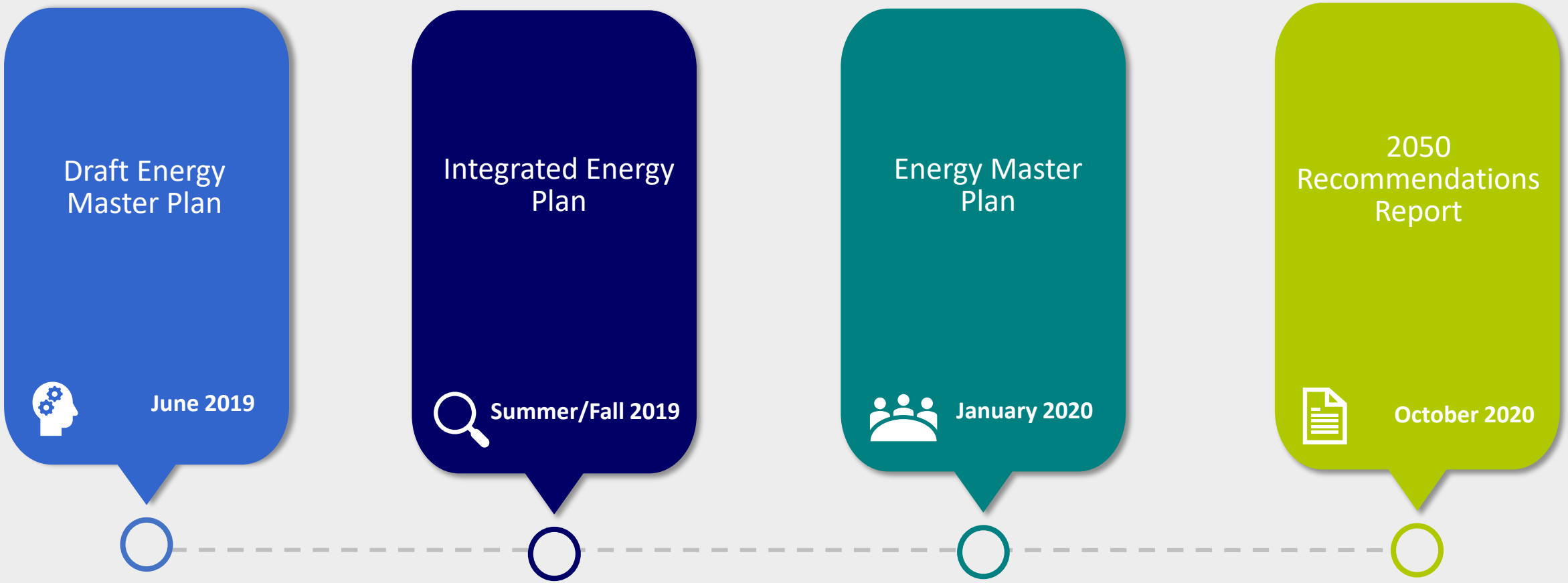
Update on Air Quality, Energy, Sustainability Program

GLOBAL WARMING RESPONSE ACT 80X50 REPORT

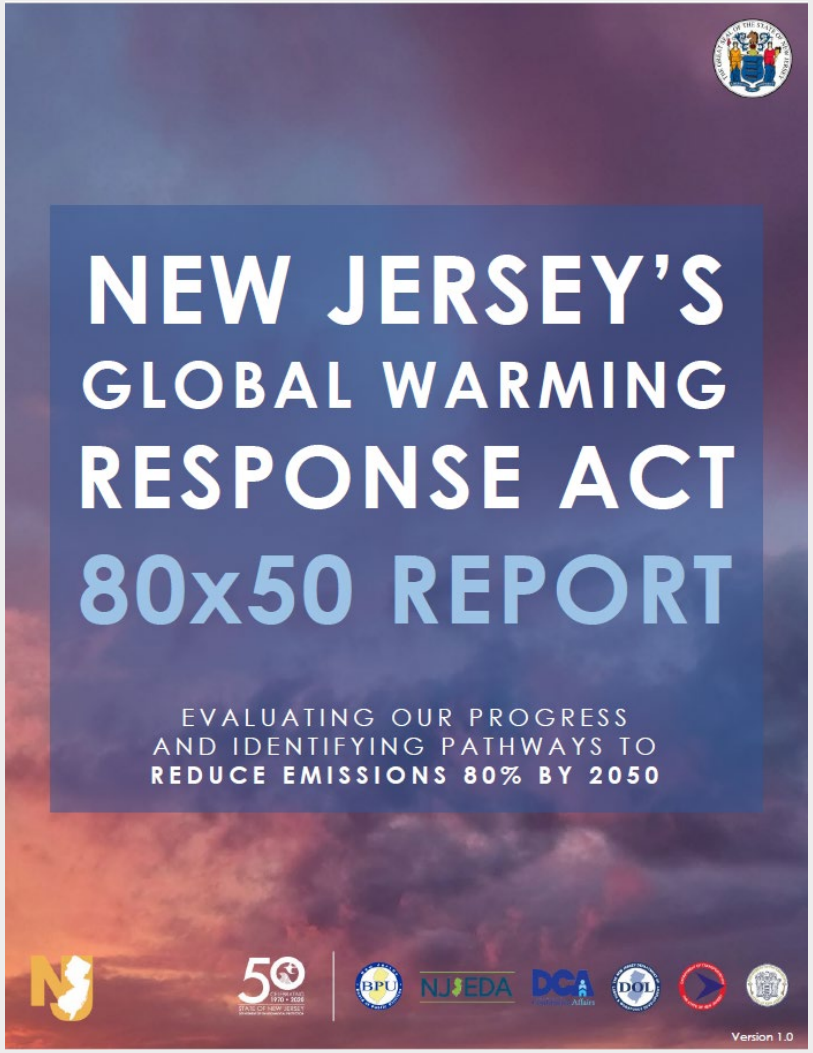
New Jersey's Greenhouse Gas Goals



Climate Mitigation Planning Process



Overview of Contents

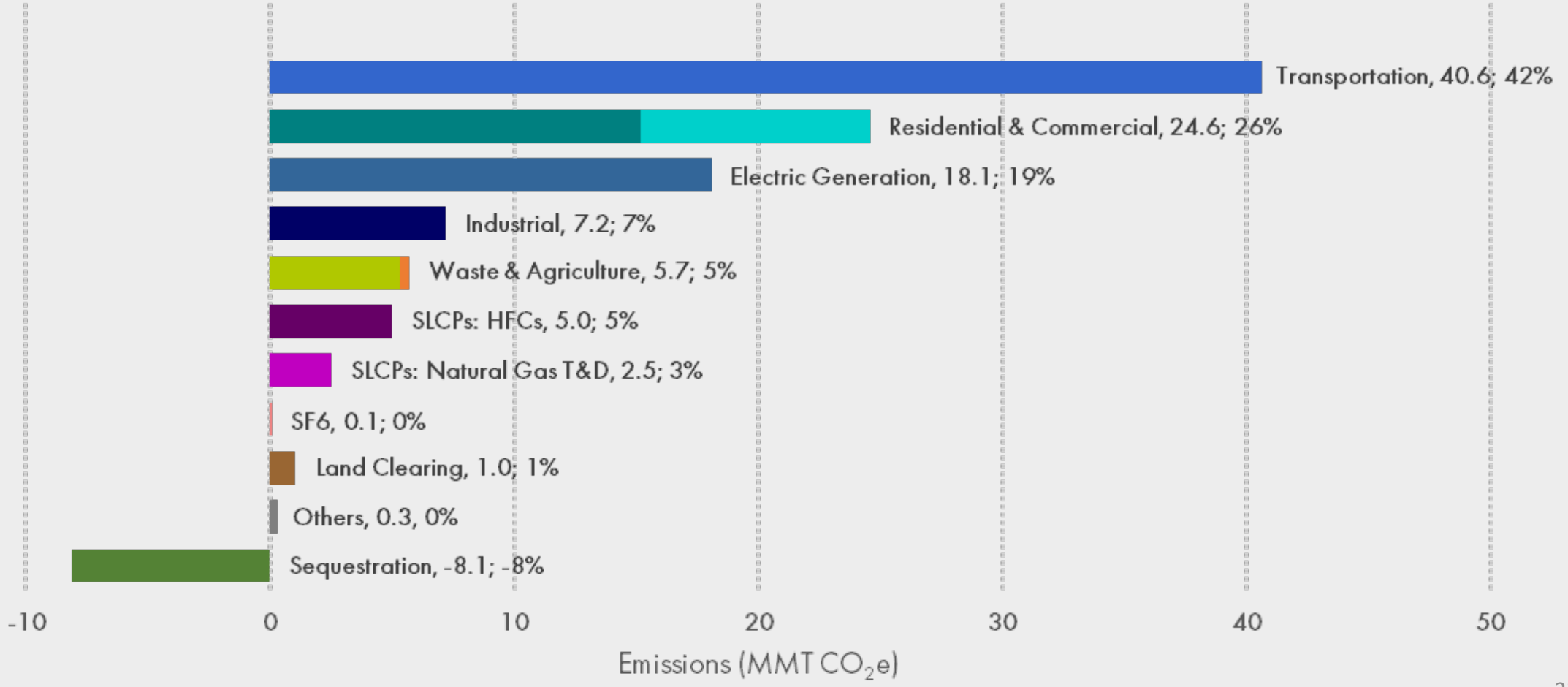


- Seven emission sectors are evaluated to determine how to achieve the 80x50 Goal.

- Each Sector Includes:
  - Business-as-Usual Projection.
  - Emissions Reduction Pathway Projections.
  - Specific legislative and administrative recommendations for achieving emissions reductions.

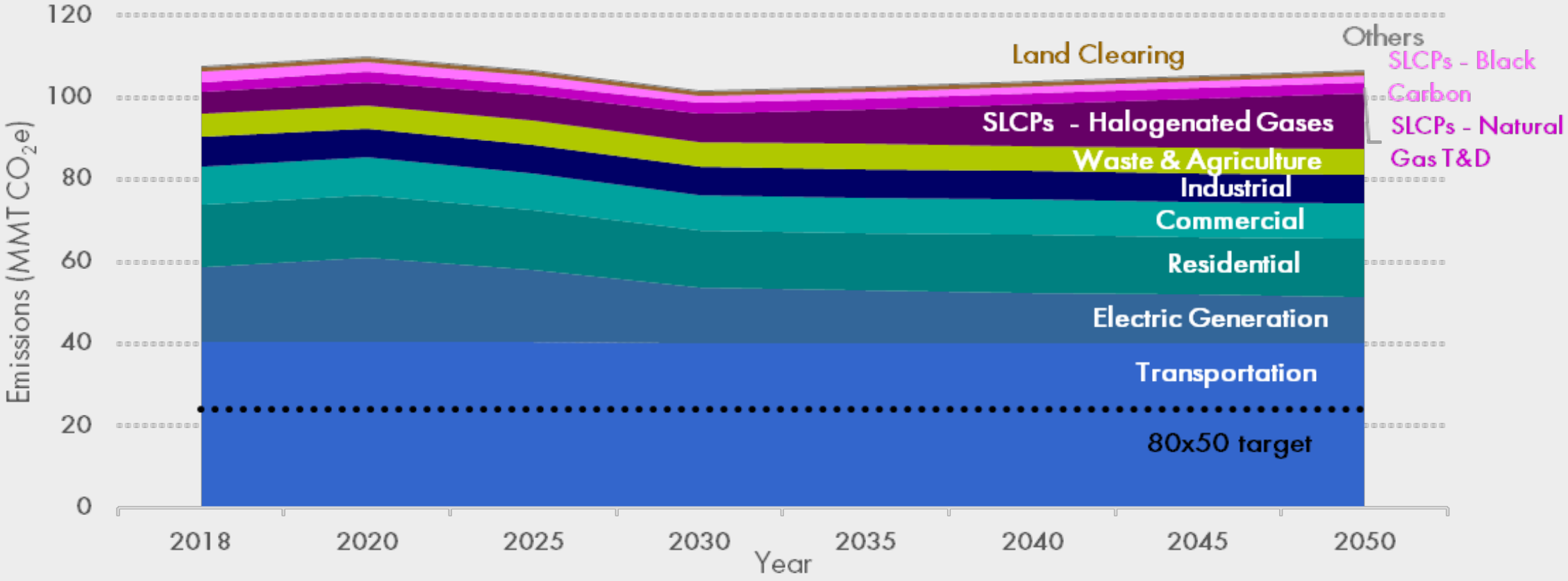
- Four electric demand scenarios are evaluated based on various levels of electrification throughout the state.

New Jersey's 2018 GHG Inventory



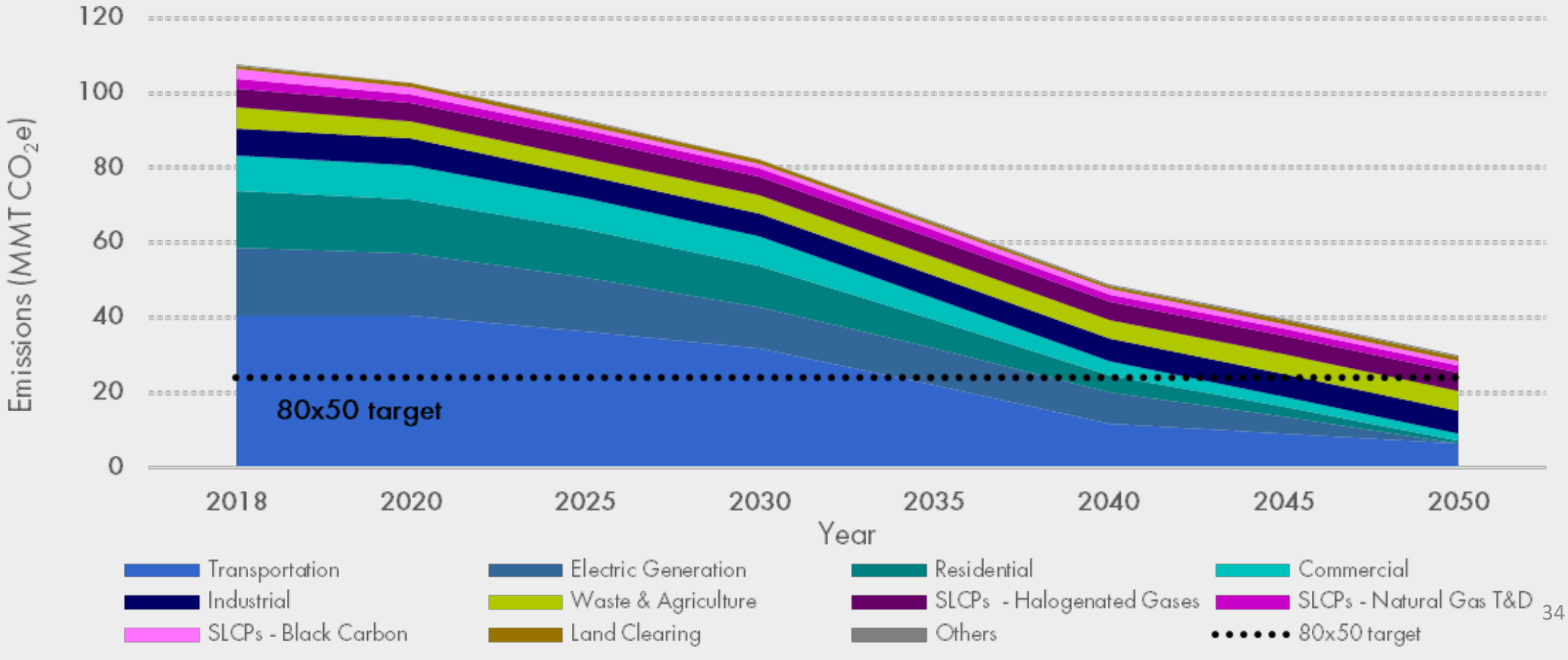
Business-as-Usual

- New Jersey is currently not on a trajectory to achieve its 80x50 GHG reduction goal.
- If the state stays on its current course, emissions would be higher than they are today, an estimate 106 MMT CO_2e.



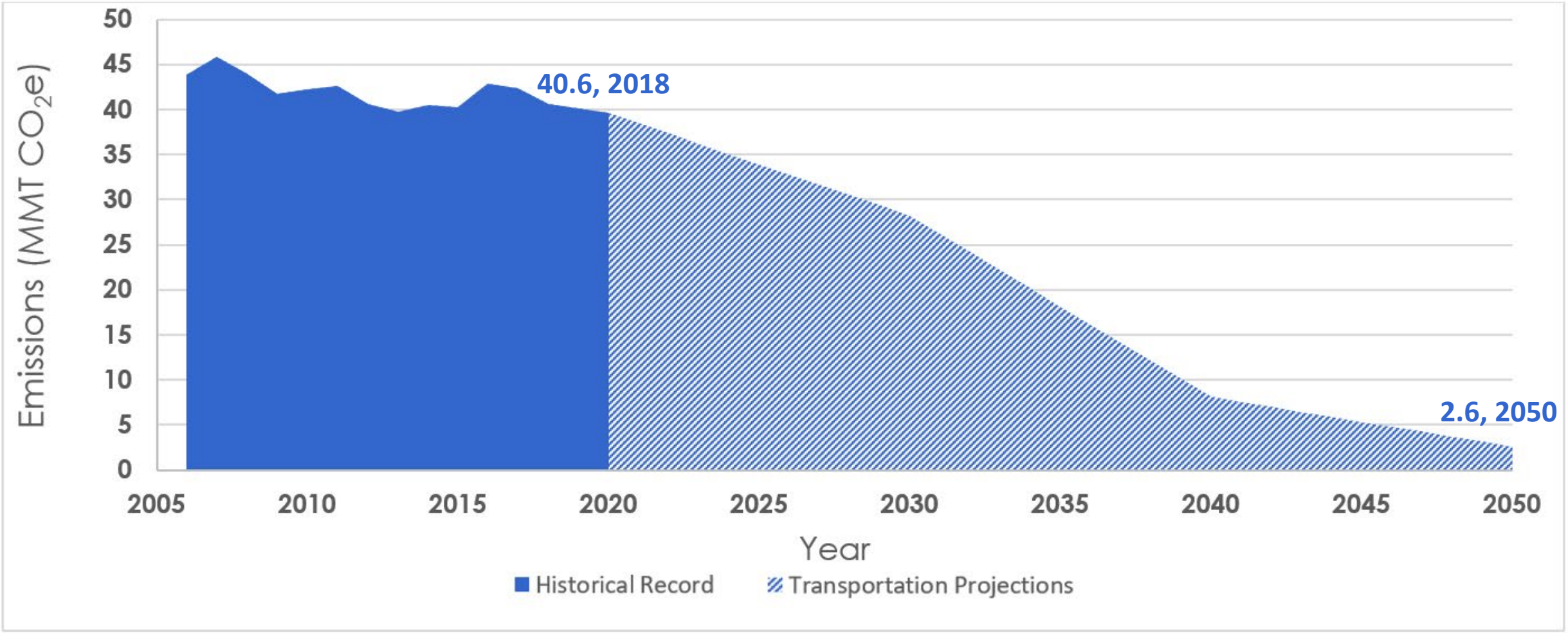
Pathway to 2050

- If New Jersey implements the pathways proposed in this report, GHG emissions can be reduced to 29.8 MMT CO_2e by 2050. After accounting for carbon sequestration, net emissions would be 19 MMT CO_2e, achieving the 80x50 goal.



Transportation

Transportation Emissions



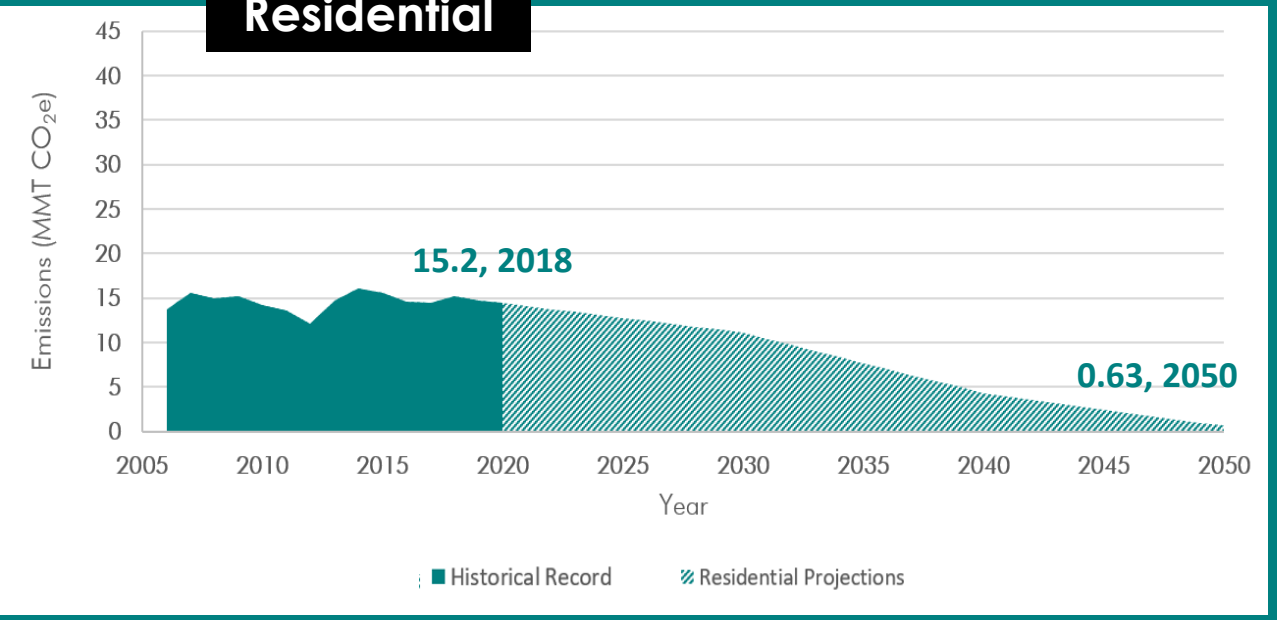
Recommendations

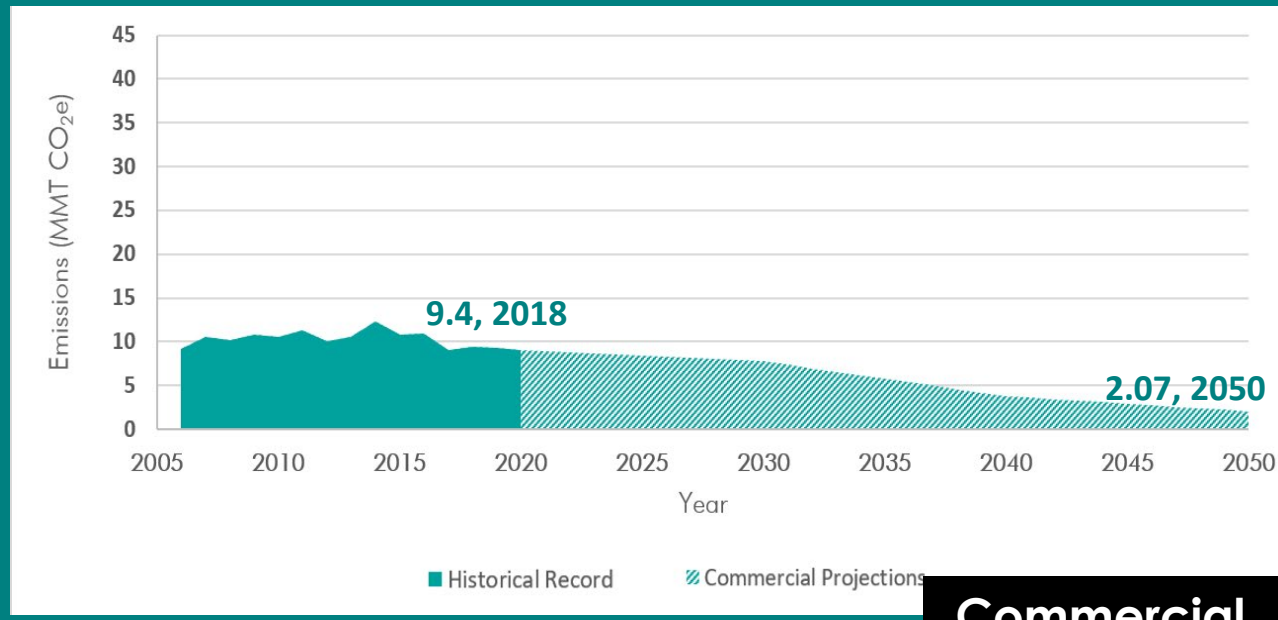
Actions	Entity	Timeframe	References
Develop a program to facilitate a complete transition away from gasoline-powered vehicles, until all light-duty vehicles and light-duty trucks are electric by 2035.	DEP, BPU, EDA	Near-term	2019 EMP Goal 1.1.1, State Zero Emission Vehicle Program Memorandum of Agreement, EV Law
Implement a long-term infrastructure program dedicated to constructing a statewide electric vehicle charging network	DEP, BPU	Near-term	
Assist county and local governments to lead by example by electrifying their vehicle fleets.	DEP, BPU	Near-term	
Consider alternative mechanisms for increased electric vehicle adoption.	Legislature, BPU, DEP, DOT, Treasury	Throughout	
Partner with industry to develop incentives to electrify the medium- and heavy-duty vehicle fleet.	EDA	Throughout	2019 EMP Goal 1.1.8

Residential & Commercial

Residential & Commercial Emissions

Residential





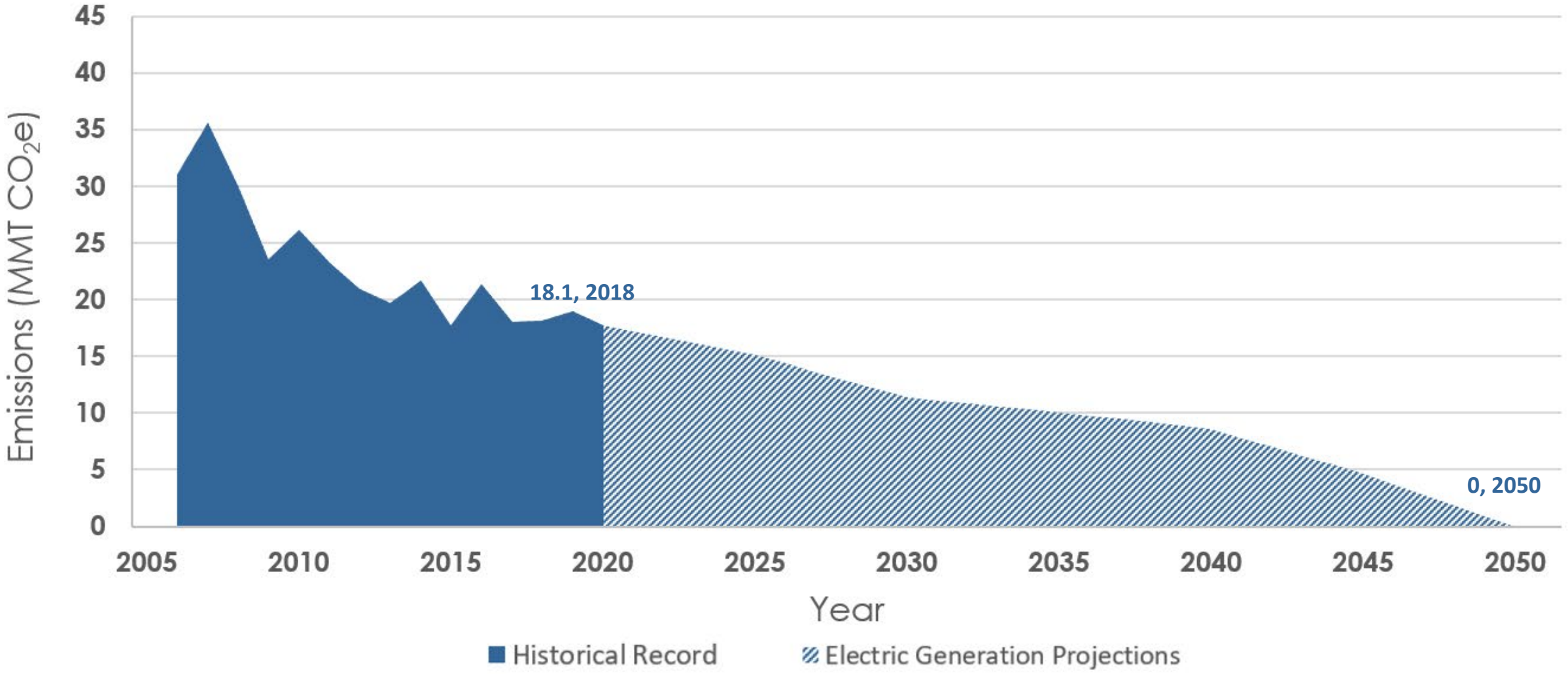
Commercial

Recommendations

Actions	Entity	Timeframe	References
Consider enabling legislation to ensure DCA can adopt more stringent building and energy codes.	Legislature	Near-term	EMP Goal 4.1.4
Develop a roadmap to a fully electrify the building sector.	BPU, DCA and DEP	Near-term	2019 EMP Goal 4.2.2
Create an interagency task force to lead the building sector transition.	BPU, DCA and DEP	Near-term	2019 EMP Goal 4.2.2
Prioritize near-term conversion of buildings relying on propane and heating oil, starting no later than 2021.	BPU, DCA	Near-term	
Mandate energy audits in State buildings.	BPU, Treasury	Near-term	EMP Goal 3.3.5
Adopt new construction net zero carbon goals for commercial and residential buildings.	Legislature, BPU, DCA and DEP	Near-term	

Electric Generation

Electric Generation Emissions

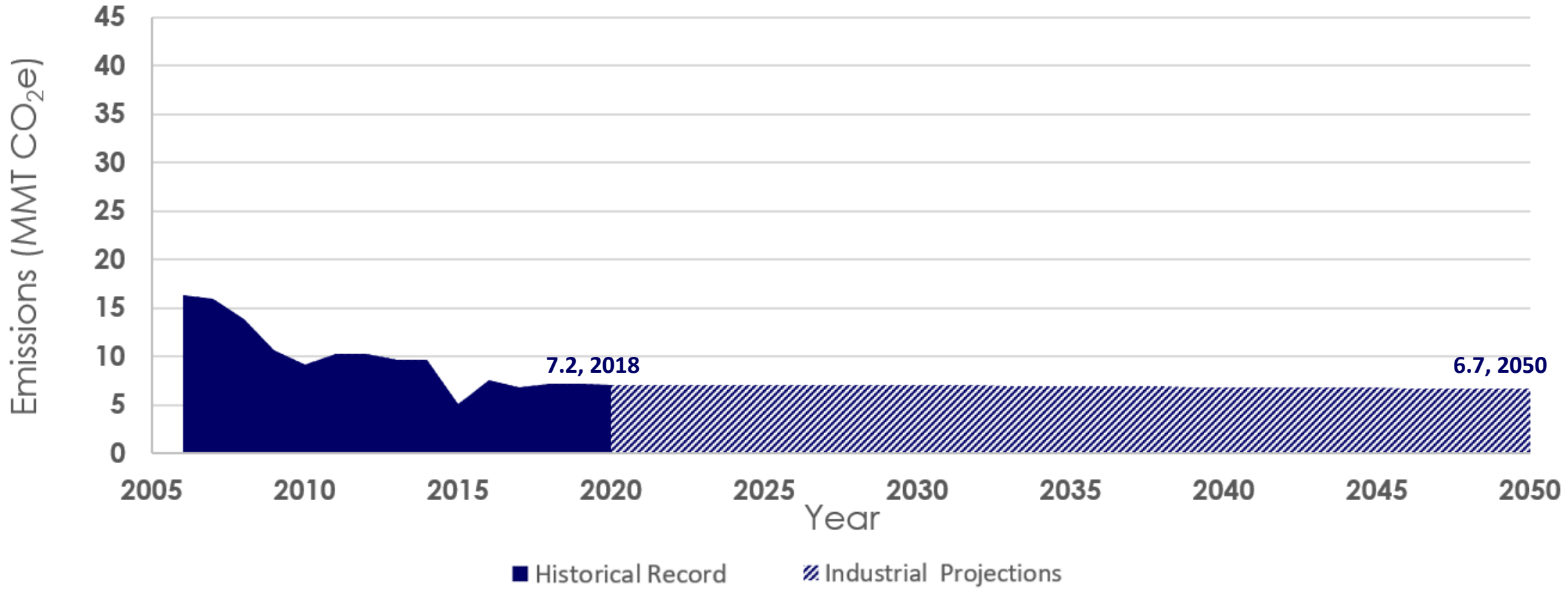


Recommendations

Actions	Entity	Timeframe	References
Timely creation of a successor solar incentive program.	BPU	Near-term	
Creation of a large-scale grid supply solar incentive program.	Legislature	Near-term	
Consider legislation creating a dedicated Office of Renewable Energy Siting.	Legislature	Near-term	New York State Acceleration Act
Consider legislation requiring solar PV on new construction.	Legislature	Near-term	
Implement regulatory limitations on CO_2 emissions.	DEP	Near-term	

Industrial

Industrial Emissions

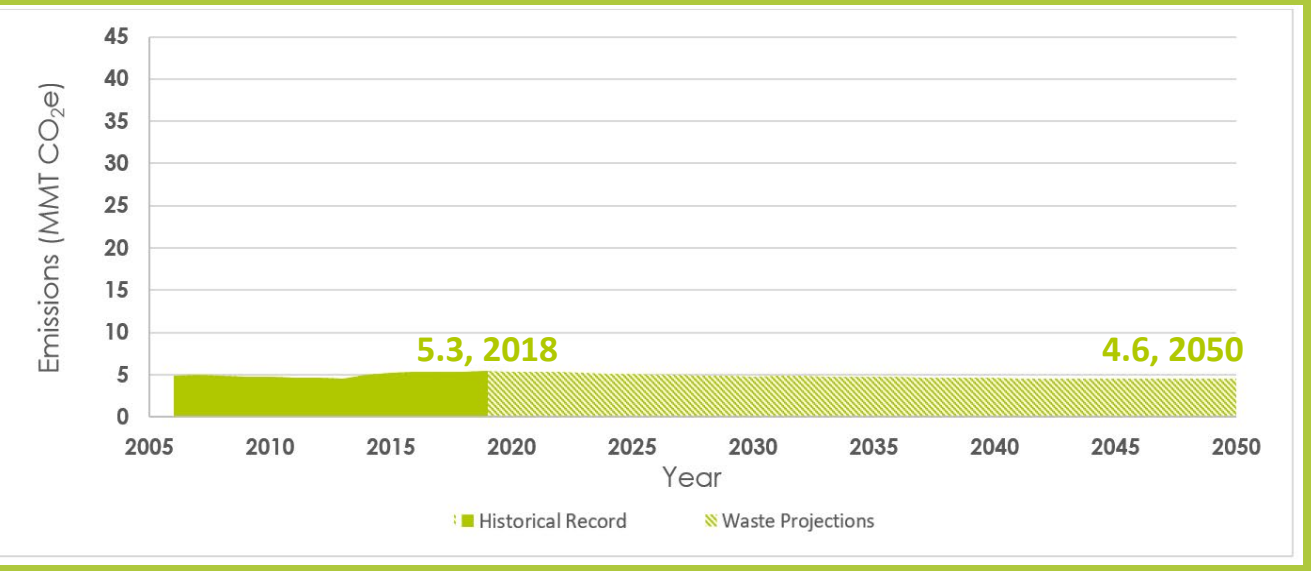


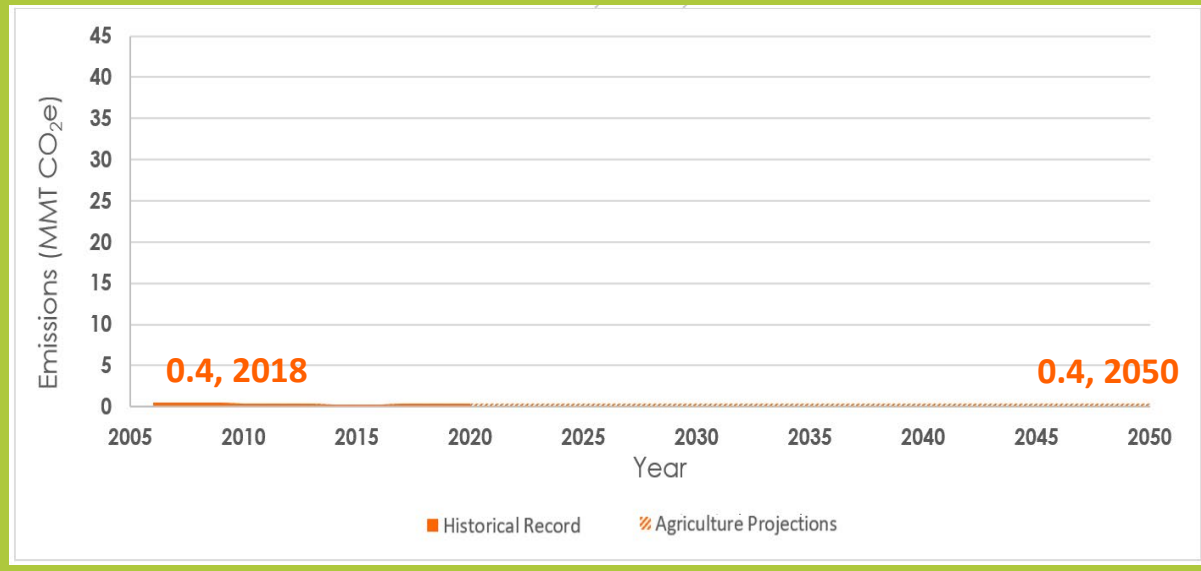
Recommendations

Actions	Entity	Timeframe	References
Increase awareness of and access to New Jersey's Clean Energy Program and its suite of statewide programs. Improve marketing, education, awareness and program management.	BPU	Throughout	2019 EMP Goal 3.1.2 and 3.1.6
Establish strategic and targeted energy efficiency programs to increase energy reductions and customer engagement.	BPU	Throughout	2019 EMP Goal 3.1.3
Expand CEA requirement for benchmarking energy use in the EPA Energy Star Portfolio manager program to industrial facilities.	Legislature, BPU	Throughout	2019 EMP Page 6.
Adopt equitable clean energy financing mechanisms (Green Bank, On-bill financing, Rebates) that enable greater penetration of energy efficiency measures.	EDA, BPU	Throughout	2019 EMP Goal 3.1.5
Investigate opportunities to reduce industrial CO_2 emissions through NJ PACT regulations.	DEP	Near-term	NJPACT

Waste and Agriculture

Waste & Agricultural Emissions



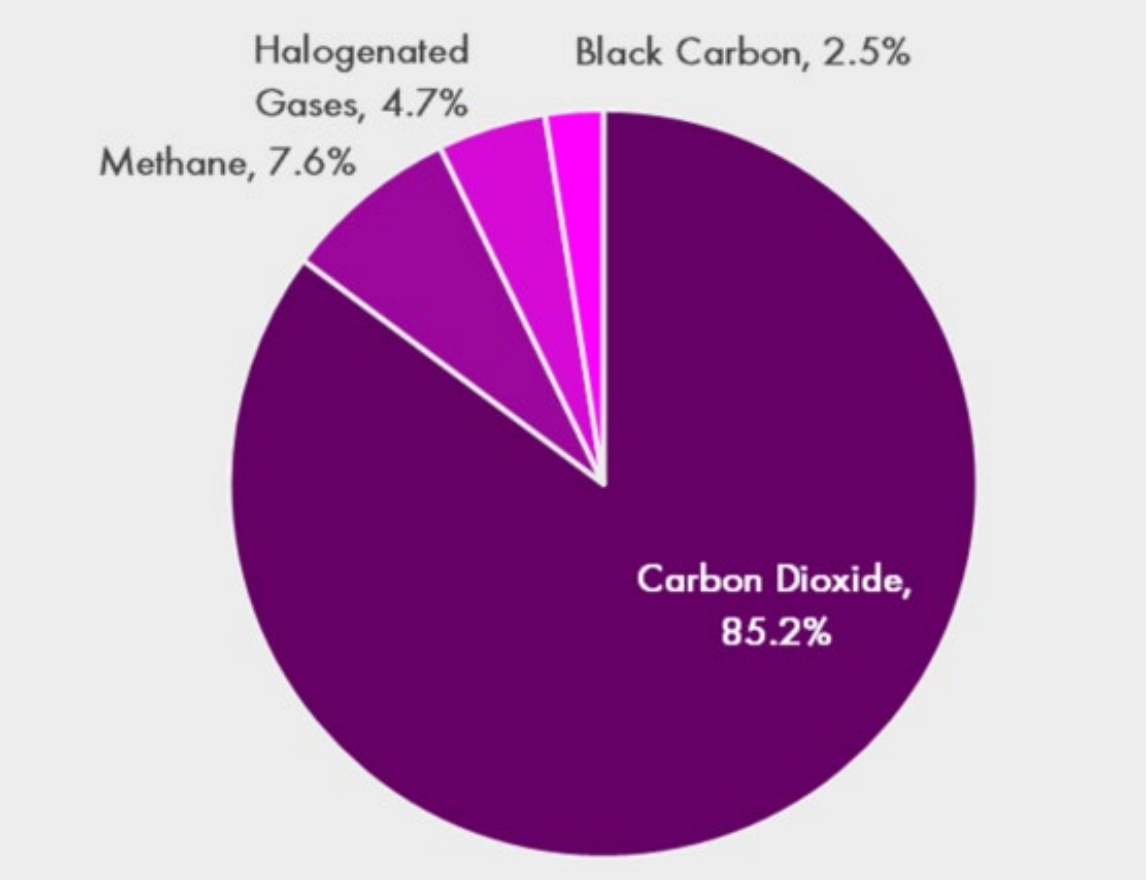


Recommendations

Actions	Entity	Timeframe	Reference
Finalize the food waste reduction plan.	DEP	Near-term	Pursuant to P.L. 2017, c.136
Adopt food waste reduction rules.	DEP	Near-term	Pursuant to P.L. 2017, c.136
Adopt food waste recycling rules for large generators.	DEP	Near-term	Pursuant to P.L. 2020, c. 24
Create guidelines/recommendations for county siting and streamlined state planning and permitting of food waste recycling facilities.	DEP	Near-term	
Create incentives to site organic waste recycling, composting or anaerobic digestion operations.	Legislature, DEP, EDA,	Near-term	
Adopt a community composting rule to streamline the approval process across the DEP.	DEP, NJDA	Near-term	
Encourage and incentivize precision agriculture.	DEP, NJDA	Throughout	

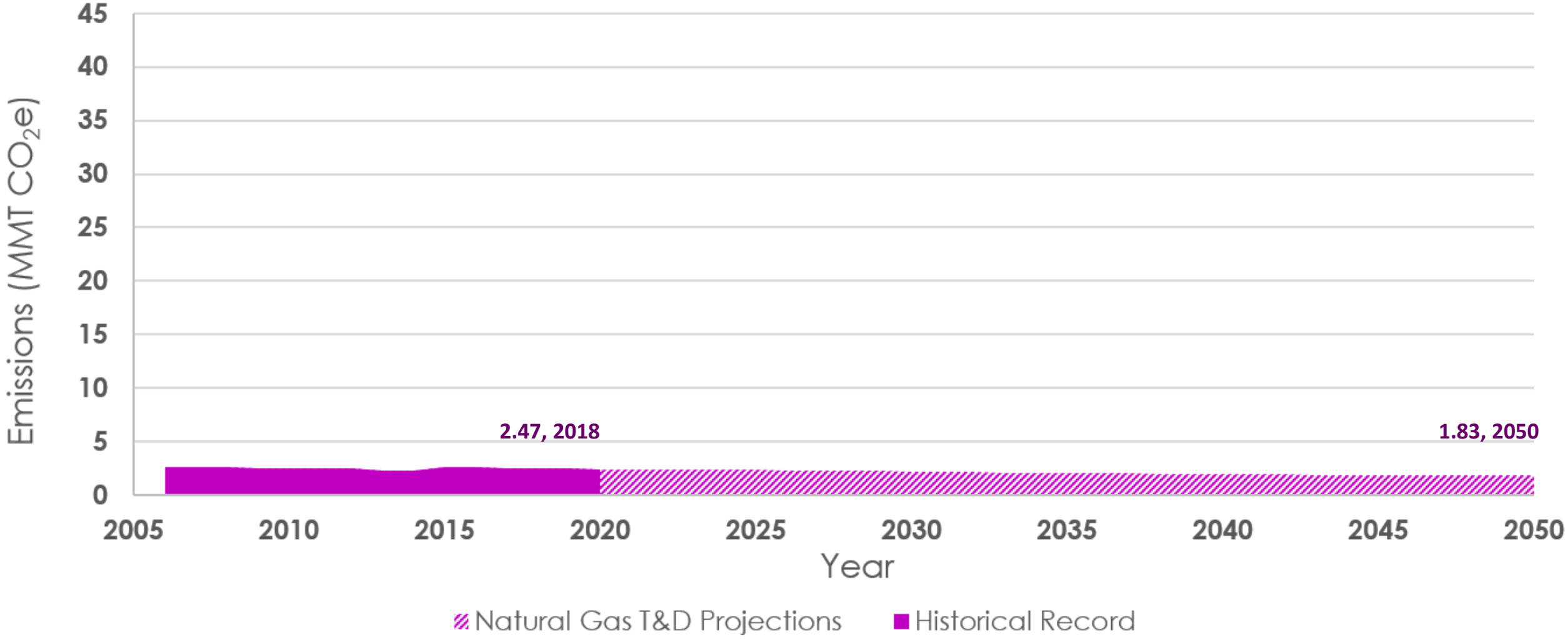
Short-Lived Climate Pollutants

- Short-Lived Climate Pollutants (SLCPs), include methane, halogenated gases and black carbon.
- SLCPs have greater impacts on climate change in the near term, but remain in the atmosphere for less time.



Methane from Natural Gas T&D

SLCPs - Natural Gas T&D Emissions

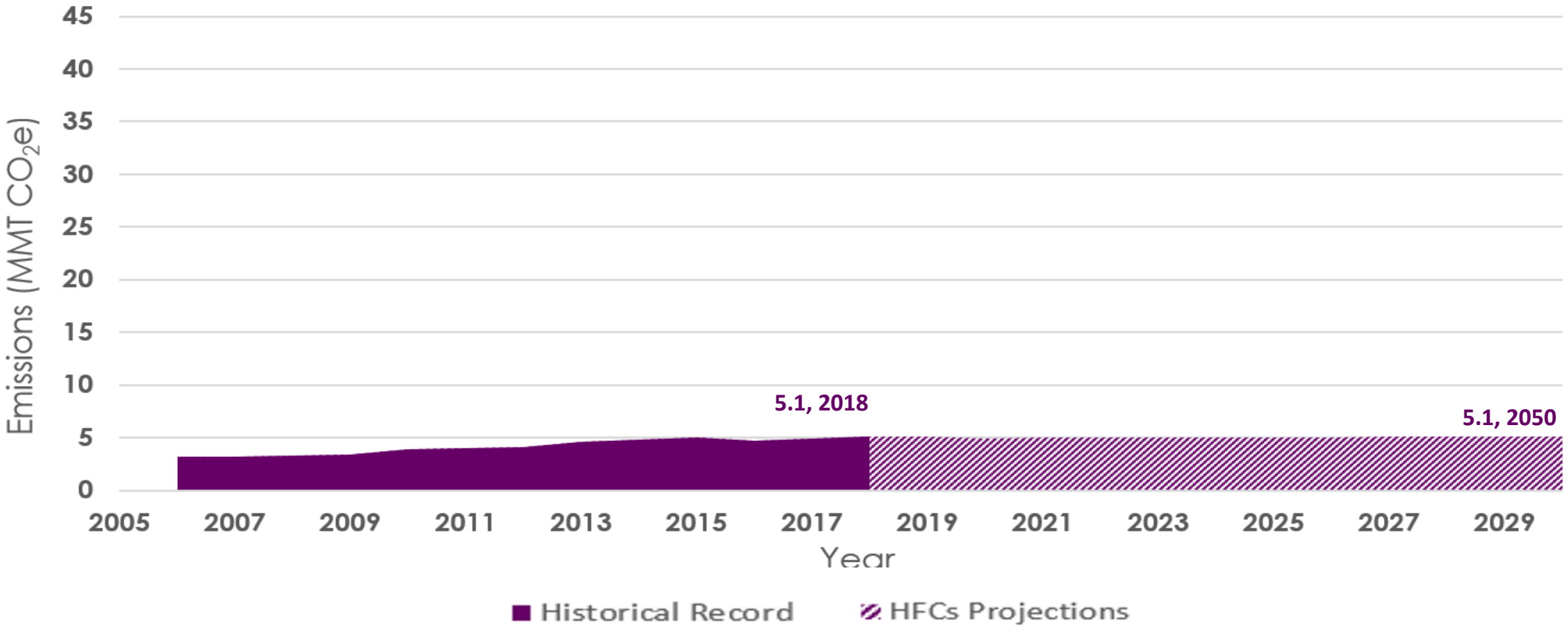


Recommendations

Actions	Entity	Timeframe	References
Incorporate advanced leak detection technology into natural gas operations to find, quantify, report, and prioritize gas pipeline repair and replacement and to file repair, replacement or retirement plans with BPU.	BPU, DEP	Near-term	2019 EMP Goal 5.4.4 California's "26 Best Practices" for methane leak detection, quantification and elimination.
Evaluate requiring leak prone pipes and equipment to be replaced or retired on an established schedule.	BPU, DEP	Near-term	Massachusetts has established a 20-year timeframe to replace all leak prone infrastructure
Evaluate establishing emission limits from natural gas transmission and distribution systems.	BPU, DEP	Near-term	Massachusetts set a declining cap from 2018-2020 to help meet the state's 2020 GHG emissions limit.
Evaluate mandating abatement of environmentally significant non-hazardous leaks (by leak flow volume).	BPU, DEP	Near-term	Massachusetts has existing regulations.
Evaluate the need to expand natural gas infrastructure and evaluate existing incentive structures for phaseout.	BPU	Near-term	2019 EMP Goal 5.4.1

Halogenated Gases

SLCPs - HFCs

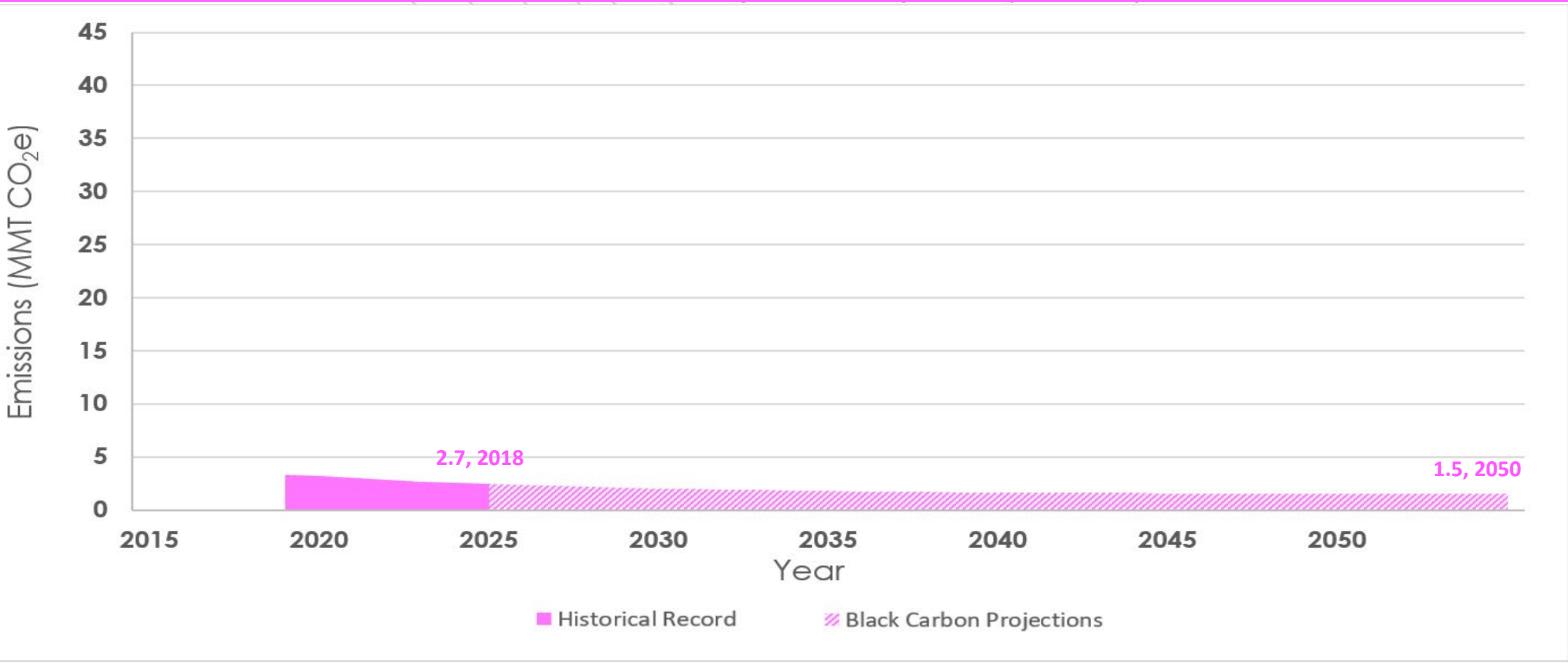

45
40
35
30
25
20
15
10
5
0
Emissions (MMT CO_2e)
5.1, 2018
5.1, 2050
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
2027
2029
Year
Historical Record
HFCs Projections

Recommendations

Actions	Entity	Timeframe	References
Develop a program, to phasedown the use of HFCs, including the modification of deadlines when necessary, evaluate the potential risk of substitutes, and approve substitutes for end-uses.	DEP	Near-term	Pursuant to P.L. 2019, c.507
Develop a program, pertaining to the disposal, leak repair, maintenance, recycling, and technical certification requirements for those who install, repair, or maintain stationary refrigeration or air conditioning appliances.	DCA	Near-term	Pursuant to P.L. 2019, c.507
Develop a Refrigerant Management Program, which require the owners and operators to track leak rates and submit a plan to make necessary repairs if leaks go above a predetermined level.	DEP	Near-term	Pursuant to P.L. 2019, c.507
Develop a reporting program for manufacturers, distributors, and users, who sell, distribute or install products or equipment that contain a significant amount of HFC-containing raw material.	DEP	Near-term	Pursuant to N.J.S.A. 26:2C-41

Black Carbon

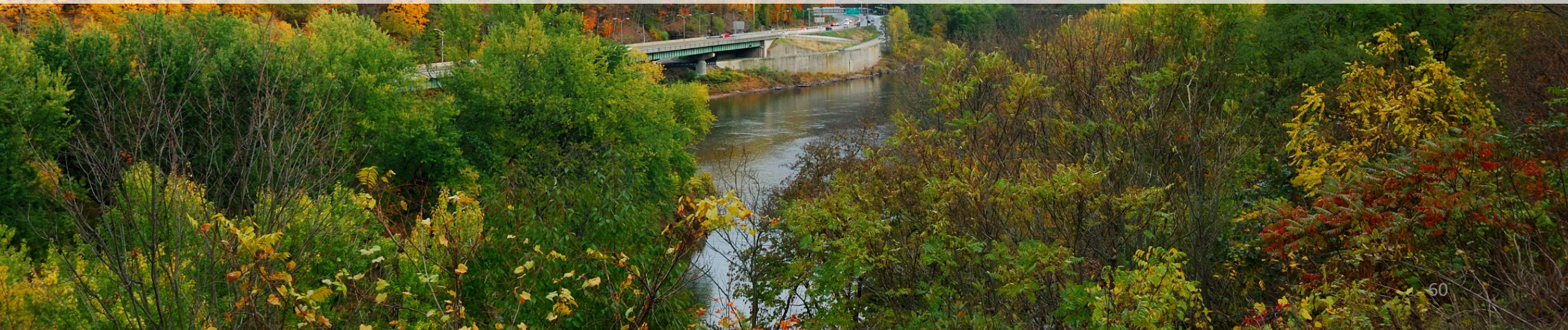
SLCPs – Black Carbon



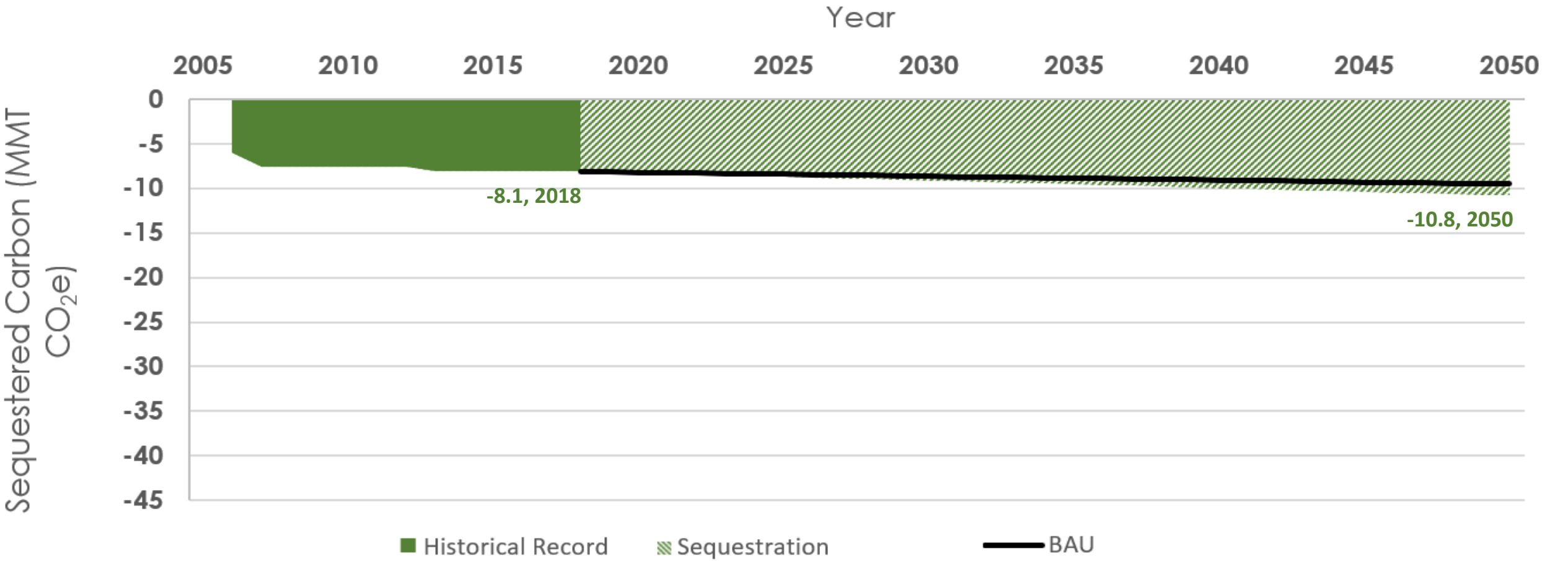
Recommendations

Actions	Entity	Timeframe	References
Oppose federal rollbacks of emission standards.	DEP	Throughout	
Transportation electrification recommendations as contained in the Transportation Chapter of this report should be pursued.			
Explore regulatory development that would require non-road equipment located at a site for an extended period of time to be regulated as a stationary source.	DEP	Near-term	NJ PACT
Explore regulations for ships, cargo handling equipment and drayage trucks.	DEP	Near-term	NJ PACT
Establish clean construction equipment standards, such as fleet emissions averaging, within state funded construction projects (roads, building, etc.).	All Government Agencies	Near-term	

Carbon Sequestration



Sequestration



Recommendations

Actions	Entity	Timeframe	Reference
Set a statewide carbon sequestration target for 2030 and 2050.	DEP, NJDA	Near-term	
Develop a New Jersey Carbon Sequestration Plan.	DEP, NJDA	Near-term	
Sign onto the U.S. Climate Alliance Natural and Working Lands Challenge.	Legislature	Near-term	
Refine sequestration estimates in the Greenhouse Gas Inventory.	DEP	Throughout	
Offer a Private Woodland Conservation Program.	Legislature, DEP, NJDA	Throughout	
Create an incentive program to encourage reforestation of 5+ acre parcels.	Legislature, DEP, NJDA	Near-term	
Develop and adopt minimum forest cover objectives for land development, including performance of requirements for forest stand delineations and implementation of forest conservation.	DEP	Near-term	Maryland's Forest Conservation Act (Natural Resources Article 5-1601-5-1613).

Questions

Thank You

www.nj.gov/dep/climatechange/mitigation.html

Morning Break





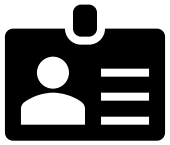

Annual NJDEP/A&WMA Regulatory Conference

Nov. 22, 2019

Reminders

- Keep yourself on mute and video off
- Use question feature to type in your question
- Add your name and affiliation to the questions
- Moderators will try to get as many question as we can within the allotted session




Assistant Commissioner Elizabeth Dragon

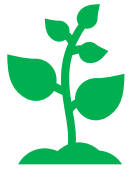
Compliance and Enforcement Updates and Initiatives

Elizabeth Dragon
Assistant Commissioner
Compliance and Enforcement

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Agenda


Introduction

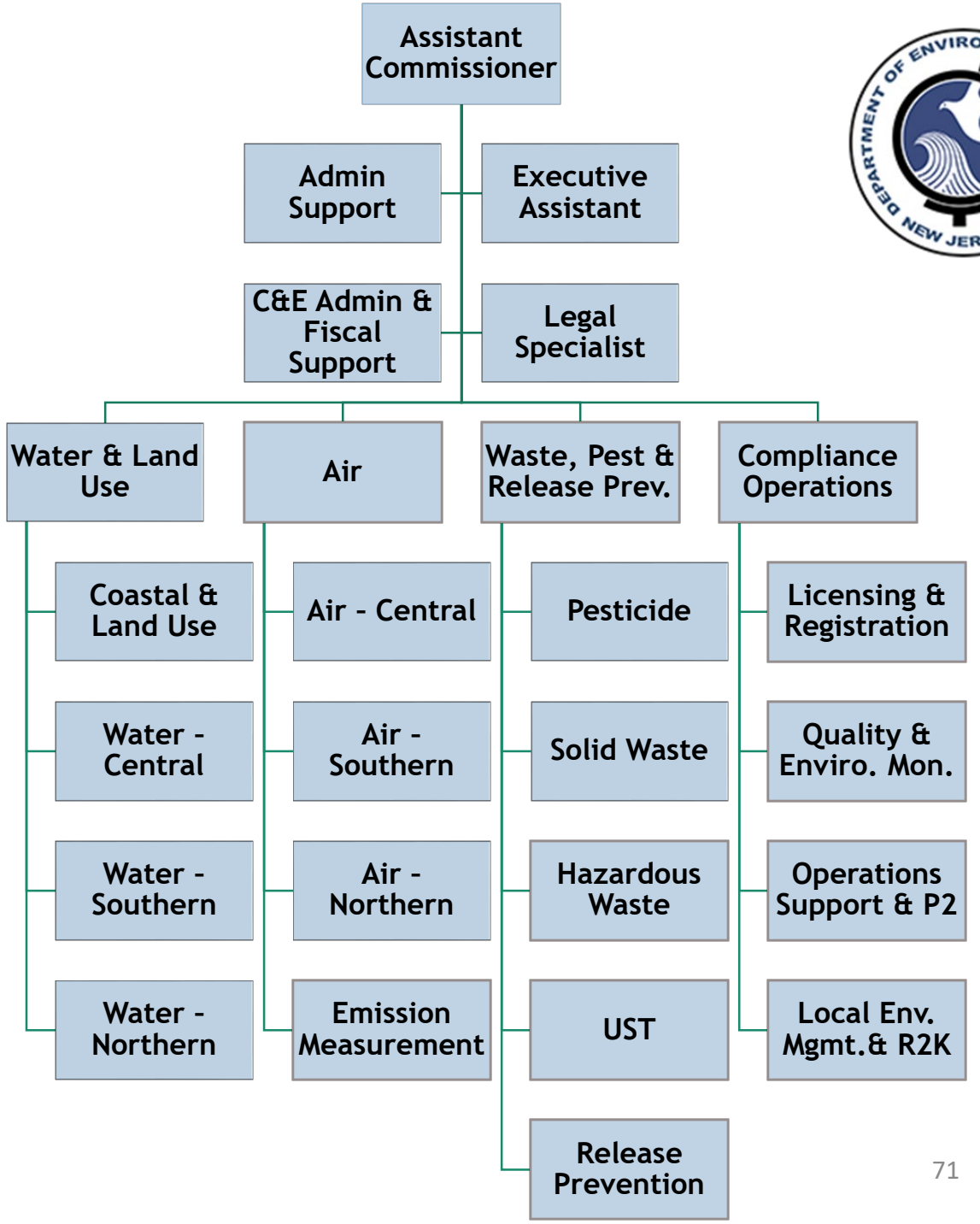
C&E Priorities for Environmental Gain


COVID-19

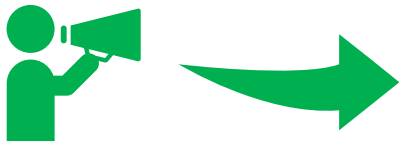

Next Steps - 2021

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

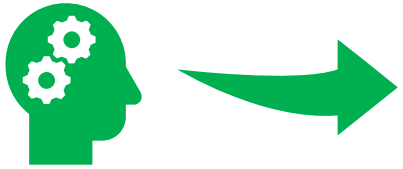
Compliance and Enforcement



C&E Priorities - Most Impactful Environmental Gains



Proactive approach to Environmental Enforcement



Prioritizing Work-load and Coordination Across DEP

Analyze Systems of Work

Amtico Site - Trenton NJ

- 3.5 Ac. Assunpink Creek floodway
- Listening Session
- Partners for Clean up
    - •Compliance & Enforcement
    - •Community Collaborative Initiative
    - •City of Trenton
    - •Mercer County Prosecutor Office
    - •Firestone
    - •United by Blue
    - •Community Groups

ILLEGAL DUMPING PROGRAM COLLABORATION & DETERRENCE

MUNICIPALITIES

DIVISION OF LAW

NJDEP – C&E AND CCI

CRIMINAL JUSTICE

DEP's COVID -19 Compliance Advisories

March 2020

- **General Notification Requirements**
  - Issued 3/20/20
- **Public water systems, wastewater monitoring, licensed operator and certified laboratories**
  - Issued 3/26/20

April 2020

- **Regulated Medical Waste**
  - Issued 4/8/20
- **Solid Waste General Guidance**
  - Issued 4/21/20
- **General Enforcement Announcement**
  - Issued 4/21/20
- **Air Quality Permits Extensions**
  - Issued 4/28/20

May 2020

- **Underground Storage Tanks**
  - Issued 5/5/20

October 2020

- **Disinfectants /Sanitizers Misuse**
  - Issued 10/5/20

DEP's COVID –19 Rule Modifications/ Operations Waivers

April / May 2020

- Regulated Medical Waste Rule Modification
  - Issued 4/9/20
- Crematories Operations Waiver
  - Issued 4/13/20
- Licensed Operator Rule Modification
  - Issued 5/6/2020

Inspections

https://www.nj.gov/dep/enforcement/advisories.html

https://www.nj.gov/dep/covid19regulatorycompliance/

- Before COVID
- During COVID
- After COVID

Richelle Wormley
Director
Division of Air Compliance and Enforcement

NJ Anti-Idling Regulations & Enforcement

Idling is an operating mode where the vehicle engine is in operation while the vehicle is stationary at any location

No person shall cause, suffer, allow, or permit the engine of a diesel or gas-powered motor vehicle to idle for more than 3 consecutive minutes if the vehicle is not in motion

Subchapter 14 – Diesel
Subchapter 15 - Gasoline

Exceptions

Diesel-powered motor vehicles may not idle for more than three consecutive minutes when parked in a parking space with available electrification technology.

When a Violation is Found

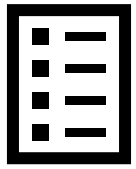
Both the registered vehicle owner and the facility where the idling took place will be cited and fined

Only the registered vehicle owner is cited and fined if anti-idling signs are clearly posted

www.stopthesoot.org

Resources

Idling complaints:
Call the DEP 24-hour Hotline:
1-877-WARN-DEP (1-877-927-6337)



NJ Idling regulations:
www.state.nj.us/dep/aqm/

General info and to buy anti-iding signs:
www.stopthesoot.org

Mike Hastry

Director

Division of Waste, Release Prevention and Pesticides

50

CELEBRATING
1970 • 2020

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Dirty Dirt – A Statewide Issue

- **Oct. 2019**

- NJDEP launched an information campaign on fill material on a dedicated website.

3 Topic Sections

Protecting Your Community:

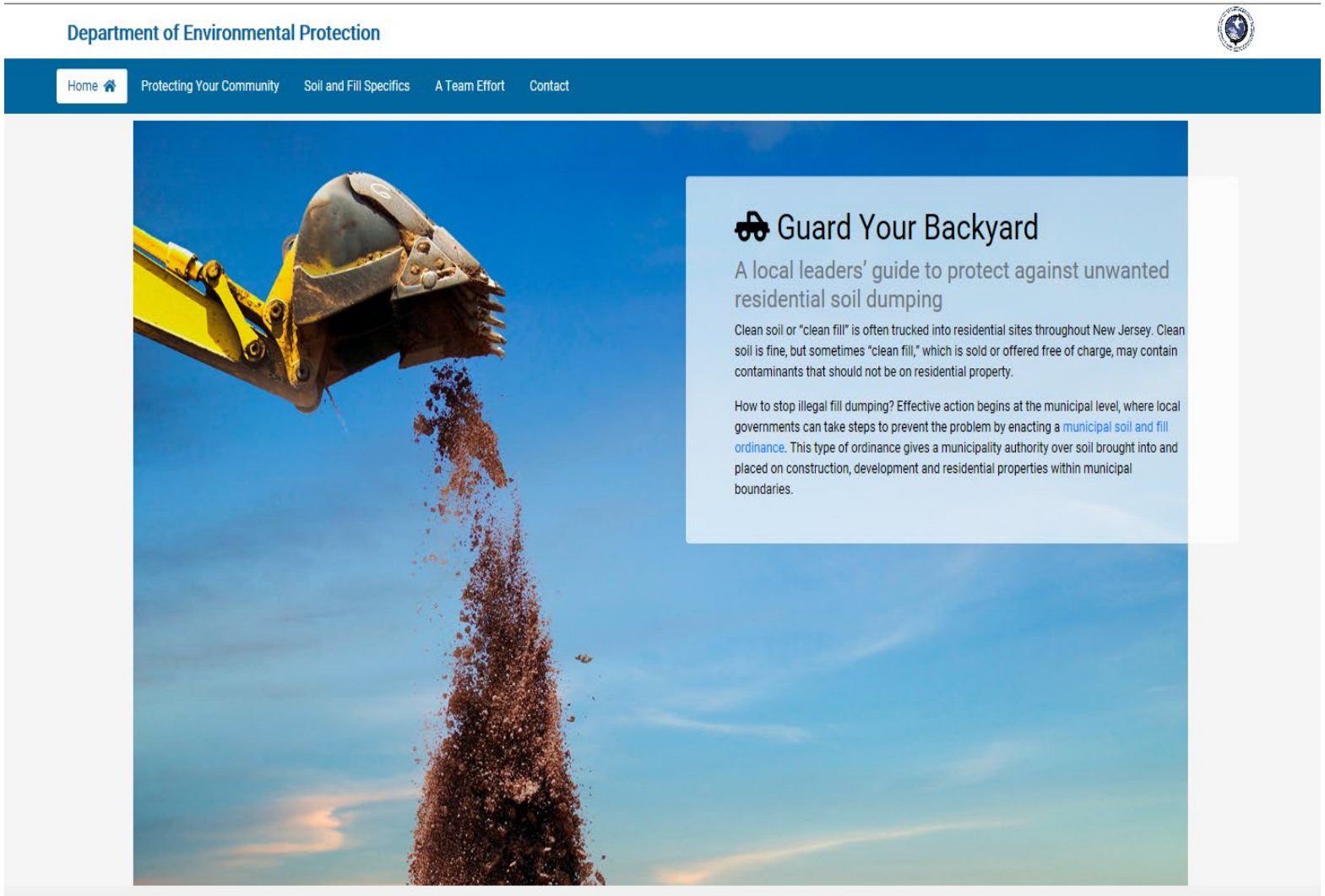
Model Ordinance, examples of Municipalities with local laws already enacted

Soil and Fill Specifics:

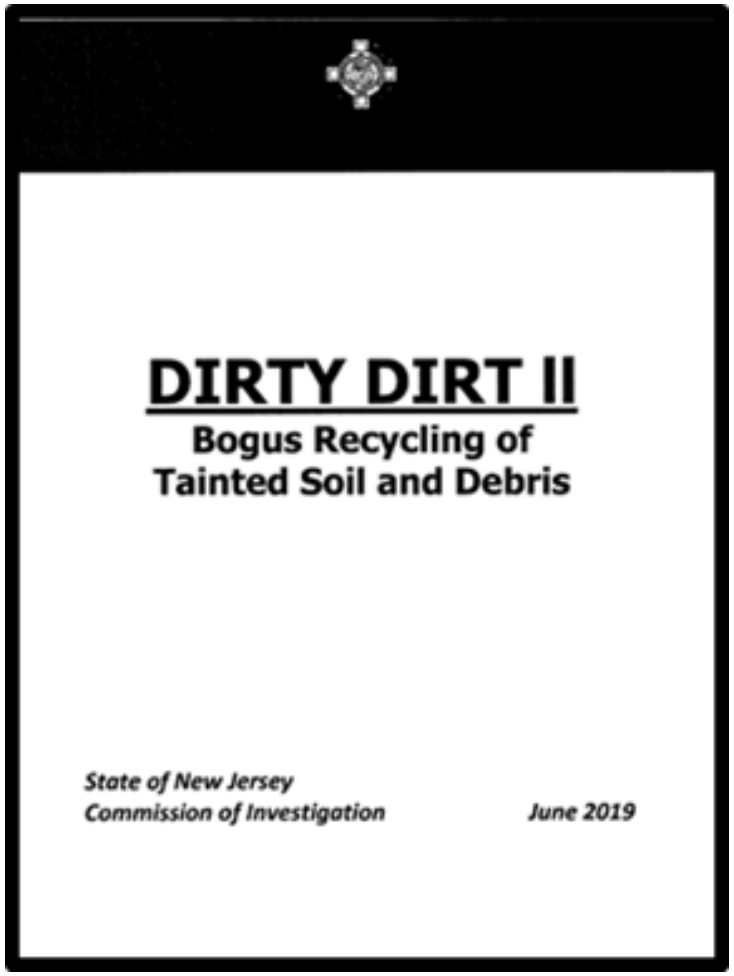
DEP's advisory materials and informational documents

A Team Effort:

Describes the groups involved or impacted by contaminated soil/fill material and gives additional information on what to be aware of and steps to take



Guardyourbackyard.nj.gov

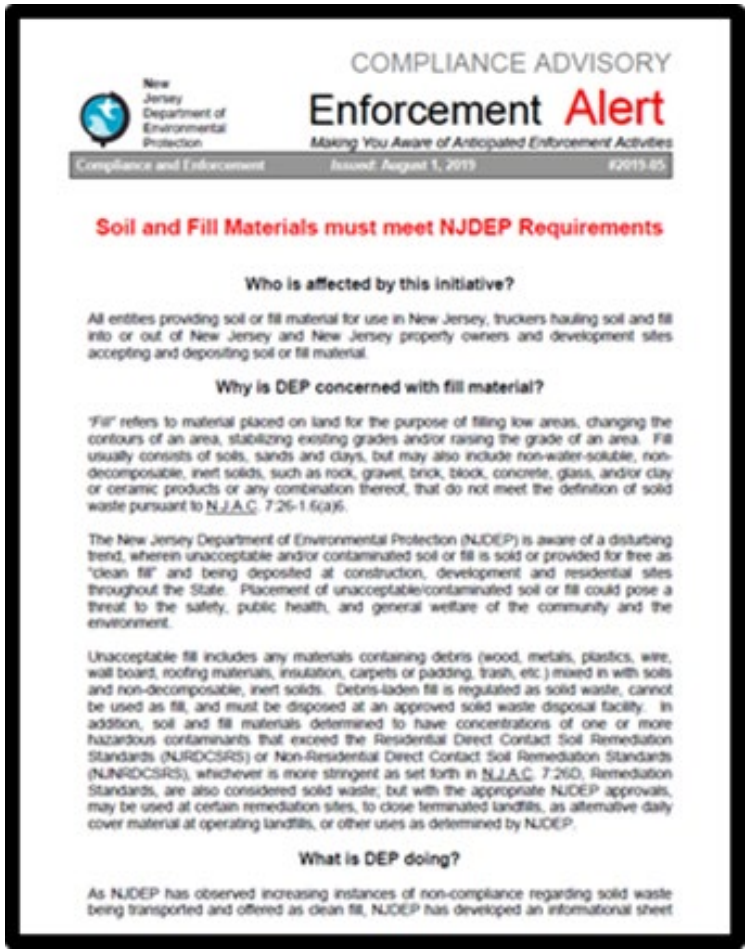


DIRTY DIRT II

Bogus Recycling of Tainted Soil and Debris

State of New Jersey
Commission of Investigation

June 2019



COMPLIANCE ADVISORY

New Jersey Department of Environmental Protection

Enforcement Alert

Making You Aware of Anticipated Enforcement Activities

Compliance and Enforcement | Issued: August 1, 2019 | #2019-05

Soil and Fill Materials must meet NJDEP Requirements

Who is affected by this initiative?

All entities providing soil or fill material for use in New Jersey, truckers hauling soil and fill into or out of New Jersey and New Jersey property owners and development sites accepting and depositing soil or fill material.

Why is DEP concerned with fill material?

"Fill" refers to material placed on land for the purpose of filling low areas, changing the contours of an area, stabilizing existing grades and/or raising the grade of an area. Fill usually consists of soils, sands and clays, but may also include non-water-soluble, non-decomposable, inert solids, such as rock, gravel, brick, block, concrete, glass, and/or clay or ceramic products or any combination thereof, that do not meet the definition of solid waste pursuant to N.J.A.C. 7:26-1.6(a)6.

The New Jersey Department of Environmental Protection (NJDEP) is aware of a disturbing trend, wherein unacceptable and/or contaminated soil or fill is sold or provided for free as "clean fill" and being deposited at construction, development and residential sites throughout the State. Placement of unacceptable/contaminated soil or fill could pose a threat to the safety, public health, and general welfare of the community and the environment.

Unacceptable fill includes any materials containing debris (wood, metals, plastics, wire, wall board, roofing materials, insulation, carpets or padding, trash, etc.) mixed in with soils and non-decomposable, inert solids. Debris-laden fill is regulated as solid waste, cannot be used as fill, and must be disposed at an approved solid waste disposal facility. In addition, soil and fill materials determined to have concentrations of one or more hazardous contaminants that exceed the Residential Direct Contact Soil Remediation Standards (NJRDCSRS) or Non-Residential Direct Contact Soil Remediation Standards (NJNRDCSRS), whichever is more stringent as set forth in N.J.A.C. 7:26D, Remediation Standards, are also considered solid waste; but with the appropriate NJDEP approvals, may be used at certain remediation sites, to close terminated landfills, as alternative daily cover material at operating landfills, or other uses as determined by NJDEP.

What is DEP doing?

As NJDEP has observed increasing instances of non-compliance regarding solid waste being transported and offered as clean fill, NJDEP has developed an informational sheet

COMPLIANCE ADVISORY

New Jersey Department of Environmental Protection

Enforcement Alert

Making You Aware of Anticipated Enforcement Activities

Compliance and Enforcement | Issued: February 12, 2020 | #2020-03

New Law – Requires Registration and Licensing for Soil and Fill Recycling Services

Who is affected by this new Law?

On January 21, 2020, Governor Phil Murphy signed S-1683/A-4267 which expands New Jersey Department of Environmental Protection's ("NJDEP") oversight of business concerns that engage in, or provide, soil and fill recycling services. A business concern includes any corporation, association, firm, partnership, sole proprietorship, trust, limited liability company, or other commercial organization providing services for the collection, transportation, processing, brokering, storage, purchase, sale, or disposition of soil and fill recyclable materials.

"Soil and fill recyclable materials" are non-putrescible aggregate substitute, including, but not limited to, broken or crushed brick, block, concrete, or other similar manufactured materials; soil or soil that may contain aggregate substitute or other debris or material, generated from land clearing, excavation, demolition, or redevelopment activities that would otherwise be managed as solid waste, and that may be returned to the economic mainstream in the form of raw materials for further processing or for use as fill material.

The following items are not considered "Soil and fill recyclable materials" under this new law:

(1) Source separated Class A source separated recyclable material
(2) Source separated Class B recyclable material shipped to a NJDEP approved Class B recycling center for receipt, storage, processing, or transfer
(3) Beneficial use material for which the generator has obtained prior approval from the DEP to transport to an approved and designated destination
(4) Virgin quarry products including, but not limited to, rock, stone, gravel, sand, clay, and other mined products.

What should I do?

Any business concern that does not hold a valid, permanent A-901 license and is currently engaged in soil and fill recycling services must first register with the DEP on or before **April 20, 2020**; and thereafter submit a full disclosure application for a Soil and Fill Recycling License (commonly referred to as an A-901 License) on or before October 19, 2020.

To register with the DEP you must complete and submit a Soil and Fill Recycling Registration Form, found at https://www.nj.gov/dep/dshw/a901/a901frms.htm. There is no cost to register. This website also contains guidance and frequently asked questions (FAQs) documents for more information.

Questions?

Director Frank Steitz

Air Program Updates, Initiatives and Climate Change

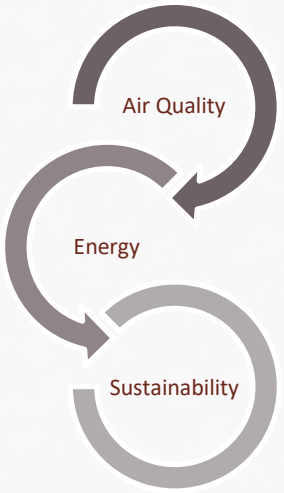
STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

AIR QUALITY, ENERGY, AND SUSTAINABILITY

NOVEMBER 20, 2020
A&WMA REGULATORY UPDATE

FRANCIS STEITZ, DIRECTOR
DIVISION OF AIR QUALITY



UPDATE TOPICS

- Impacts from Pandemic
  - Measured Air Quality
  - Operations
- Air Quality Trends
- Tampering
- Air Quality Evaluation and Planning
- Air Quality Permitting
- Regulatory Development

STAY AT HOME: EXECUTIVE ORDER 107, 3/21/20

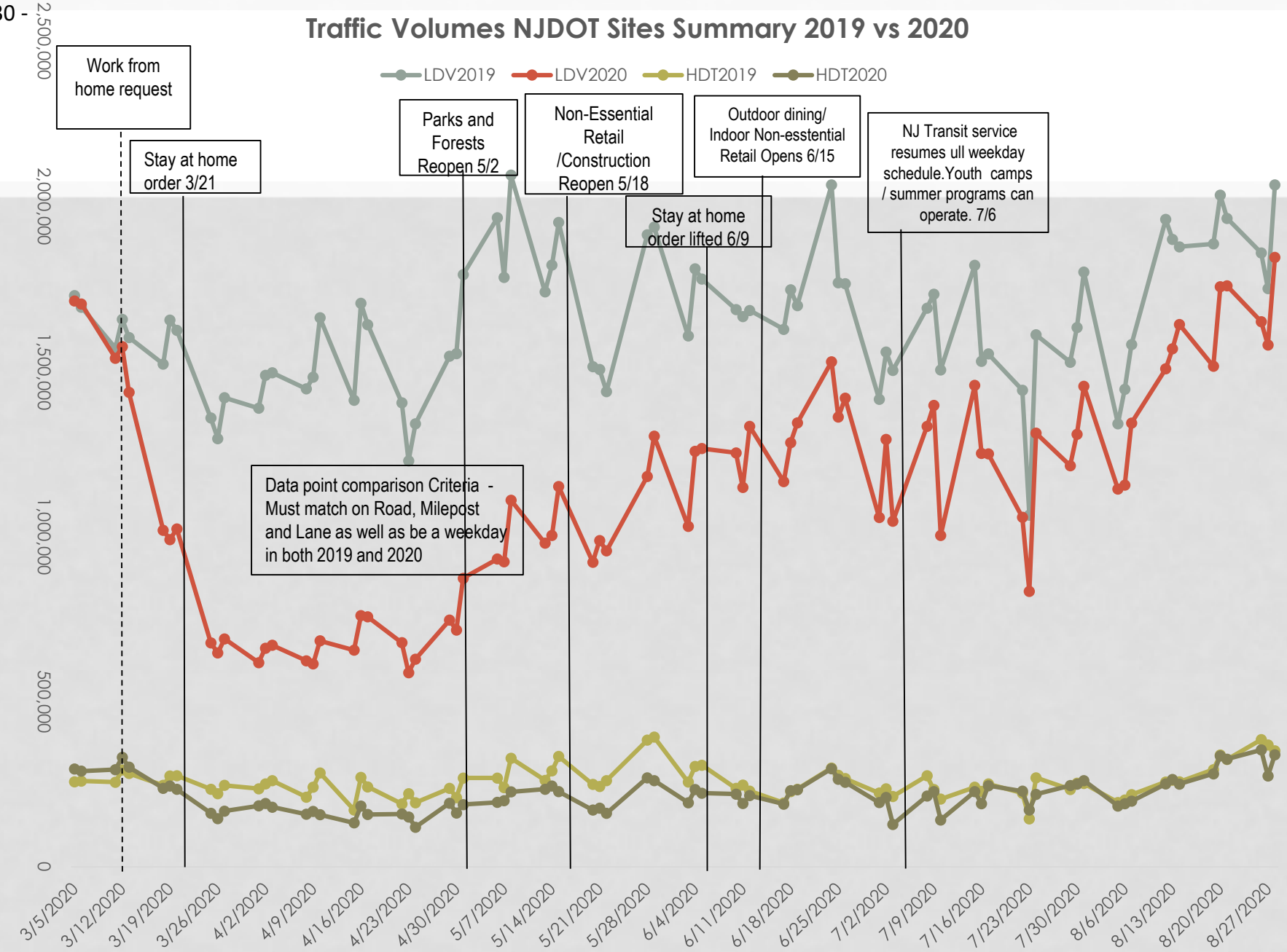
- Office workers work from home.
- All schools and colleges closed; study from home.
- Closure of all non-essential retail businesses
- Closure of all recreational and entertainment businesses.
- All non-essential construction projects must stop.
- Restrictions eased on 5/18/20 (Stage 1) and 6/15/20 (Stage 2)

Results by end of March 2020:

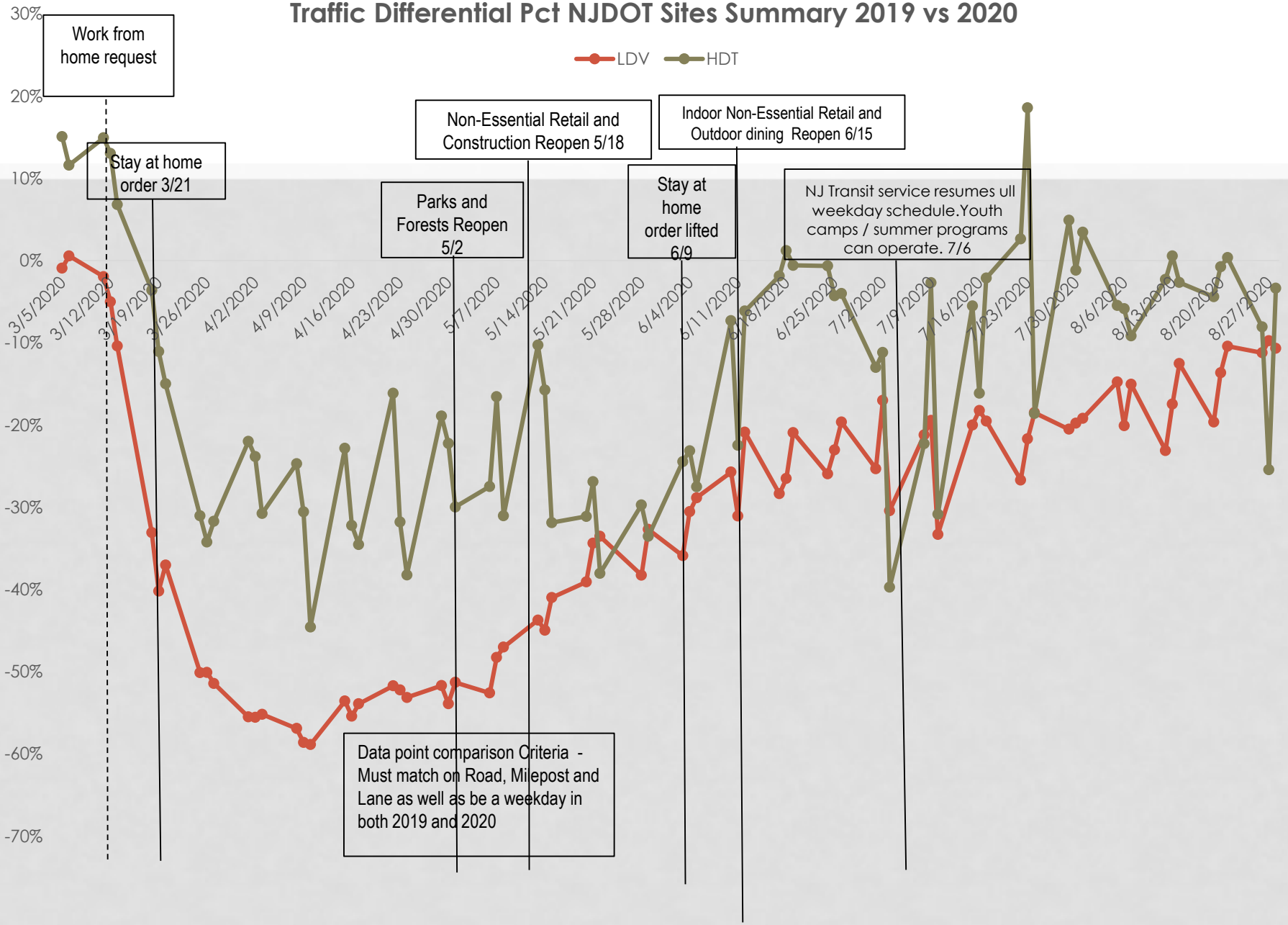
- 50% reduction in light duty vehicle traffic
- 30% reduction in heavy duty vehicle traffic
- 5%-14% reduction in power use

7:30 -

Traffic Volumes NJDOT Sites Summary 2019 vs 2020

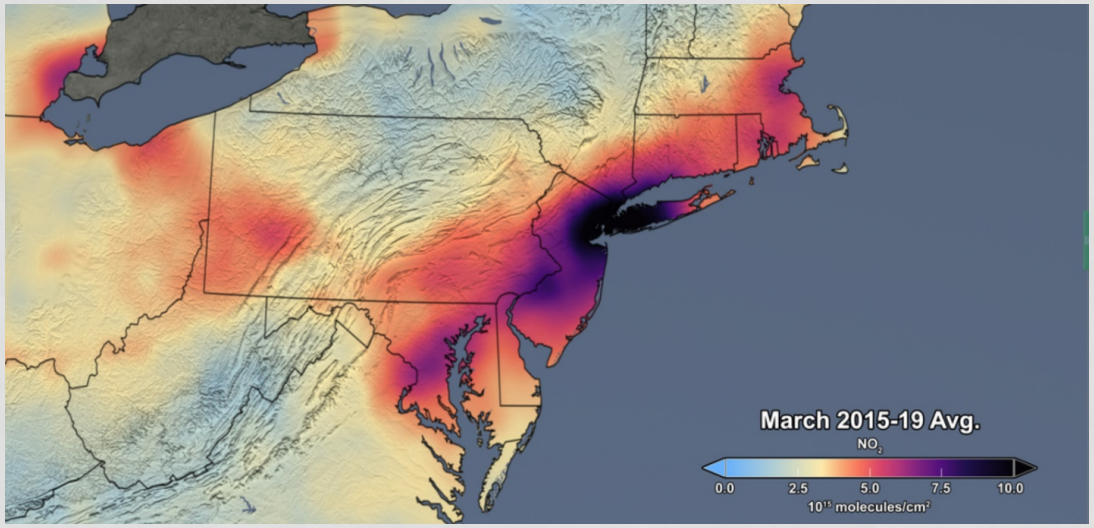


Traffic Differential Pct NJDOT Sites Summary 2019 vs 2020

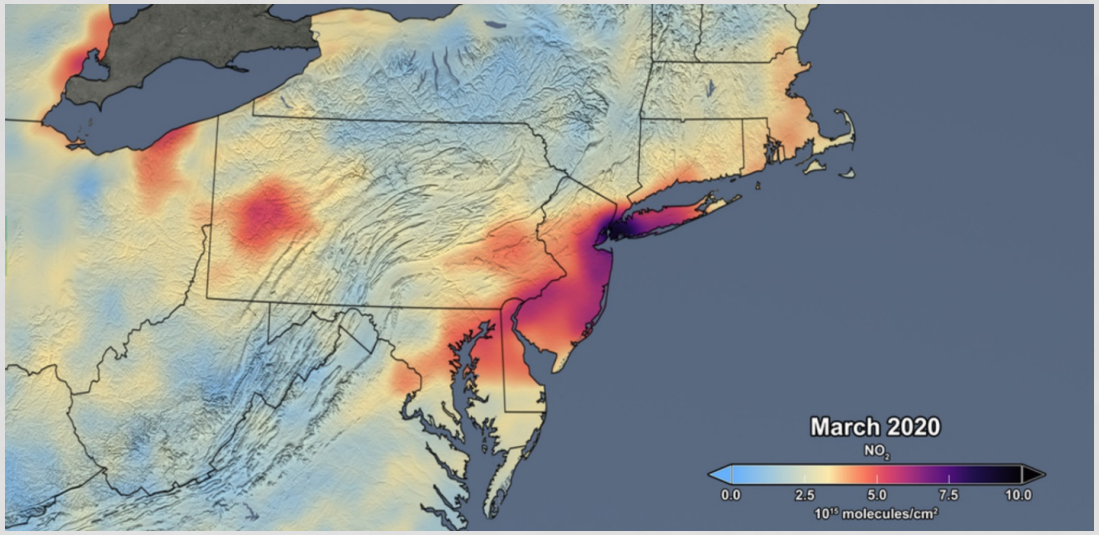


SATELLITE IMAGES OF NO_2 LEVELS

NO_2 Levels, March 2015-2019



NO_2 Levels, March 2020



https://www.nasa.gov/feature/goddard/2020/drop-in-air-pollution-over-northeast

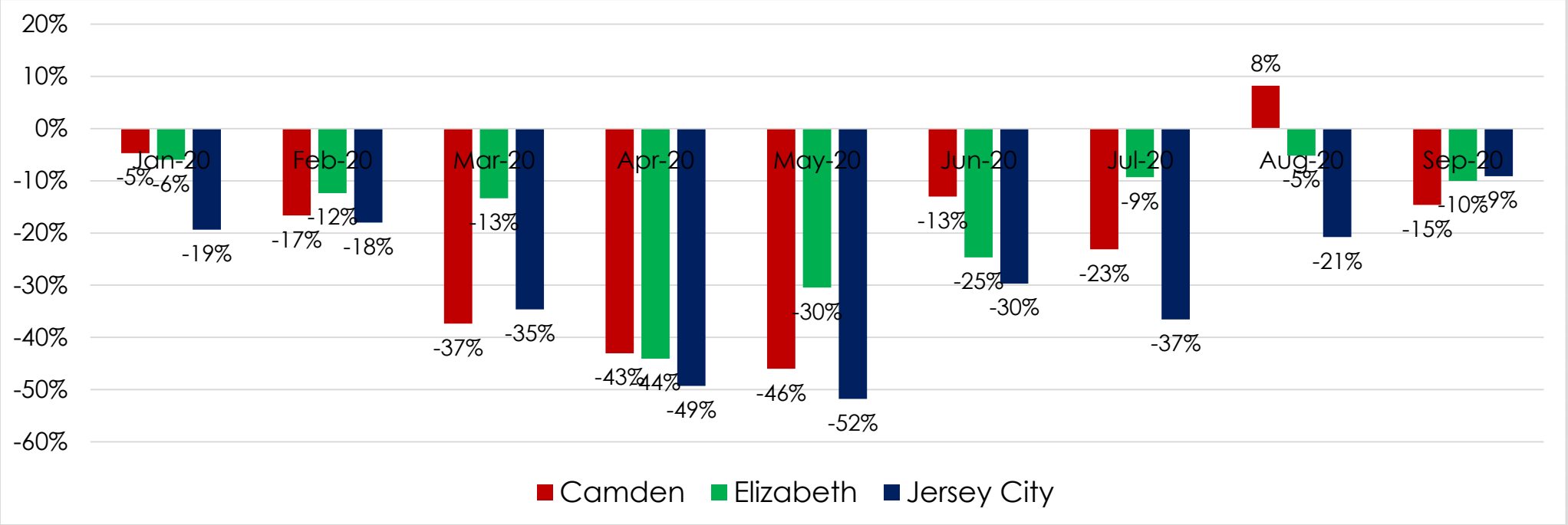
MULTI-YEAR ANALYSIS OF NOX AND $PM_{2.5}$

- Reduce effect of high and low concentration years by averaging 3-year periods, 2014-2016 and 2017-2019
- Use monthly averages for NOx and $PM_{2.5}$
- Look at monthly average by hour of day
- Focus on urban air monitoring stations
  - Camden Spruce Street
  - Elizabeth Lab (NJ Turnpike Exit 13)
  - Jersey City

April and May 2020 data show significant decrease in NOx and $PM_{2.5}$ levels at all stations compared with historical data.

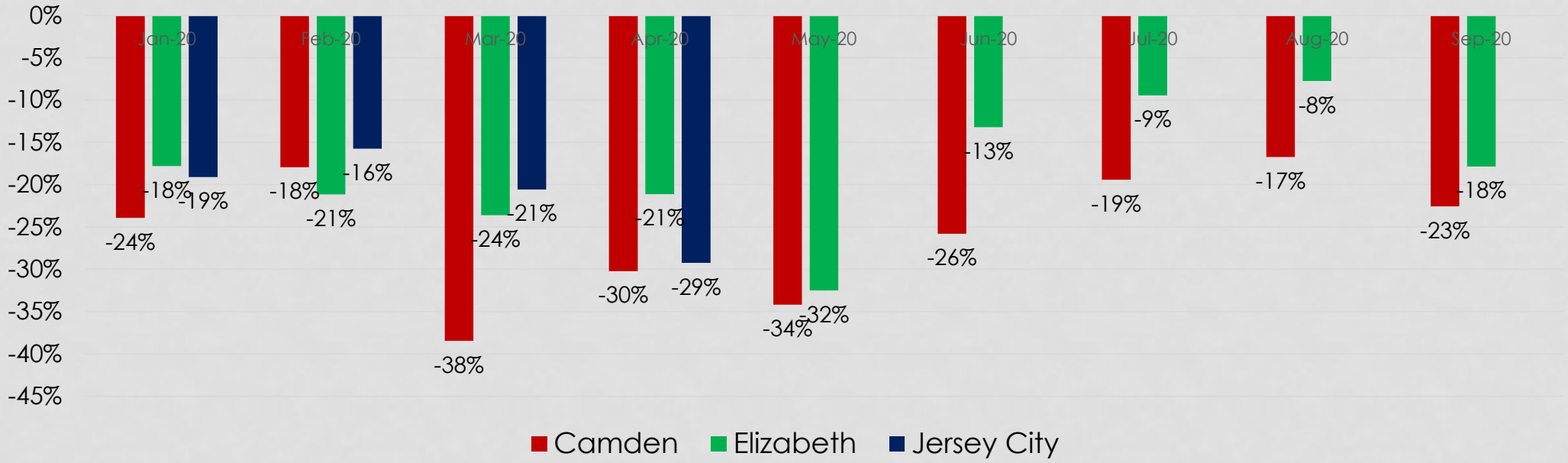
SUMMARY OF NOX CONCENTRATIONS

- Percent Change in 2014-2019 Monthly Average NOx Concentrations versus 2020 NOx Concentrations



SUMMARY OF $PM_{2.5}$ CONCENTRATIONS

- Percent Change in 2014-2019 Monthly Average $PM_{2.5}$ Concentrations versus 2020 $PM_{2.5}$ Concentrations*



*April 2020 monthly average at Jersey City includes data from April 1 – 12, 2020

OPERATIONAL IMPACTS FROM COVID-19

- Working remotely
  - Setting up the "system" (hardware/software)
  - Monitoring staff's ability to work remotely
  - Not 100% efficient compared to being in the office
    - Hardware (printers, dual monitors, etc.)
    - Connectivity
- Forward helplines to "central location"
- Push electronic methods (emails, ePayments, etc.)
- Handling of mail in the office
- Staffing Challenges

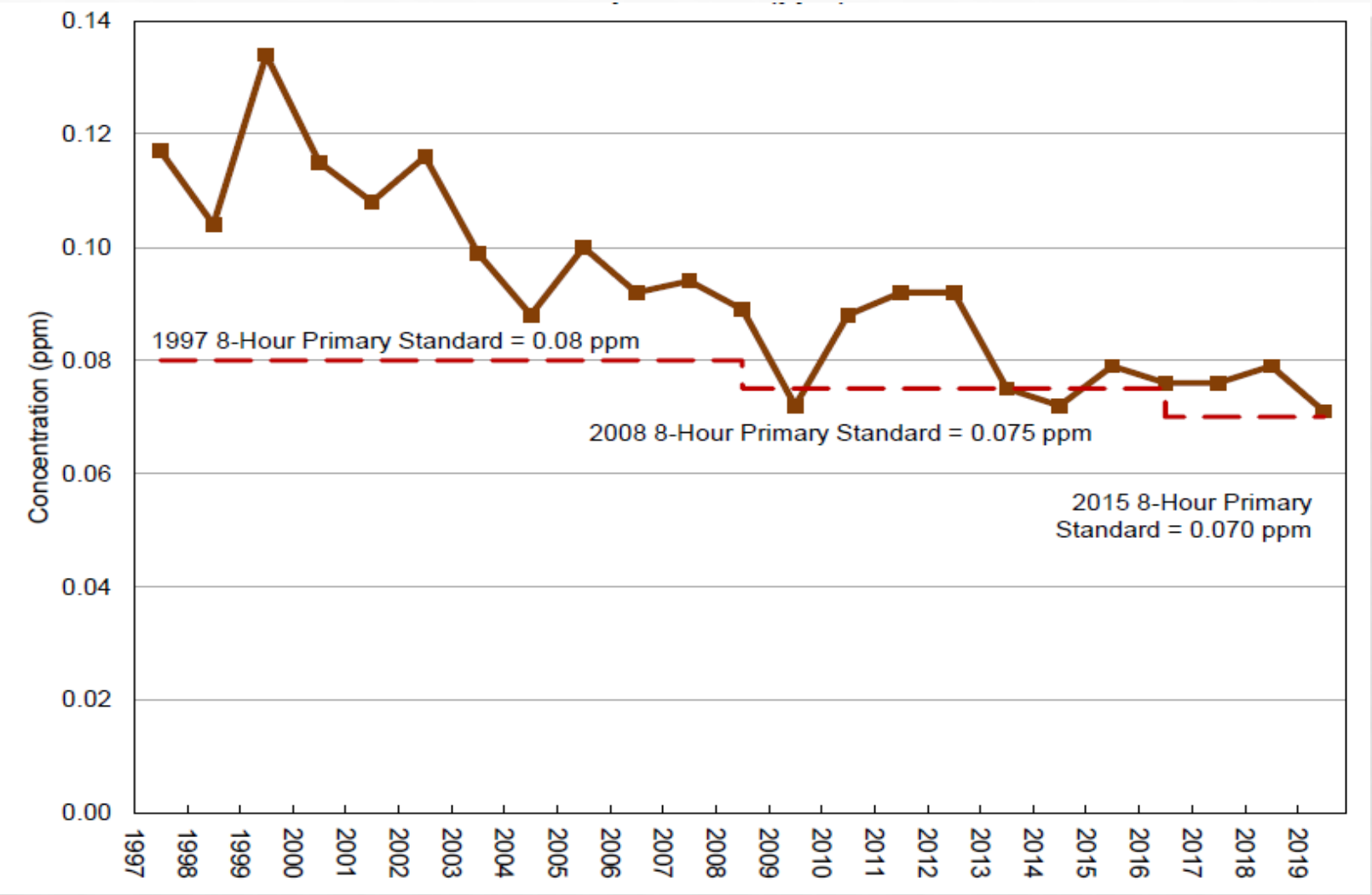
NATIONAL AMBIENT AIR QUALITY STANDARDS TRENDS

- Ozone 
- PM2.5 
- Nitrogen Dioxide 
- SO2 
- CO 
- Lead 

OZONE TREND IN NEW JERSEY, 1997-2019

4TH-HIGHEST DAILY MAXIMUM 8-HOUR AVERAGES

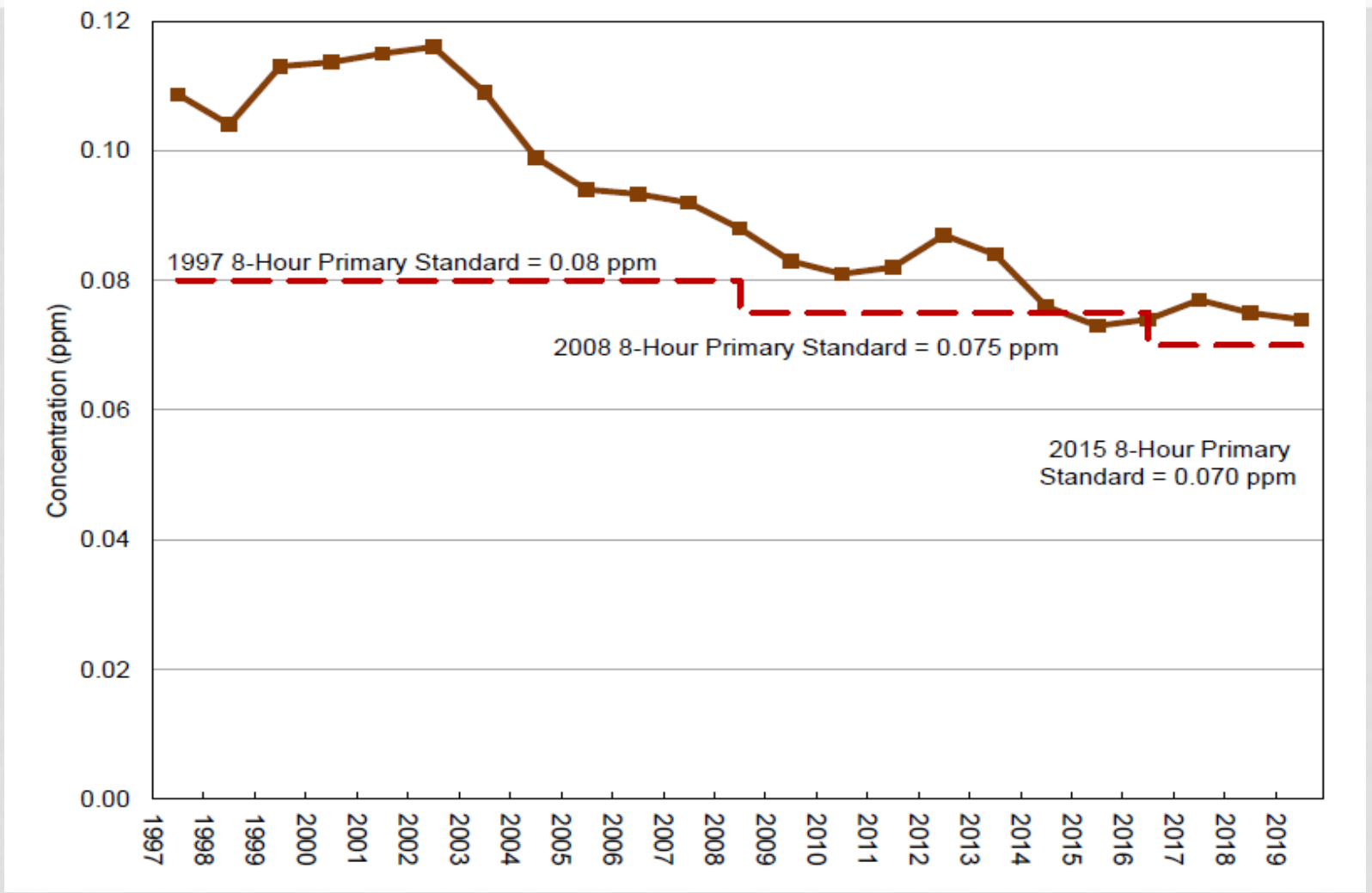
PARTS PER MILLION (PPM)



OZONE DESIGN VALUE TREND IN NEW JERSEY, 1997-2019

3-YEAR AVERAGE OF 4TH-HIGHEST DAILY MAXIMUM 8-HOUR AVERAGE CONCENTRATION

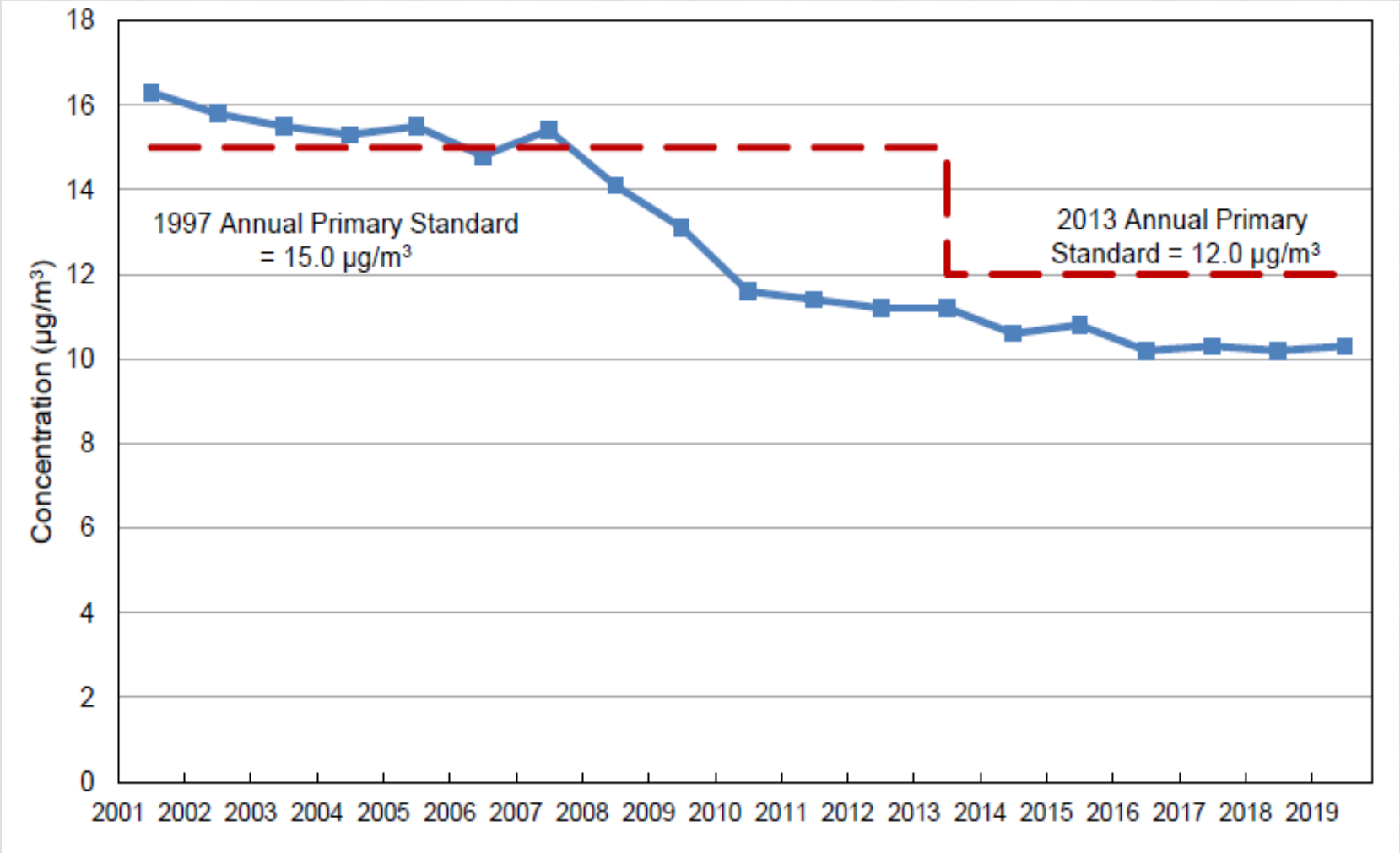
PARTS PER MILLION (PPM)



$PM_{2.5}$ DESIGN VALUE TREND IN NEW JERSEY, 2001-2019

3-YEAR AVERAGE OF THE ANNUAL AVERAGE CONCENTRATIONS

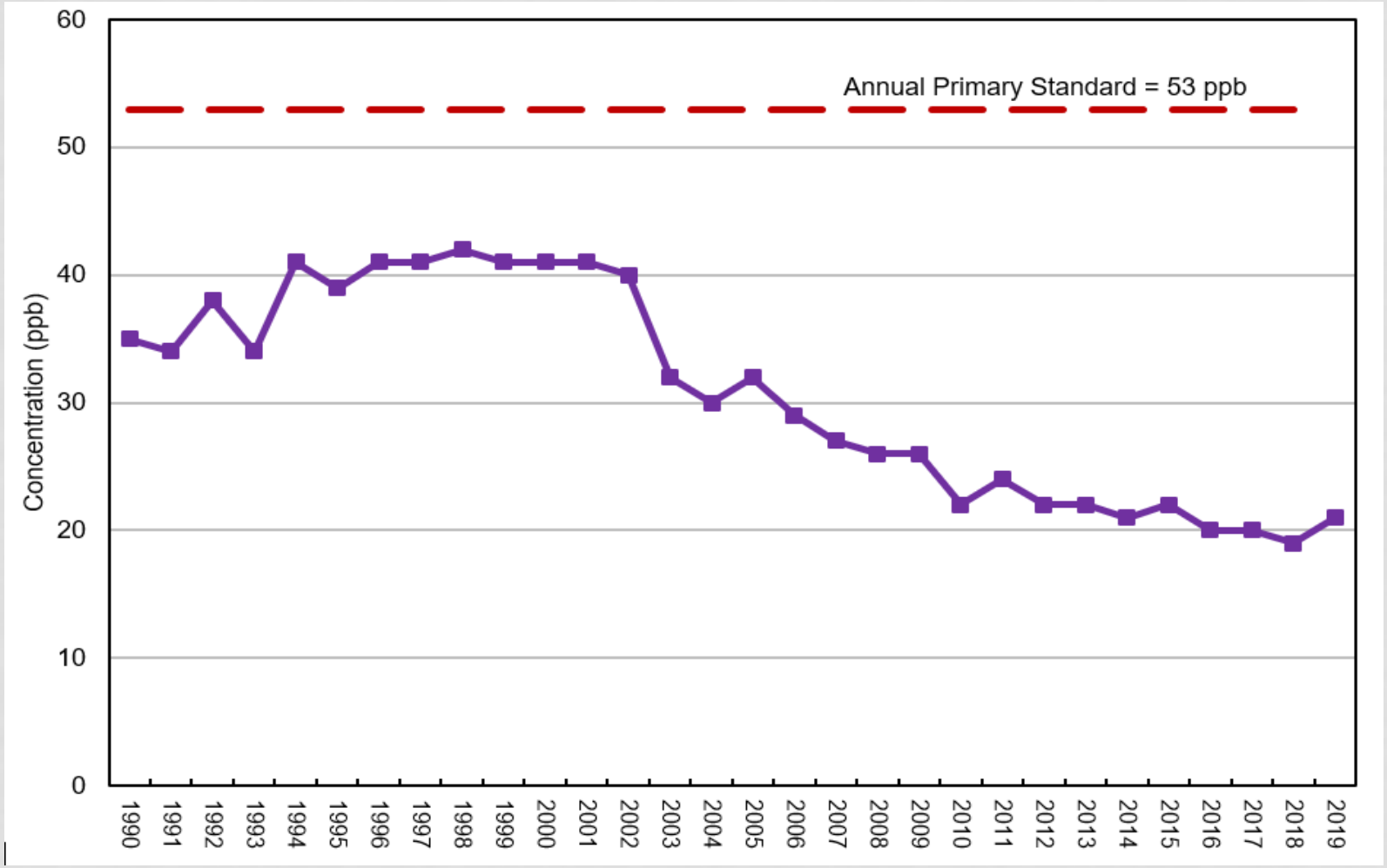
MICROGRAMS PER CUBIC METER (MG/M^3)



NITROGEN DIOXIDE CONCENTRATIONS IN NEW JERSEY, 1990-2019

HIGHEST ANNUAL (CALENDAR YEAR) AVERAGES

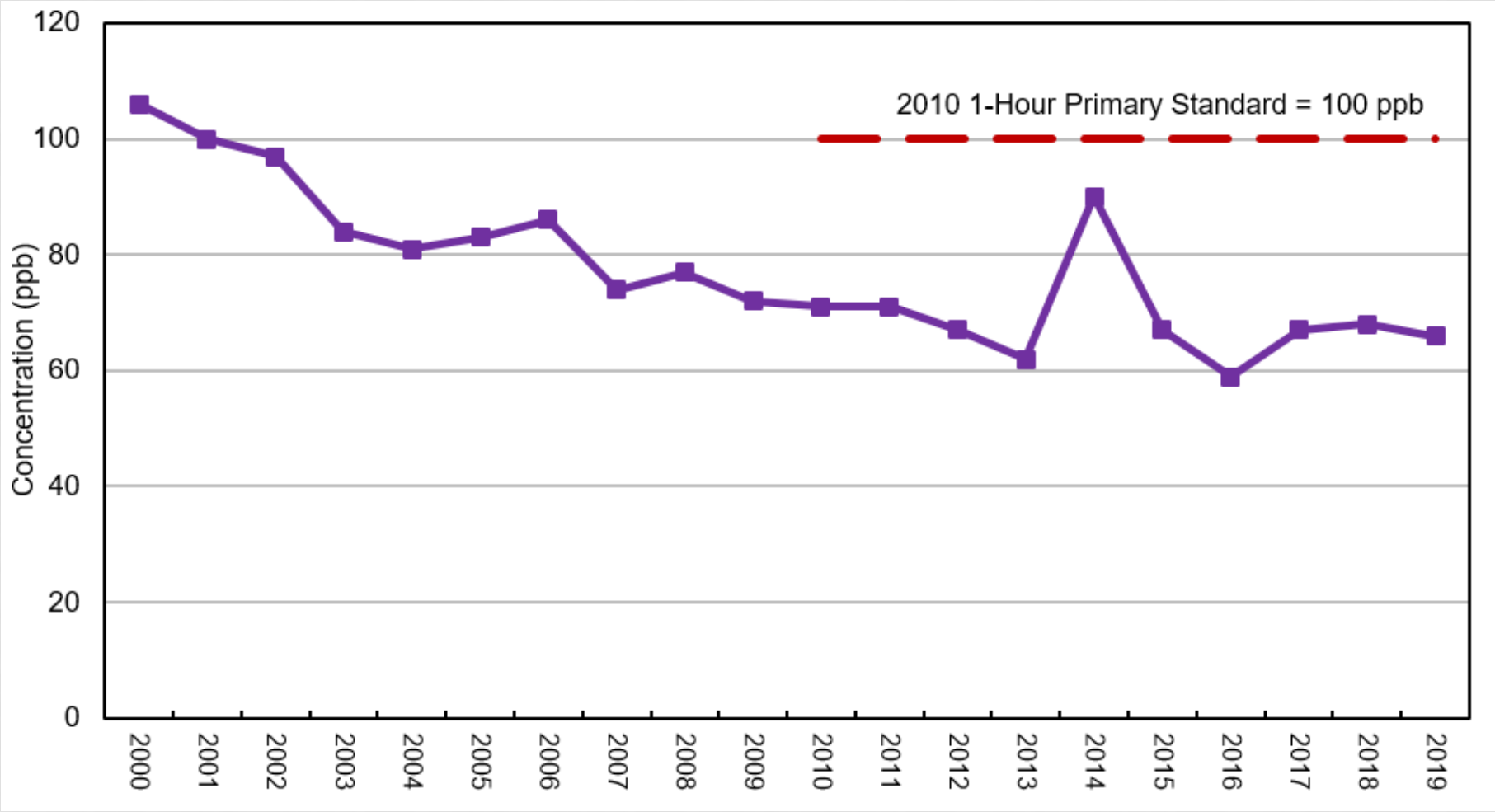
PARTS PER BILLION (PPB)



NITROGEN DIOXIDE CONCENTRATIONS IN NEW JERSEY, 2000-2019

98TH-PERCENTILE OF THE DAILY MAXIMUM 1-HOUR CONCENTRATIONS

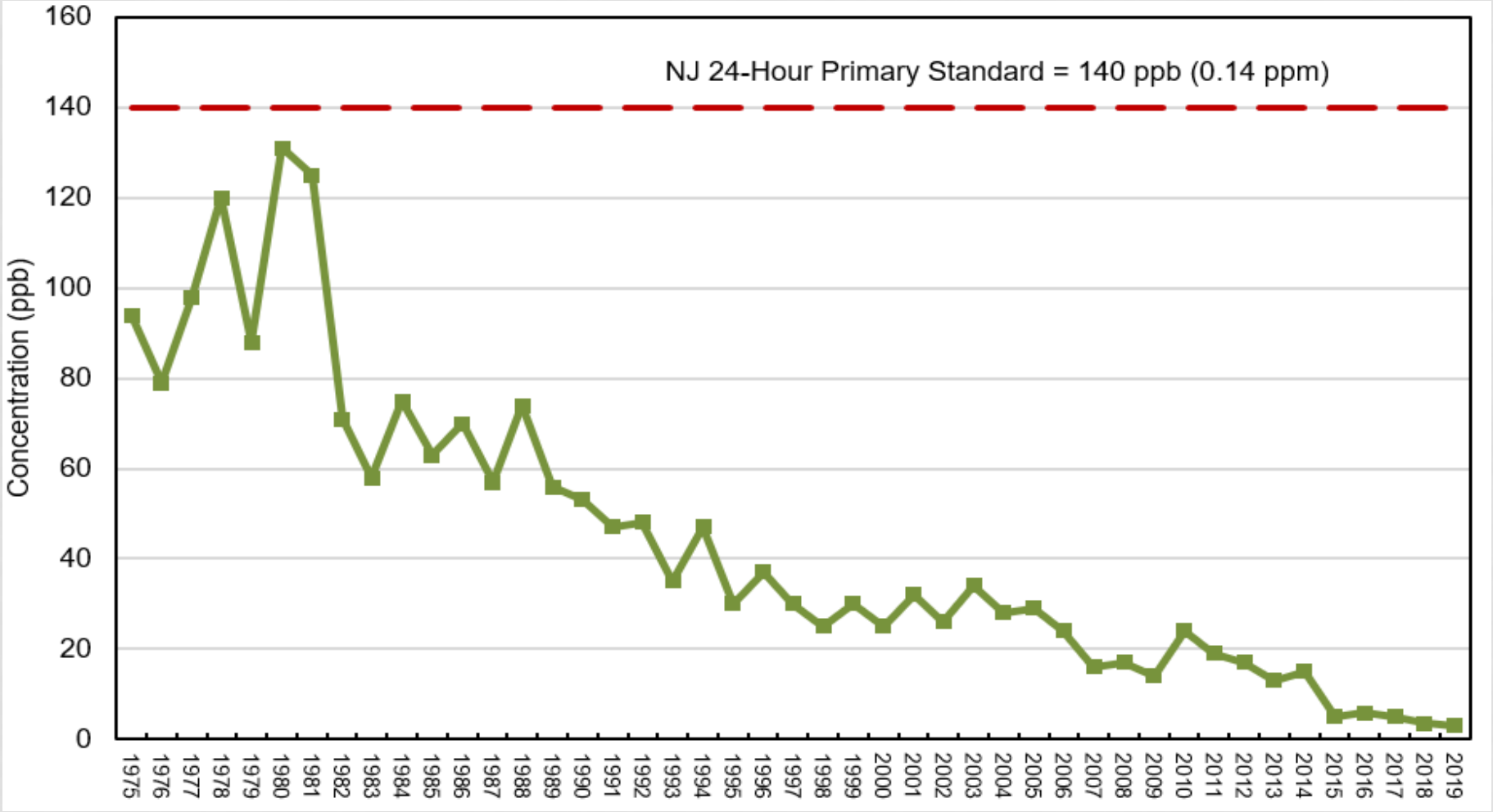
PARTS PER BILLION (PPB)



SULFUR DIOXIDE TREND IN NEW JERSEY, 1975-2019

2ND-HIGHEST 24-HOUR AVERAGE CONCENTRATIONS

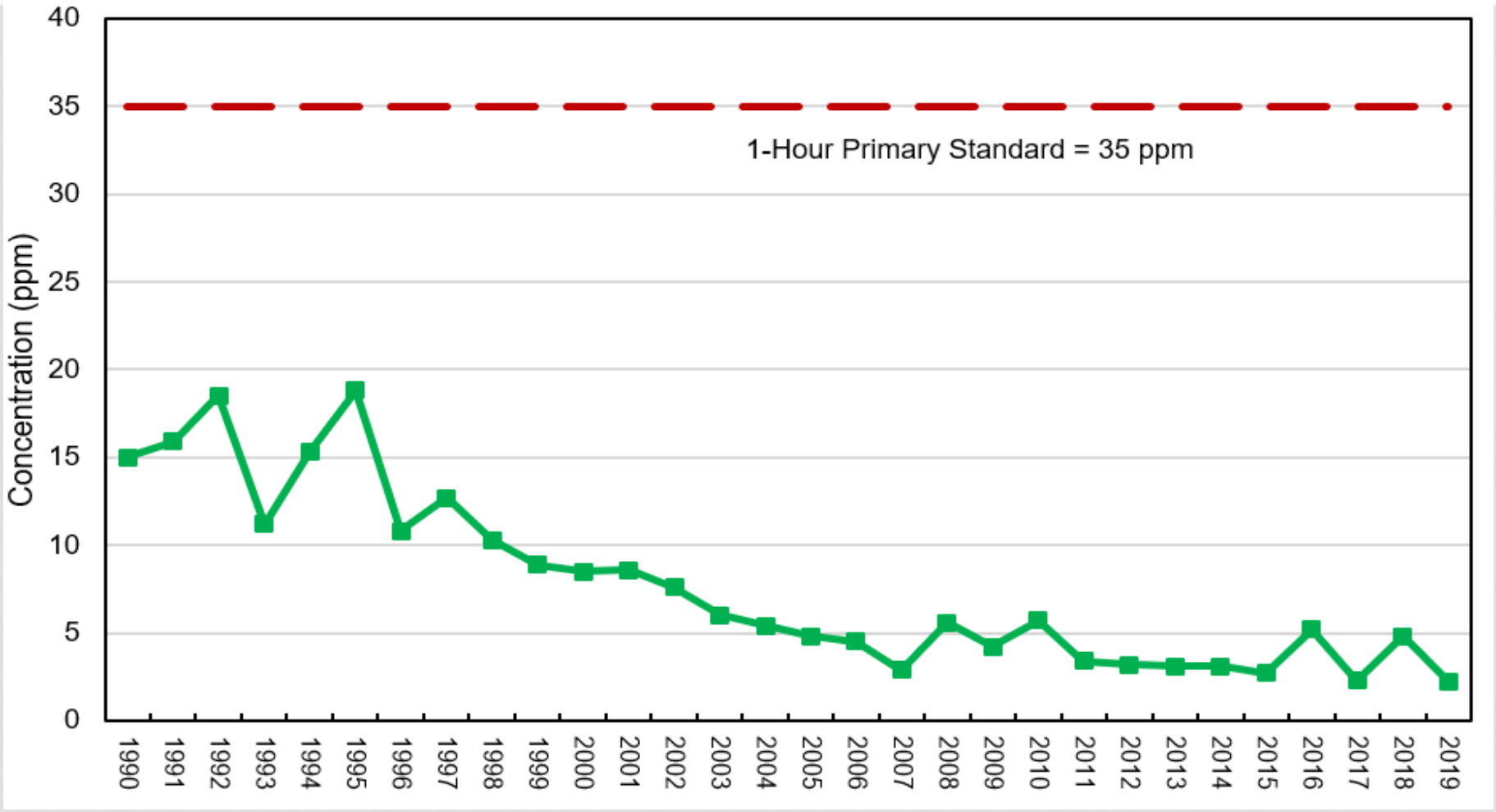
PARTS PER BILLION (PPB)



CARBON MONOXIDE DESIGN VALUE TREND IN NEW JERSEY, 1990-2019

2ND HIGHEST 1-HOUR AVERAGE CONCENTRATIONS

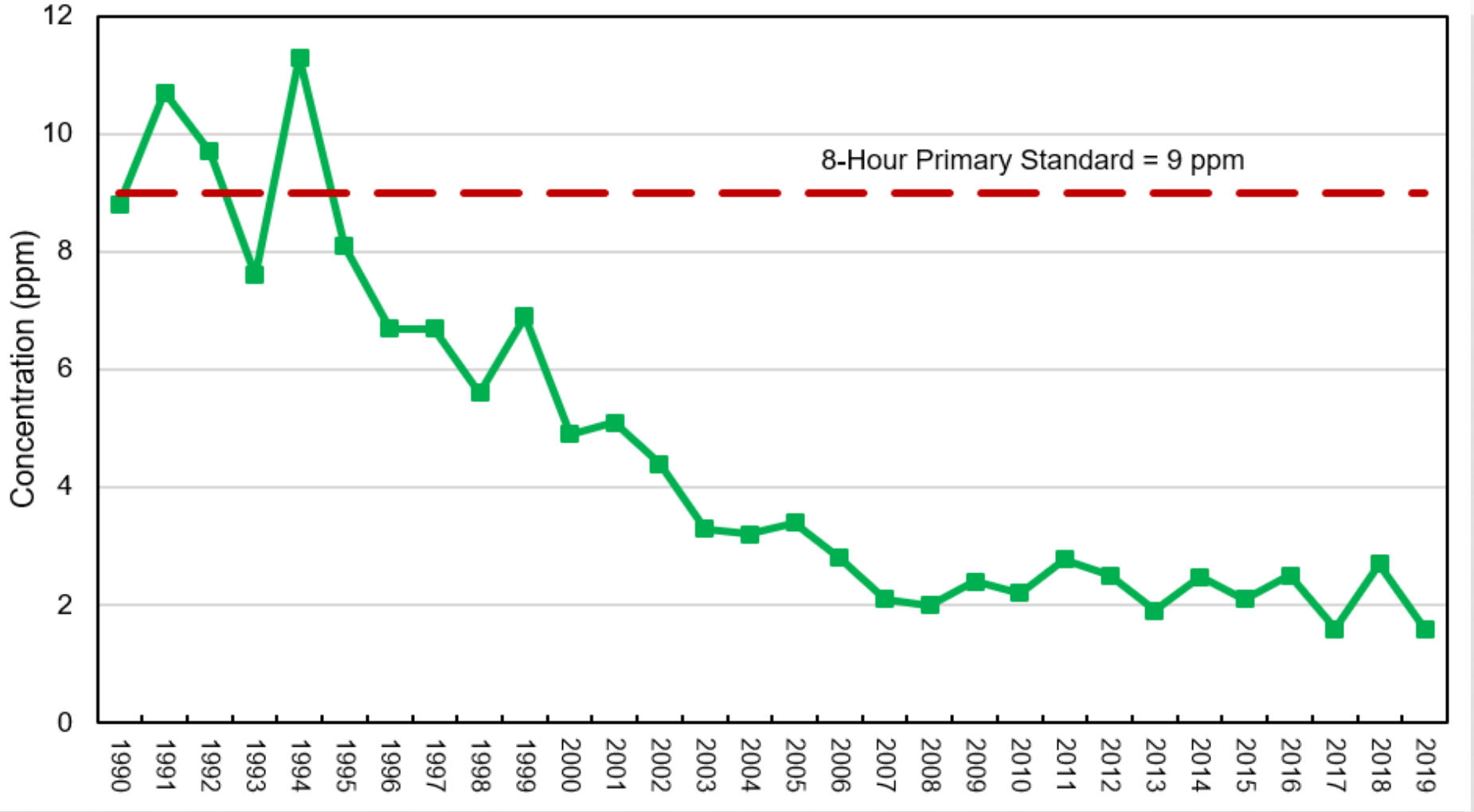
PARTS PER MILLION (PPM)



CARBON MONOXIDE DESIGN VALUE TREND IN NEW JERSEY, 1990-2019

2ND HIGHEST 8-HOUR AVERAGE CONCENTRATIONS

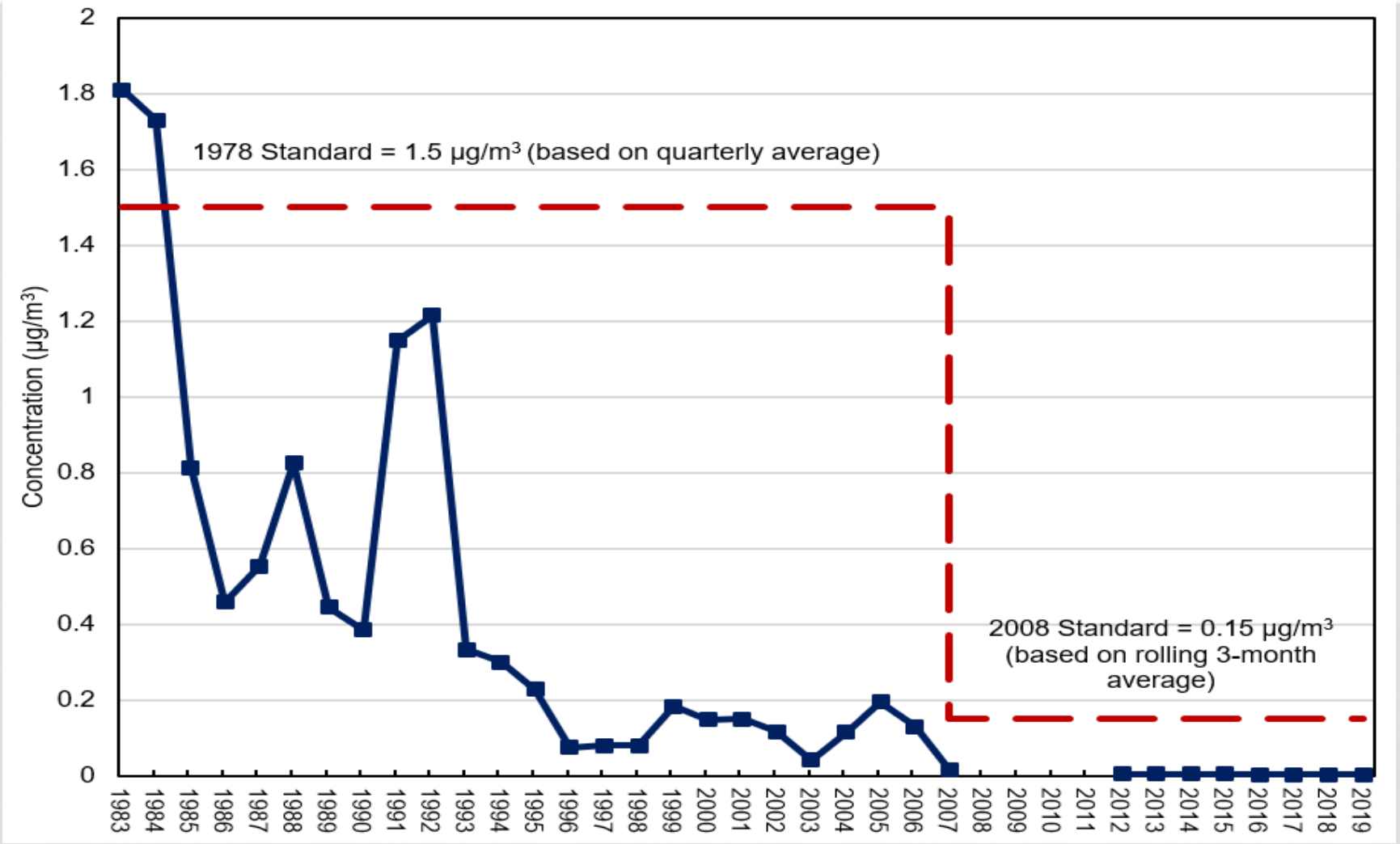
PARTS PER MILLION (PPM)



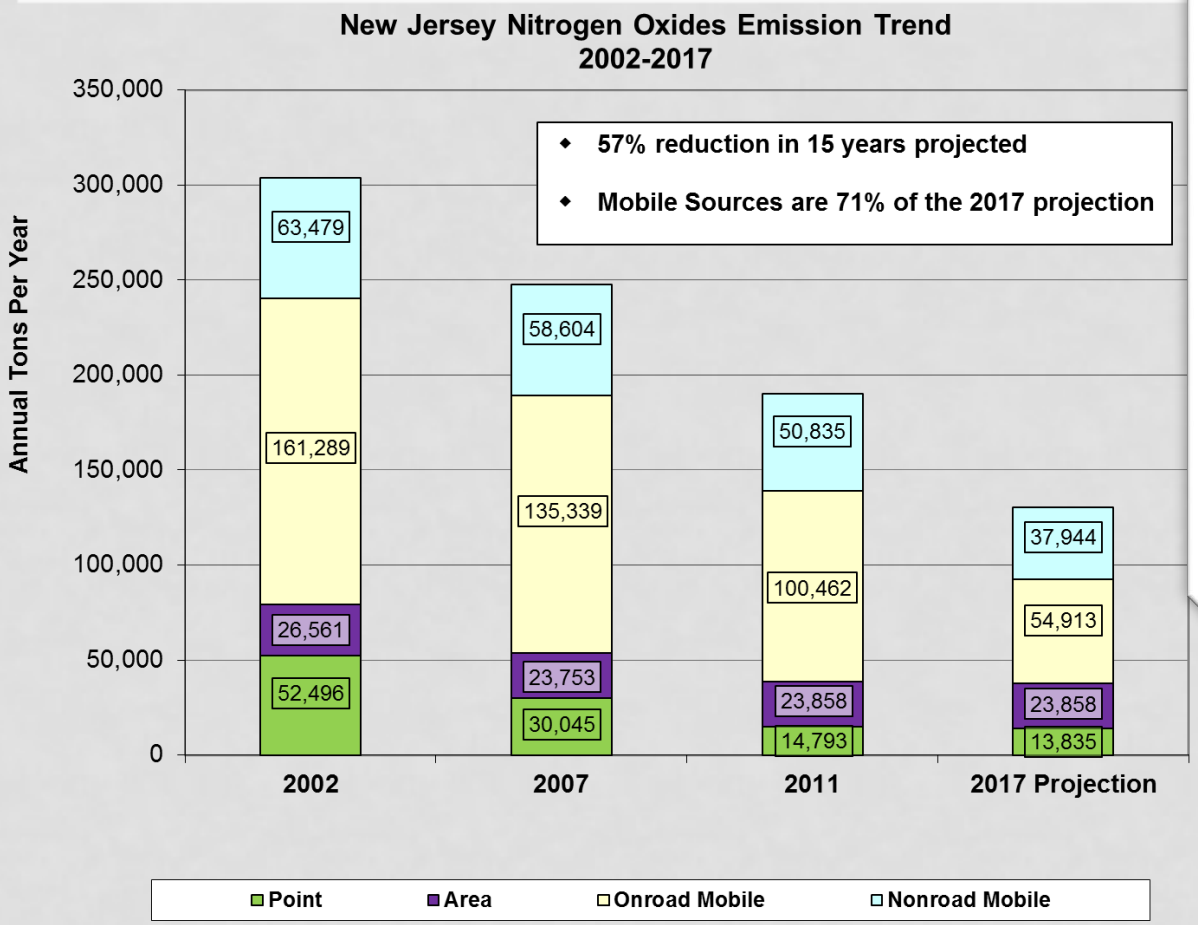
LEAD DESIGN VALUE TREND IN NEW JERSEY, 1983-2019

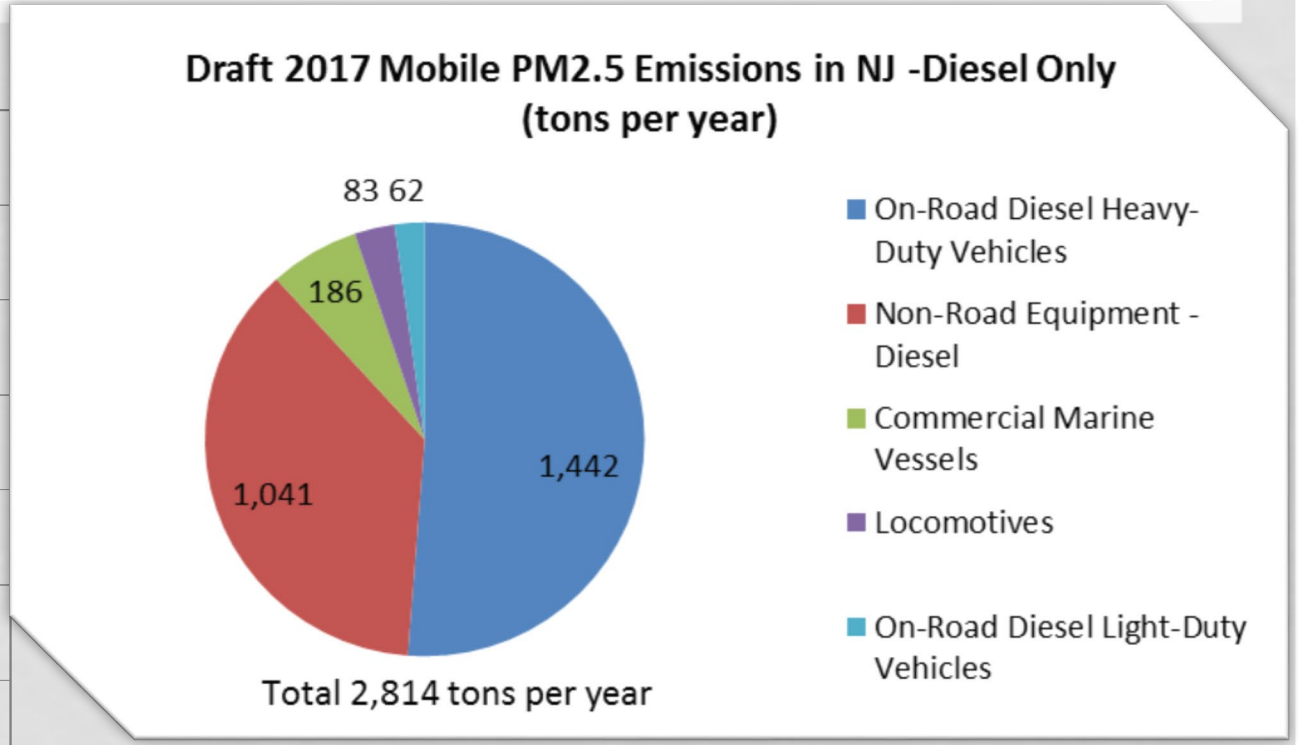
HIGHEST 3-MONTH AVERAGE

MICROGRAMS PER CUBIC METER (MG/M^3)



NEW JERSEY FOCUSING ON MOBILE SOURCES





VEHICLE EMISSION CONTROL SYSTEM TAMPERING

- N.J.A.C. 7:27-14.3(e) –No person shall cause, suffer, allow, or permit any of the following.
  - *The sale, lease, or offer for sale or lease, of any motor vehicle with a certified configuration or motor vehicle engine with a certified configuration in which any element of design installed on such vehicle has been disconnected, detached, deactivated, or in any other way altered or modified from the design of the original vehicle manufacturer*

NEW JERSEY CURRENT INSPECTION AND MAINTENANCE PROGRAM

- Light Duty Vehicles with GVWR 8500 lbs and less are inspected Bi-annually
- Heavy Duty Vehicles with GVWR 18,000 lbs and greater are also inspected annually
- Gap in NJ's Inspection & Maintenance Program
  - No diesel inspections for vehicles GVWR between 8,501-17,999 lbs
  - This weight class is ripe for tampering

SCOPE OF TAMPERING

- Who is tampering?
  - Owners of vehicles
  - Performance shops
  - Auto mechanics
- What is being tampered with?
  - Diesel trucks pick up trucks
  - PM and NOx emission control systems
    - Selective catalytic reduction and exhaust gas recir
    - Diesel oxidation catalysts and diesel particulate filters

HOW IS THE DEPARTMENT RESPONDING

- NJ DEP – Bureau of Mobile Sources & Air Compliance & Enforcement are jointly investigating
- Department's response
  - Enforcement action 1st offense
  - $2,000 penalty per vehicle and vehicle must be made whole
  - Penalties can escalate up to $30,000 for multiple offenses.
- What is being observed
  - ~30% tampering rate at an ongoing case at the nation's largest auto auction.
  - Used car dealerships advertising tampered trucks on the websites
- Vehicle must be made whole; cost to repair may range $1500-$5000 depending on extent of tampering

ONLINE SEARCH FOR VEHICLES

EGR & DPF deleted.
Trucks is perfect, and crazy clean, come look for yourself and yes it rolls coal!

2011 dodge ram 2500 Cummins SLT

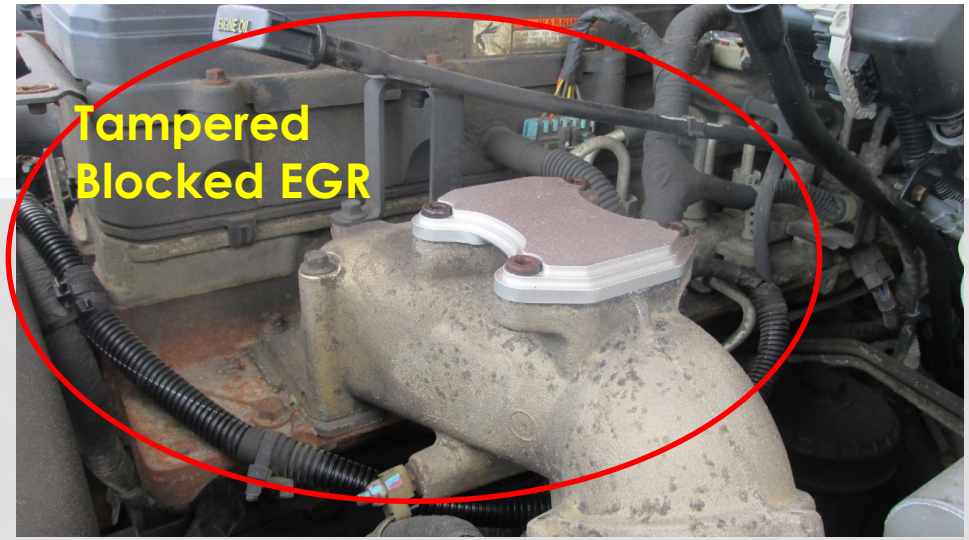
2008 Ford F250

Truck has 191k miles on it. EGR/DPF delete done at 140k miles. 4" exhaust to a 7" stack. H&S tuner with custom tunes.

2008 F250

Truck is fully deleted- EGR delete DPF delete with SCT x 4 tuner with Rudy's diesel tunes

Exhaust gas recirculation – NOx



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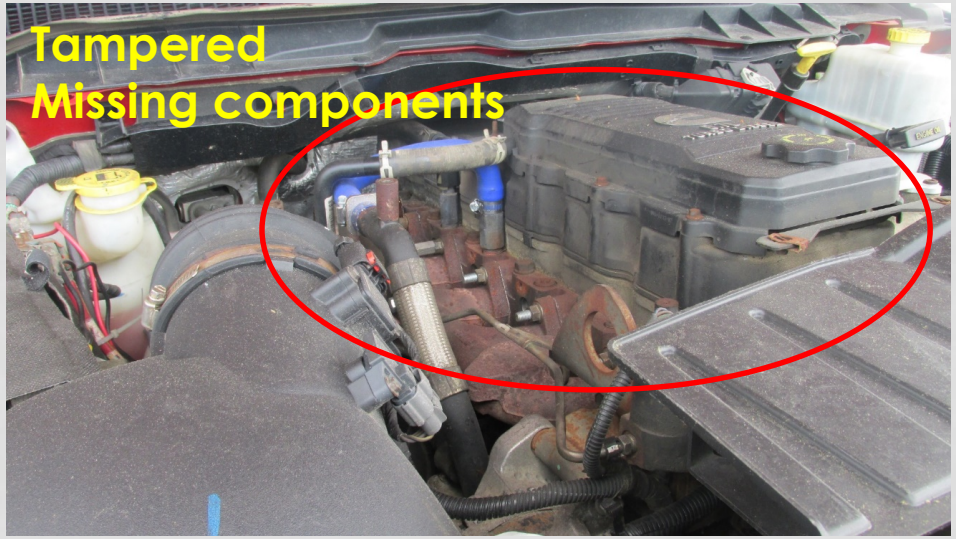
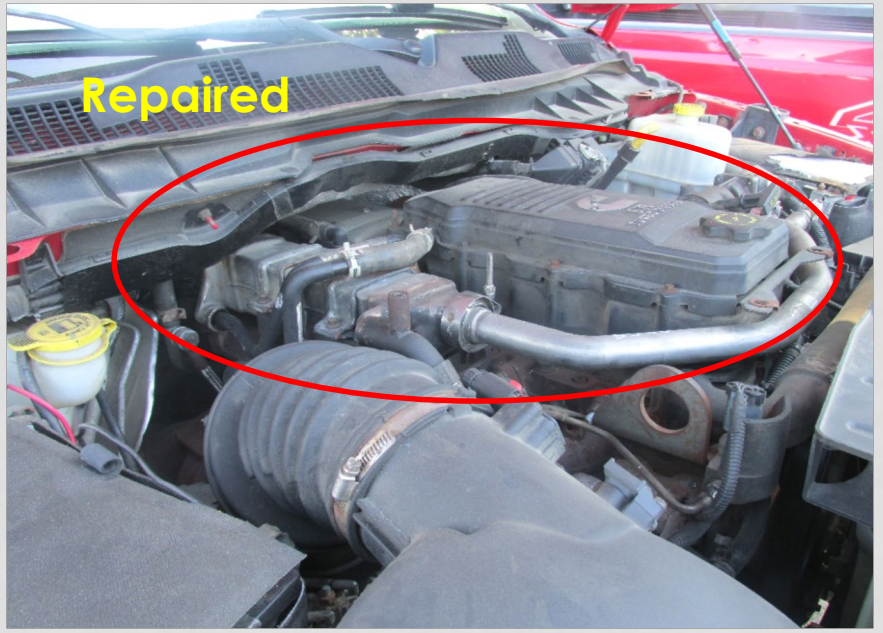


Repaired



Diesel Particulate Filter

Straight pipe indicating DPF has been removed

Straight pipe has been removed and DPF has been installed

AQ PLANNING (STATE IMPLEMENTATION PLAN)

- Regional Haze Second Phase
- 75 Serious Ozone NNJ NAA
- SO2 Re-designation to attainment (Warren Co.)
- 2015 Ozone SIP – Inventory and RACT (statewide)
- 2015 Ozone Moderate Attainment SIP NNJ NAA

RISK SCREENING WORKSHEET UPDATE

- New Risk Screening Worksheet was posted June 30, 2020
- Proposed for public comment on May 8, 2019
- Updated RSW output is more protective of public health than previous RSW
  - Resulting from updated meteorological data and AERMOD program
  - Updated toxicity values

RISK SCREENING WORKSHEET UPDATE

Revisions Made

- Minimum stack height raised from 10 to 15 feet
- Carbonyl sulfide, and 1-bromopropane (n-propyl bromide) added to the Worksheet
- Change from proposal: Sulfuryl Fluoride not added – will be added when California EPA finalizes their standard, anticipated early 2021

AIR QUALITY PERMITTING (MINOR SOURCES)

	Three-year Average (March-October 2017-2019)	March-October 2020
Permits Received	275	203
Permits Completed	219	140
Percent of Permits Completed	80%	69%

AIR QUALITY PERMITTING (MAJOR SOURCES)

	Three-year Average (March-October 2017-2019)	March-October 2020
Permits Received	183	138
Permits Completed	126	97
Percent of Permits Completed	69%	70%

PERMITTING CHALLENGES

- Working remotely
- Technically challenging permit applications
- Operation Focus on Other Priority Work
  - NJ PACT
  - NOx RACT Analysis for the 2015 Ozone NAAQS
- Staffing
  - Retirements of experience supervisors and technical staff
  - Delay on backfilling positions
  - Mandatory furloughs of state staff

AIR PROGRAM FOCUS

- Criteria pollutants – Continuing 50-year efforts to improve
- New challenges/focus
  - Environmental Justice – Initial Stage
  - Climate change
    - Energy Master Plan - 80% reduction in greenhouse gas emissions from 2006 levels by 2050
    - New rules (NJ PACT) by early 2021
  - Air toxics
    - Revised reporting threshold in 2018
    - Local impacts
      - Especially in over burden areas

RULES IN PROGRESS

- Air Toxics
  - Fumigation
  - New listed air toxics – (Sulfuryl Fluoride, n-propyl Bromide, Hydrogen Sulfide)
  - New substances to be included in Emission Statement
- Consumer Products, AIMs, Aftermarket Catalyst
- PACT Rulemaking
  - Reporting Rule – CCERP
  - CO2/GHG Rule - DAQ

QUESTIONS

BONUS SLIDES

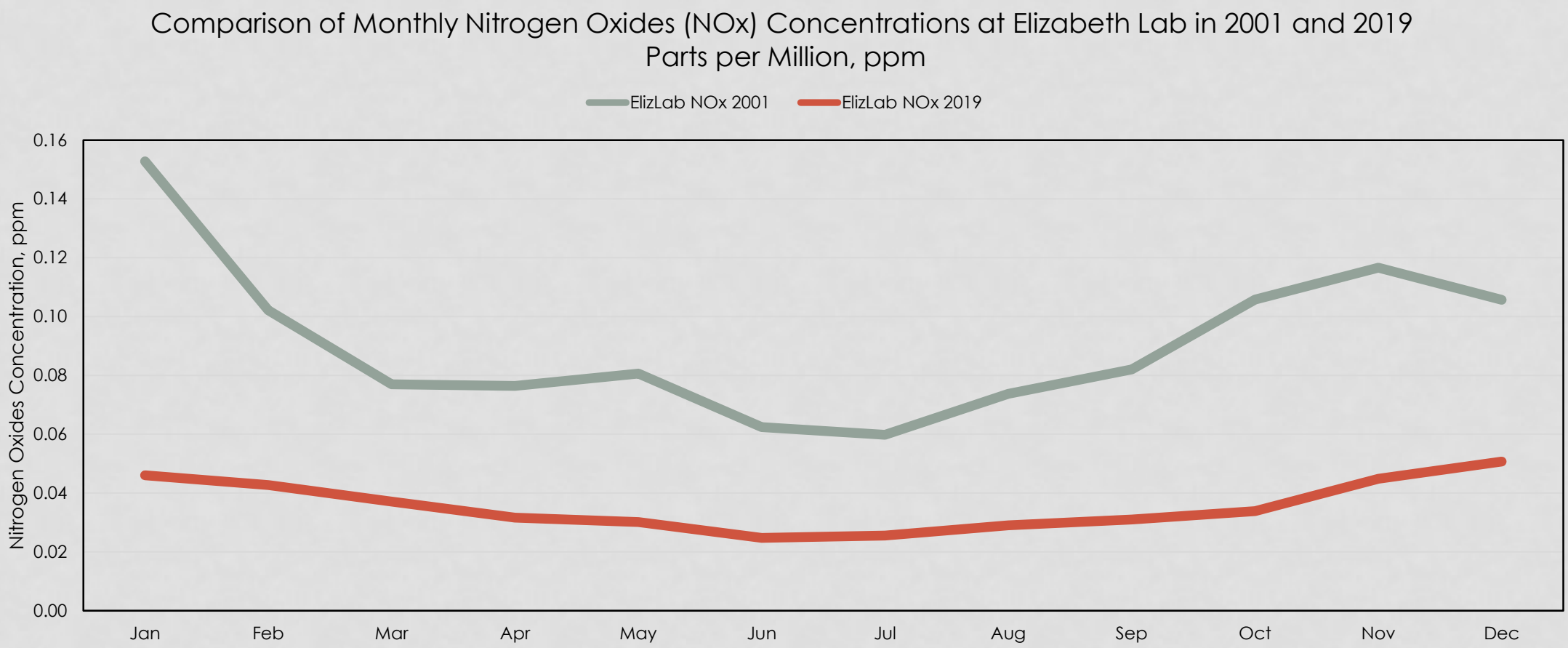
NEWS MEDIA USE SATELLITE IMAGES TO PROMOTE SUBSTANTIAL IMPROVEMENT IN AIR QUALITY

- "…[C]leanest since 9/11," https://www.nj.com/coronavirus/2020/04/njs-air-is-the-cleanest-its-been-since-911-due-to-coronavirus-shutdown.html
- "…[P]andemic response has cleared the air from LA to Wuhan," https://www.washingtonpost.com/weather/2020/04/09/air-quality-improving-coronavirus/
- "Reductions in traffic and industry have lowered nitrogen dioxide levels," https://www.wired.com/story/the-pandemic-has-led-to-a-huge-global-drop-in-air-pollution/

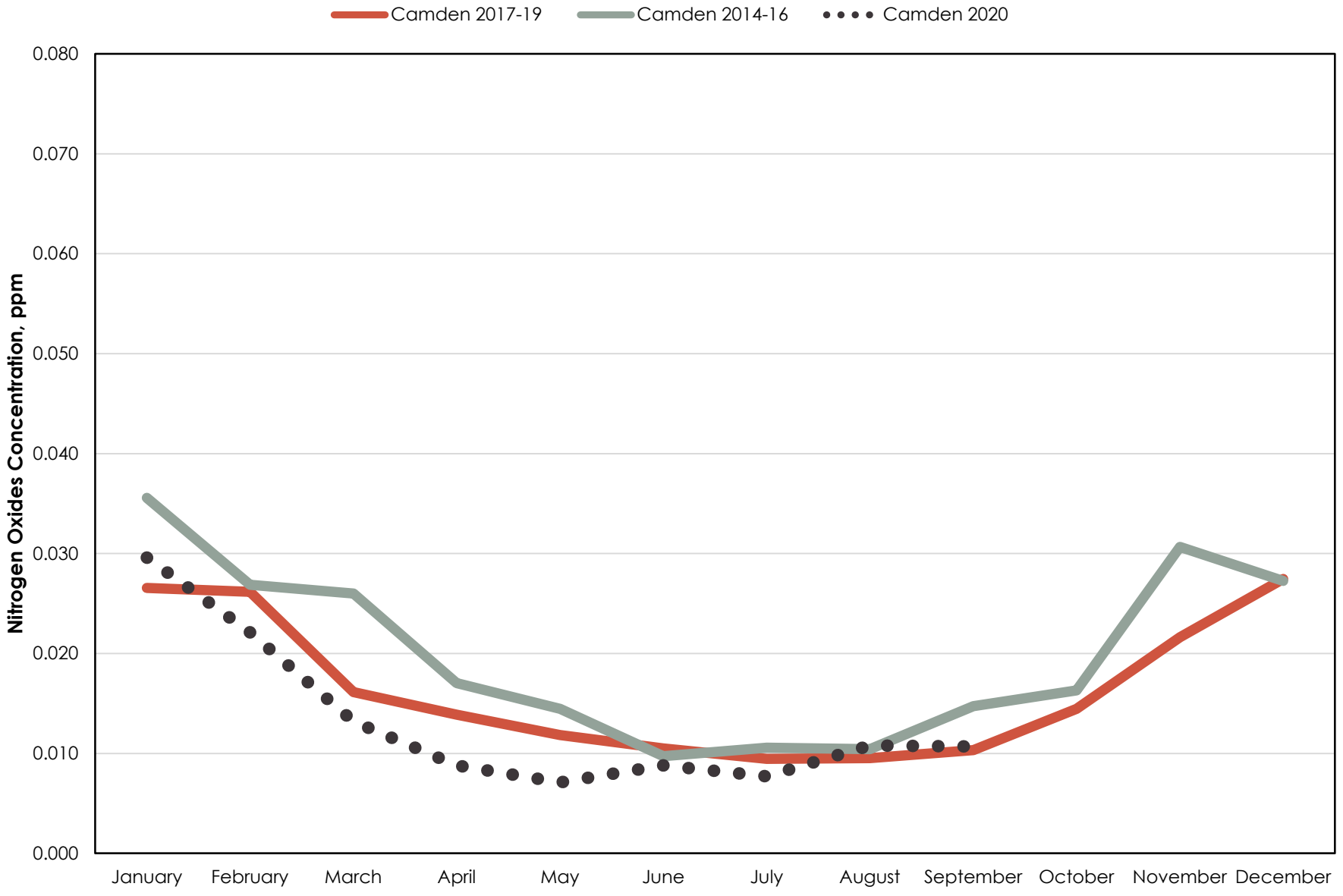
SATELLITE IMAGES AND GROUND-LEVEL DATA

- Differences between satellite data and ground-level data:
  - Satellites detect NO_2 once it has reached steady state with NO and O_3 at an elevation from the height of the satellite to 50 meters above ground level
  - Ground-level NO and NO_2 data is highly variable due to rapid reactions with ground-level O_3 and other VOCs
  - For ground-level data, March and April are generally among the cleanest months of the year due to seasonal meteorology
- Monitors show steady declines since 2001 which contradicts reports that this is cleanest air since 9/11

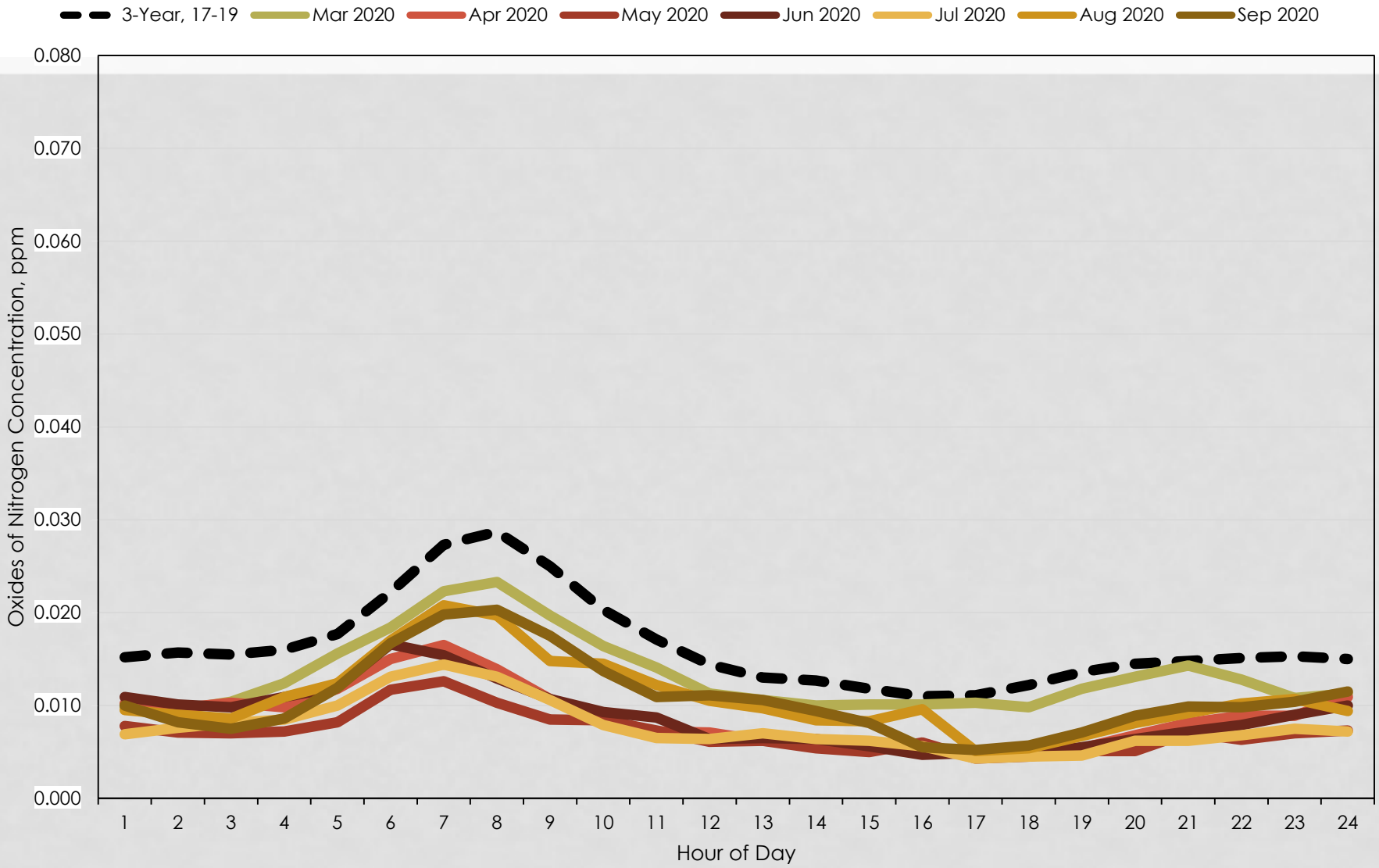
NOX DATA FROM ELIZABETH, 2001 VS. 2019



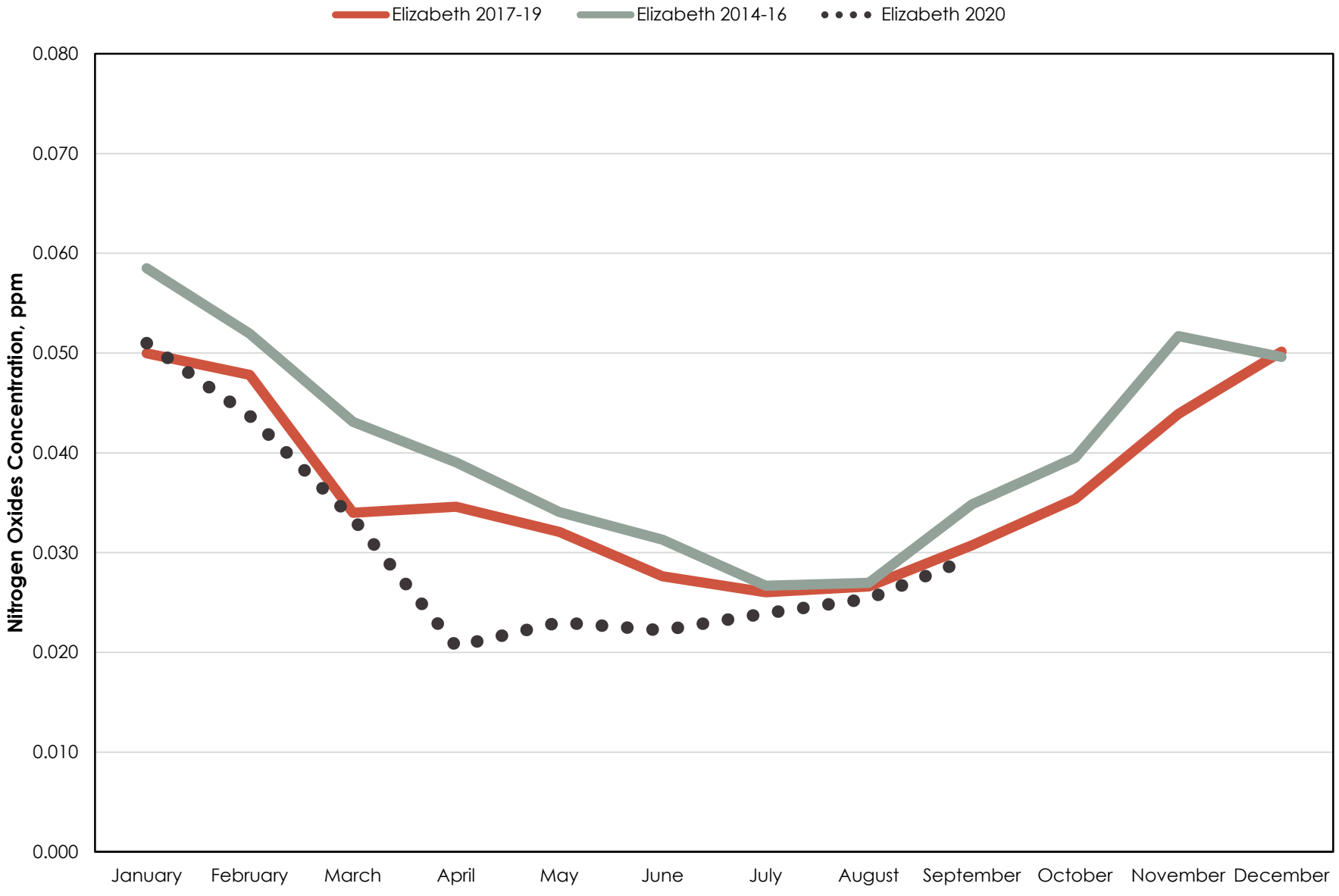
Comparison of 3-Year Average Monthly Nitrogen Oxides (NOx) Concentrations at Camden Spruce Street, 2014-16 and 2017-19 with 2020, Parts Per Million, PPM



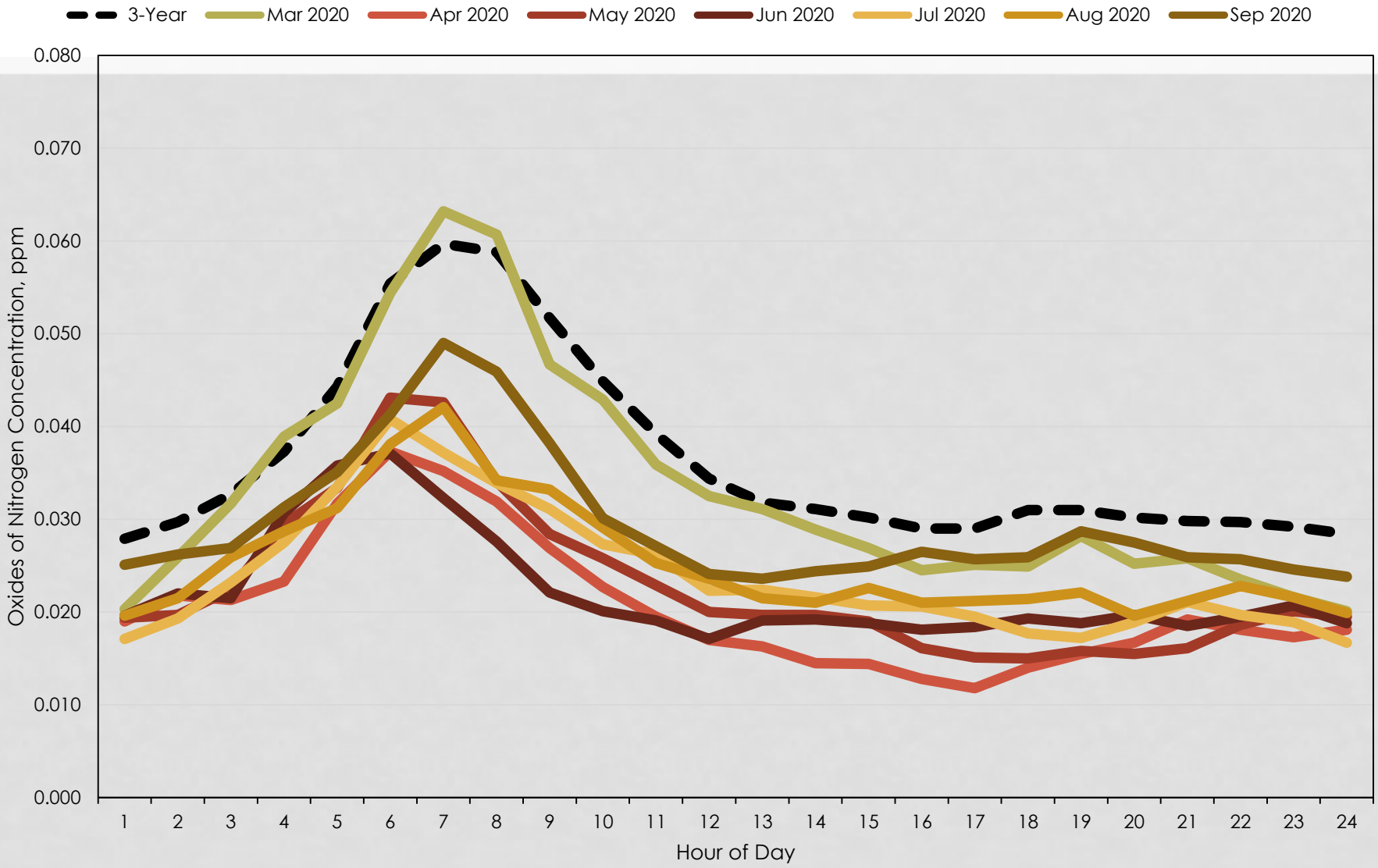
Comparison of Monthly Averaged (March-Sept) Hourly Oxides of Nitrogen (NOx) Concentrations in 2020 at Camden with 3-Year Averaged (2017-19) NOx Concentrations, ppm



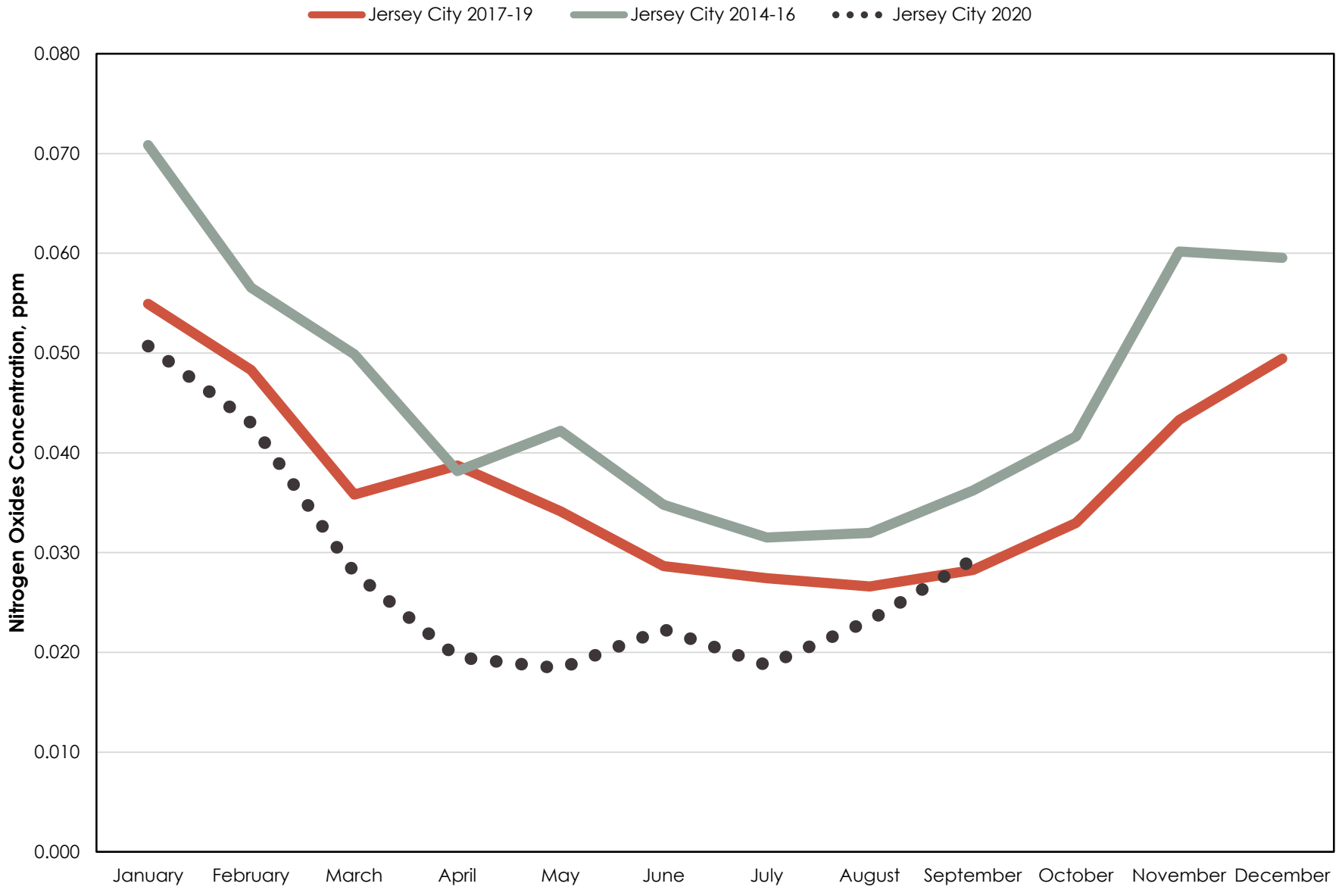
Comparison of 3-Year Average Monthly Nitrogen Oxides (NOx) Concentrations at Elizabeth, Exit 13, 2014-16 and 2017-19 with 2020, Parts Per Million, PPM



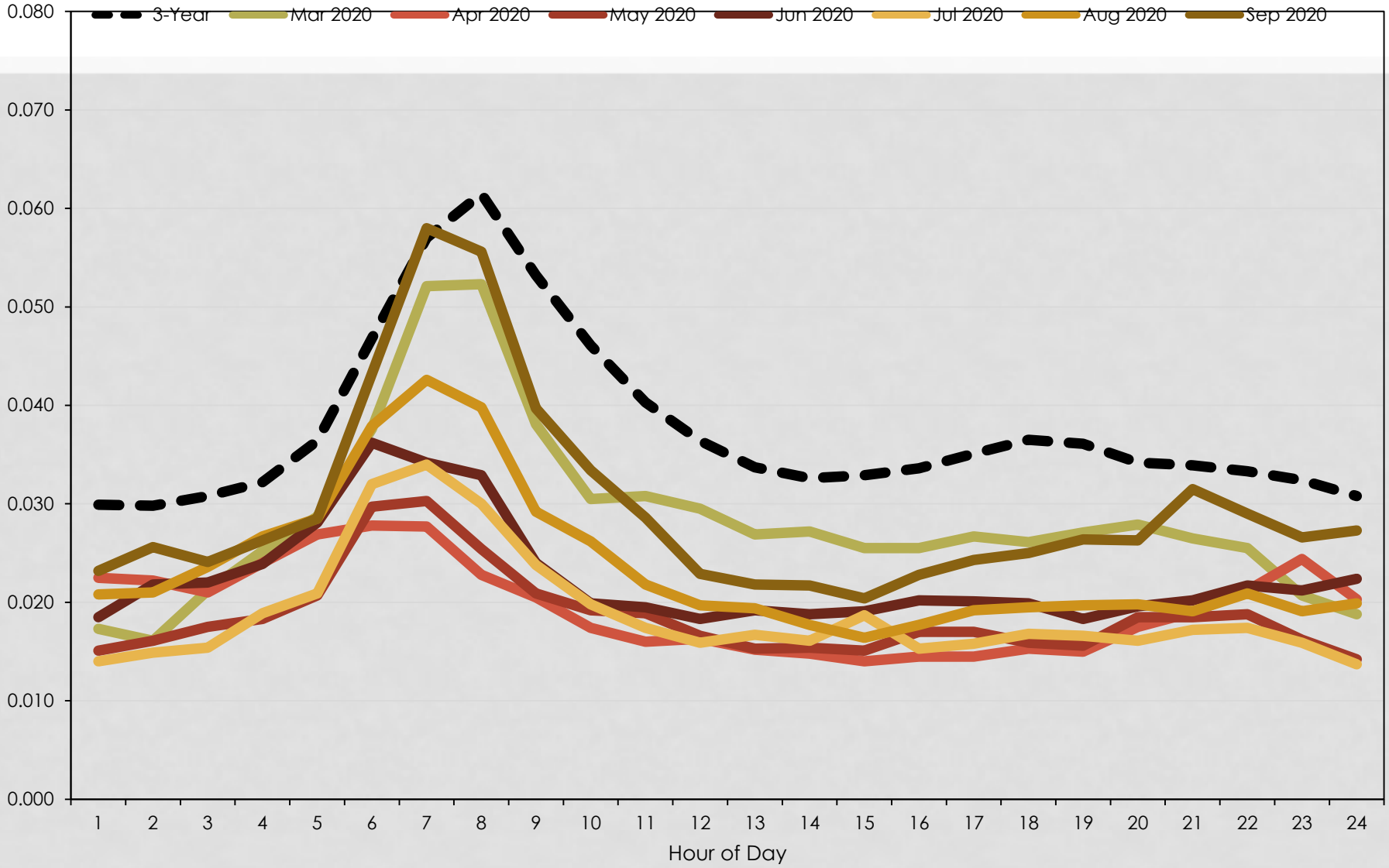
Comparison of Monthly (March-Sept) Oxides of Nitrogen Concentrations in 2020 by Hour of Day at Elizabeth, NJ with Corresponding 3-Year Averaged (2017-2019) NOx, ppm



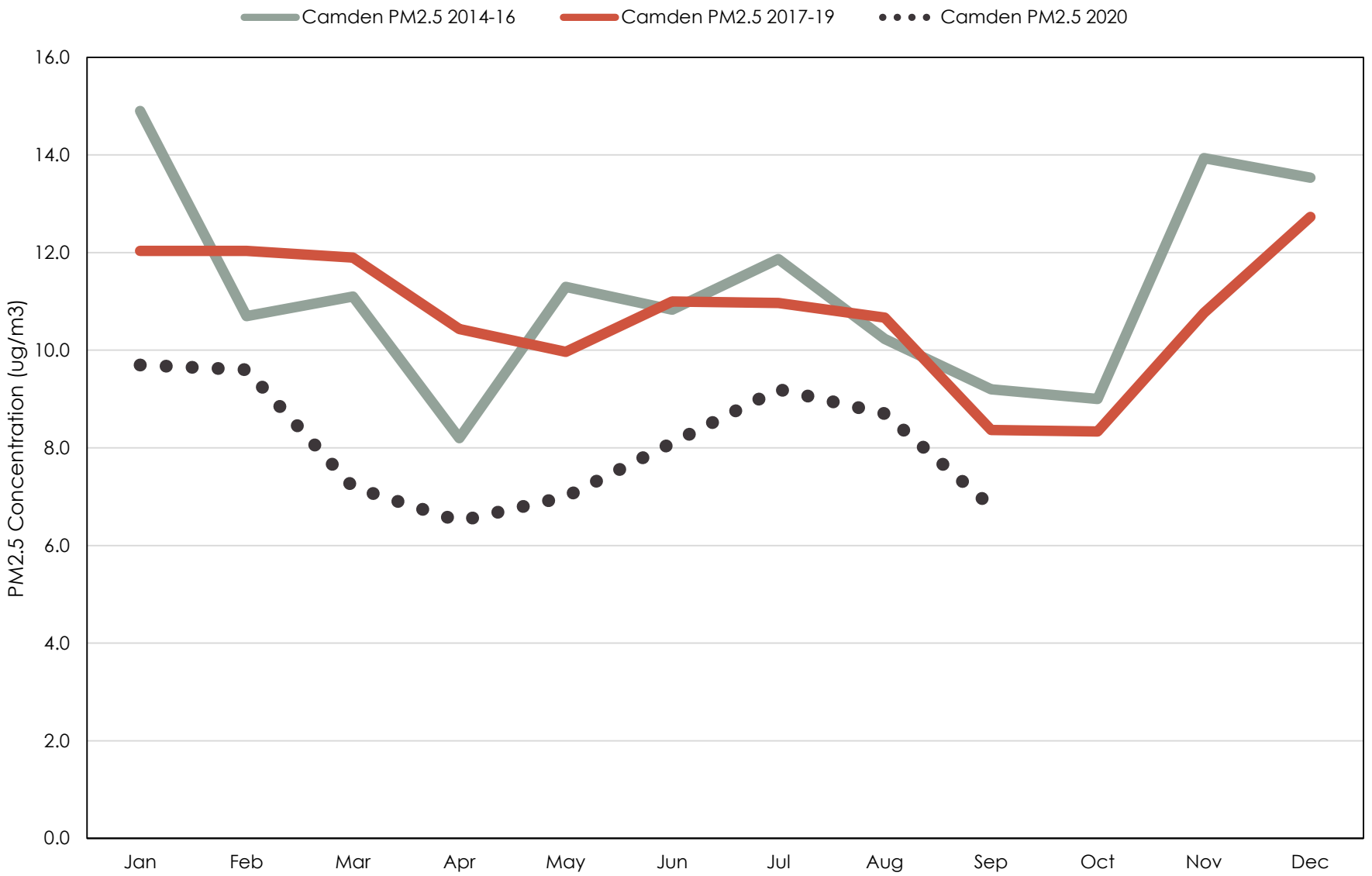
Comparison of 3-Year Average Monthly Nitrogen Oxides (NOx) Concentrations at Jersey City, 2014-16 and 2017-19 with 2020, Parts Per Million, PPM



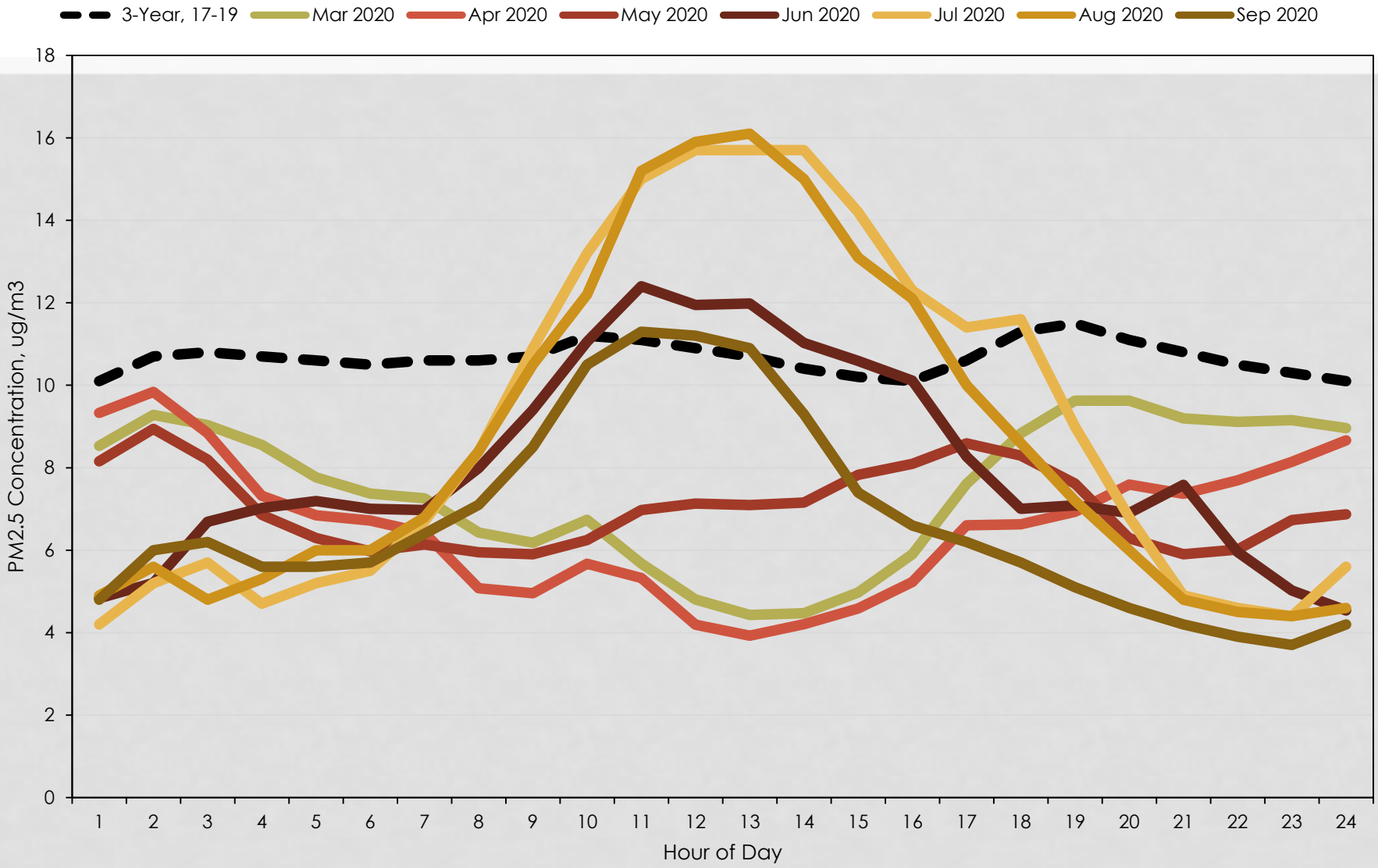
Comparison of Monthly Averaged (March-Sept) Hourly Oxides of Nitrogen Concentrations in 2020 at Jersey City, NJ with 3-Year Averaged (2017-2019) Hourly NOx Concentrations, ppm



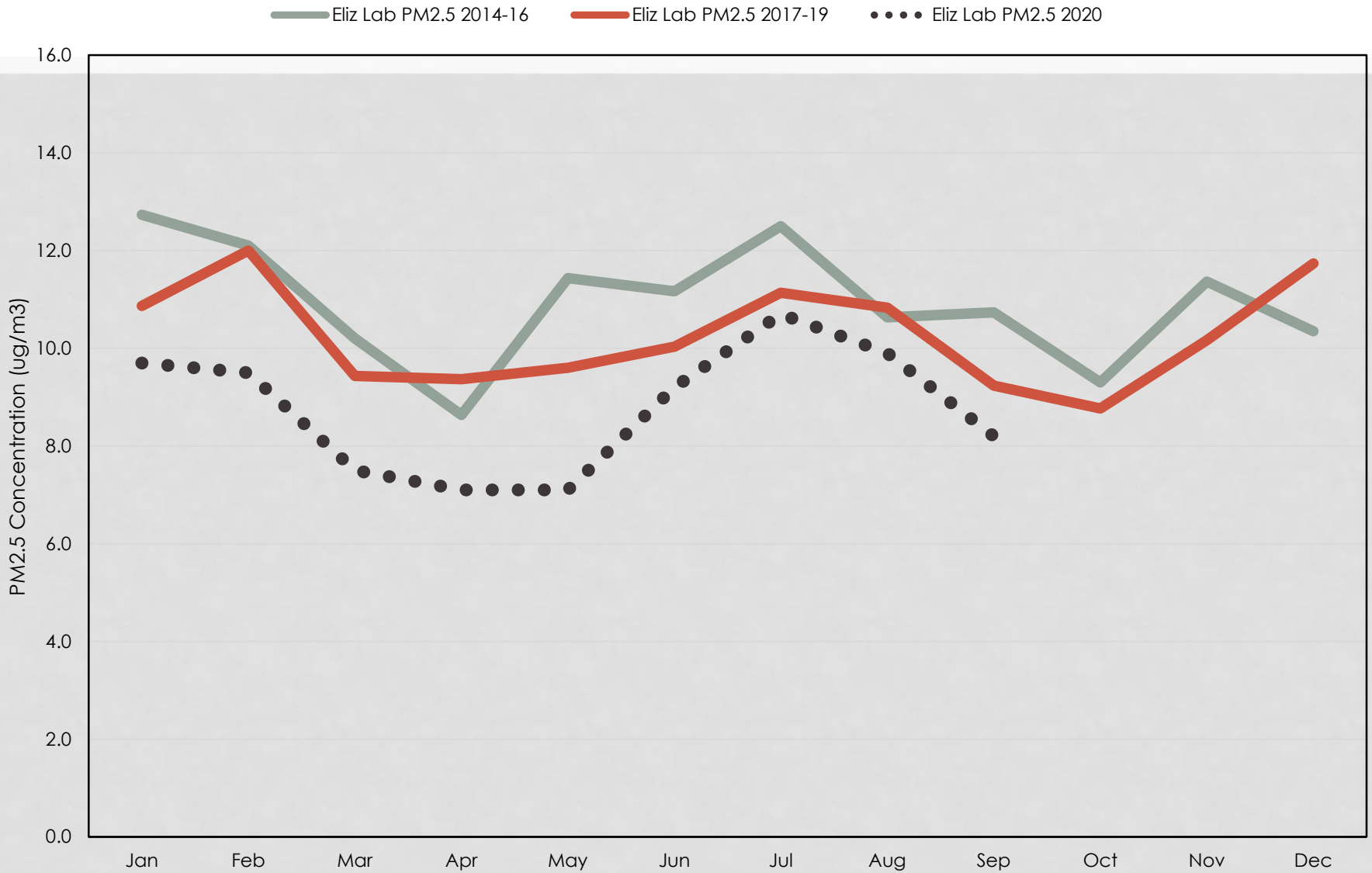
Comparison of 3-Year Average Monthly Fine Particle (PM2.5) Concentrations at Camden, 2014-16, and 2017-19 with 2020, Micrograms per Cubic Meter, ug/m3



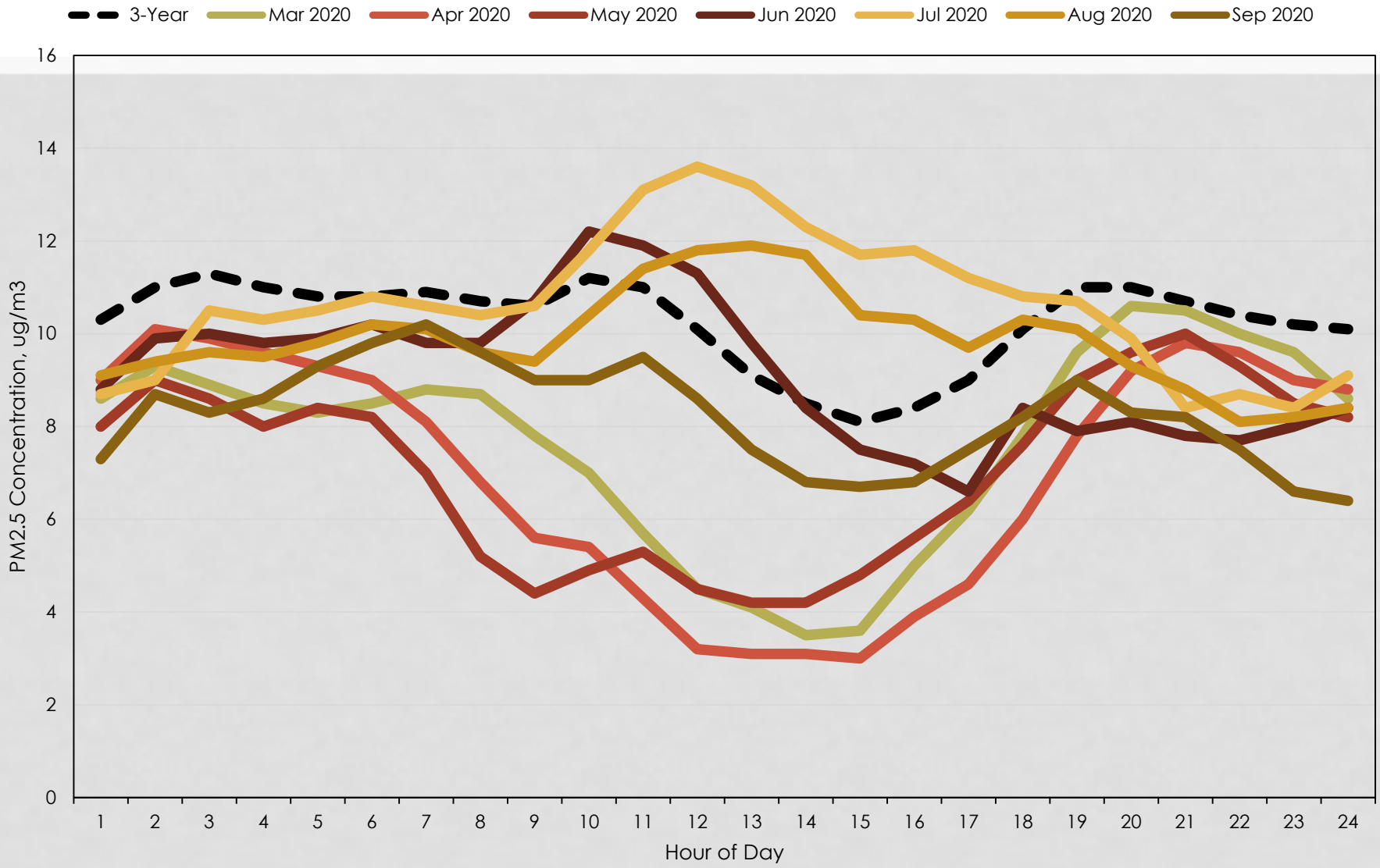
Comparison of Monthly (March-Sept) Fine Particle (PM2.5) Concentrations in 2020 by Hour of Day at Camden, NJ with 3-Year Averaged (2017-2019) PM2.5 Concentrations, ug/m3



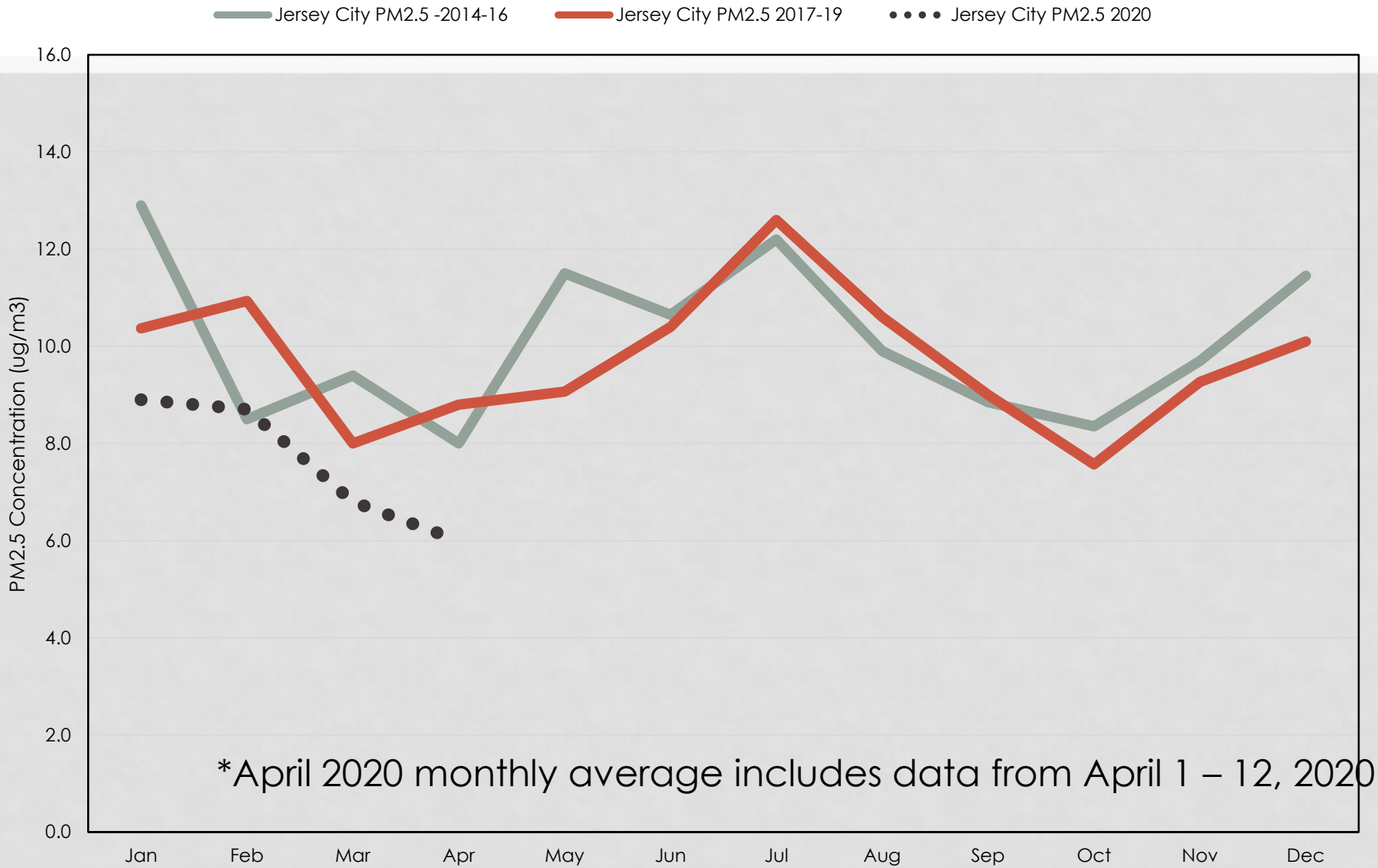
Comparison of 3-Year Average Monthly Fine Particle (PM2.5) Concentrations at Elizabeth Lab Exit 13, 2014-16 and 2017-19 with 2020, Micrograms per Cubic Meter, ug/m3



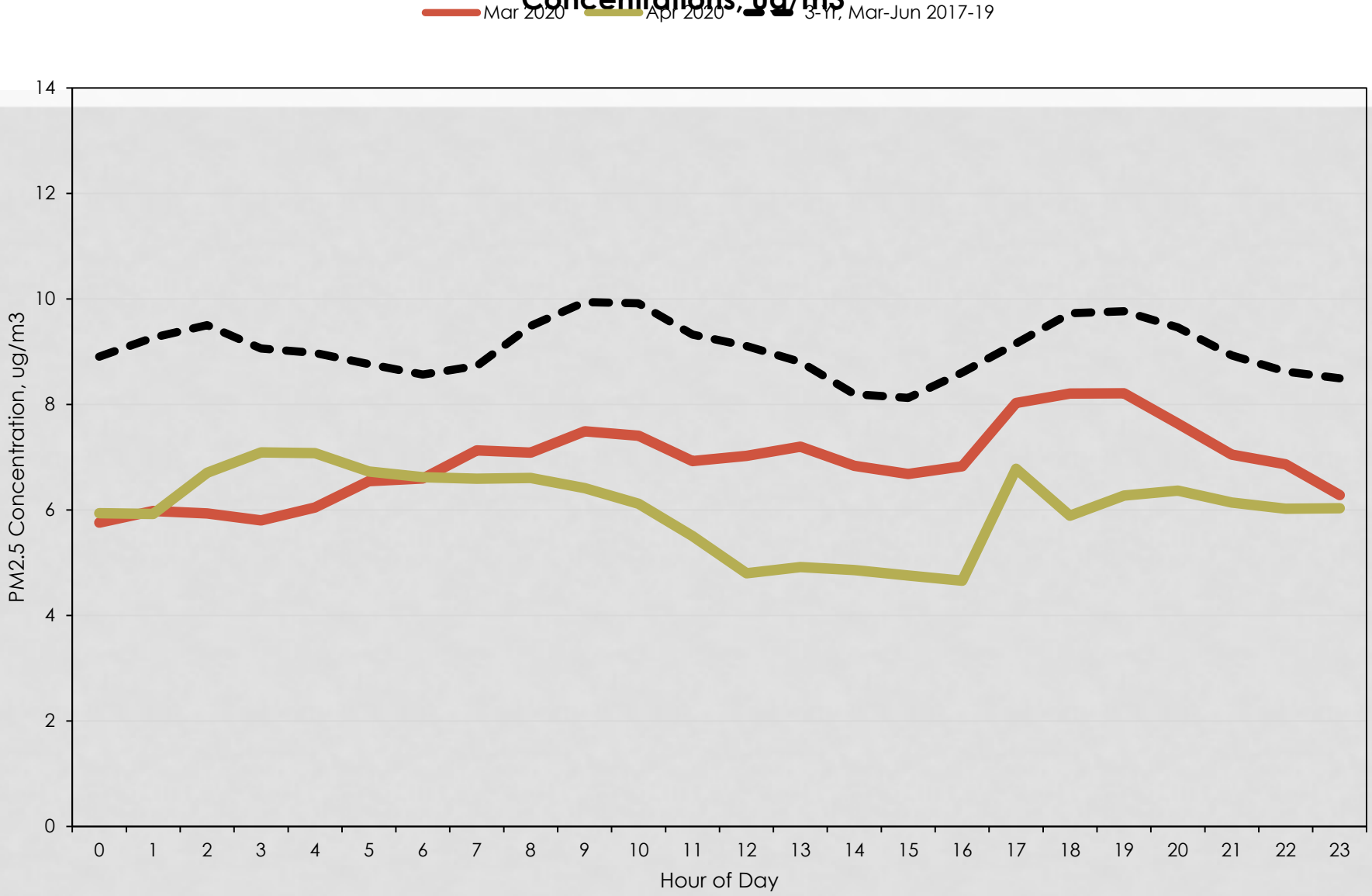
Comparison of Monthly (March-Sept) Fine Particle (PM2.5) Concentrations in 2020 by Hour of Day at Elizabeth, NJ with 3-Year Averaged (2017-2019) PM2.5 Concentrations, ug/m3



Comparison of 3-Year Average Monthly Fine Particle (PM2.5) Concentrations at Jersey City, 2014-16 and 2017-19 with 2020, Micrograms per Cubic Meter, ug/m3



Comparison of Monthly (March-June) Fine Particle (PM2.5) Concentrations in 2020 by Hour of Day at Jersey City, NJ with 3-Year Averaged (2017-2019) PM2.5 Concentrations, ug/m3



Questions?

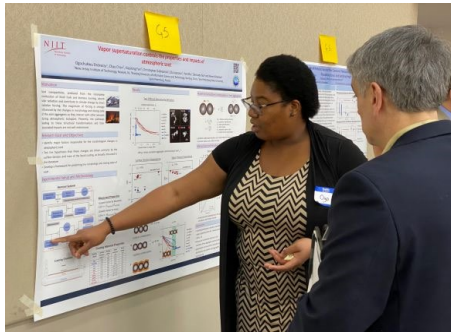
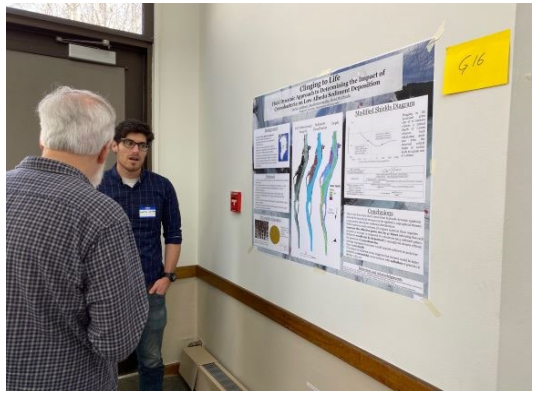
Lunch Break

AWMA-NCNJ and Rutgers Poster Competition and Career Panel

March 4, 2020





Afternoon Session

Sunila Gupta, Haley Aldrich

Program Chair, A&WMA - NCNJ

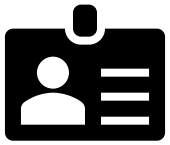
Dr. Ron Poustchi,

New Jersey Department of Environmental Protection

Reminders

- Keep yourself on mute and video off
- Use question feature to type in your question
- Add your name and affiliation to the questions
- Moderators will try to get as many question as we can within the allotted session




Conference Agenda (available as handout)

9:00 – 9:10 am	*Morning Session Moderators: Mike Schaffer and Lynne Mitchell- Welcoming Remarks*
9:10 – 9:45 am	Commissioner Catherine McCabe – Opening Remarks, "State of the Department"
9:45 – 10:20 am	Assistant Commissioner Mark Pedersen - Site Remediation and Waste Management Program – Update on Site Remediation and Waste Management Program
10:20 – 10:55 am	Assistant Commissioner Paul Baldauf – Air Quality, Energy, Sustainability Program –Update on Air Quality, Energy, Sustainability Program
10:55 – 11:05 am	**Morning Break**
11:05 – 11:40 am	Assistant Commissioner Elizabeth Dragon - Compliance and Enforcement Updates and Initiatives
11:40 – 12:15 pm	Director Frank Steitz – Air Program Updates, Initiatives and Climate Change
12:15 – 1:00 pm	**Lunch Break**
1:00 – 1:05 pm	*Afternoon Session Moderators: Sunila Gupta and Dr. Ron Poustchi*
1:05 – 1:40 pm	Deputy Commissioner Olivia Glenn, Environmental Justice Guidance and Projects Updates and Initiatives
1:40 – 2:15 pm	Dr. Nick Procopio, Bureau Chief, Division of Science & Research - Update on Current and Recently Completed Research Projects
2:15 – 2:25 pm	**Afternoon Break**
2:25 – 3:00 pm	Bureau Chief Kim Cenno – Water Monitoring and Standards Updates and Initiatives
3:00 – 3:55 pm	Air Program Panel Presentations on Climate Change– Director Frank Steitz, Assistant Director Peg Hanna, Assistant Director Bob Kettig, and Assistant Director Ken Ratzman
3:55 – 4:00 pm	Closing Remarks

Deputy Commissioner Olivia Glenn

Environmental Justice Guidance and Projects

Updates and Initiatives

Questions?

Dr. Nick Procopio

Bureau Chief, Division of Science and Research

Update on Current and Recently Completed Research Projects

Division of Science and Research

2020 Update on Current and Recent Research

Nicholas A. Procopio, Ph.D.
Chief, Bureau of Environmental Assessment
Division of Science and Research
NJDEP

November 20, 2020
DEP/A&WMA Conference

DSR Goals:

- Provide the department with, and access to, **expertise and information** that supports its technical, program and policy needs.
- Act as liaisons to the **Science Advisory Board** and Standing Committees that will help provide the DEP with outside expertise on scientific issues.
- Perform **research** to meet the information and problem-solving needs of the department, and to identify and understand **emerging issue**s that require the department's attention and response.
- Advocate and integrate the **multi-disciplinary perspective** into the department's identification, analysis and resolution of environmental issues.

Staff Expertise

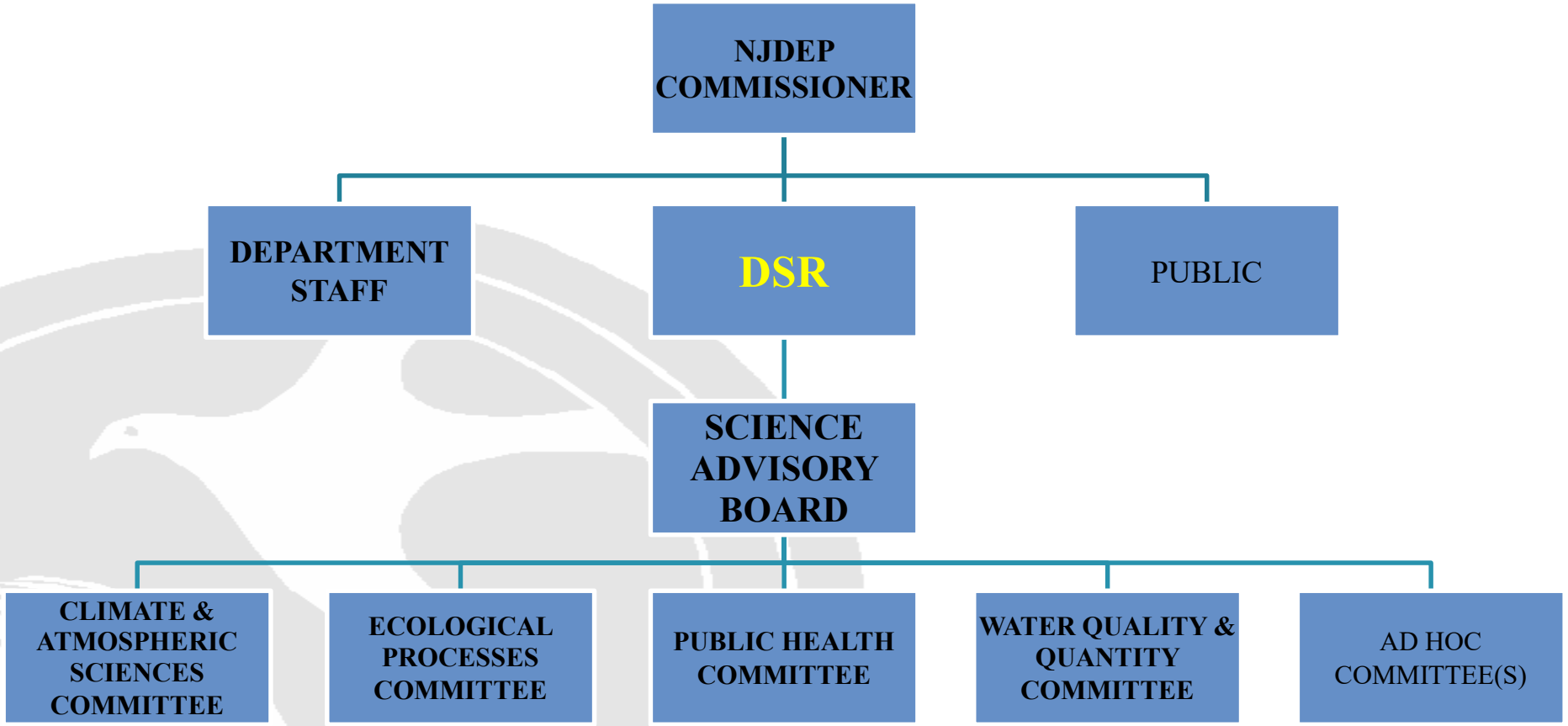
- Toxicologists/Risk Assessment
- Biologists/Ecologists
- Air Quality/Modeling Specialist
- Water Quality Specialists
- GIS
- Chemist
- Statistician
- Microbiologist
- Environmental Scientists

Science Based Support

- Air Monitoring/Modeling
- Fish Monitoring & Consumption Advisories
- Human Health Risk Assessment
- Standards Development
- Data Analysis & Interpretation
- Analytical Chemistry
- Field Investigations and Sample Collection
- Literature Reviews

Science Advisory Board

http://www.state.nj.us/dep/sab/



SCIENCE ADVISORY BOARD

Completed Board review in 2020

- ✓ Peer Review - New Jersey Scientific Report on Climate Change
- ✓ The Status and Future of Tidal Marshes in New Jersey Faced with Sea Level Rise
- ✓ Climate Change and Water Resources
- ✓ Approaches for Addressing Drinking Water and Wastewater Contaminants of Emerging Concern (CECs) in a Broader Context: Identification, Ranking, and Treatment Removal
- ✓ Review of Proposed EPA Maximum Contaminant Level for Perchlorate
- ✓ Outdoor Food Waste Composting

SCIENCE ADVISORY BOARD – ONGOING WORK

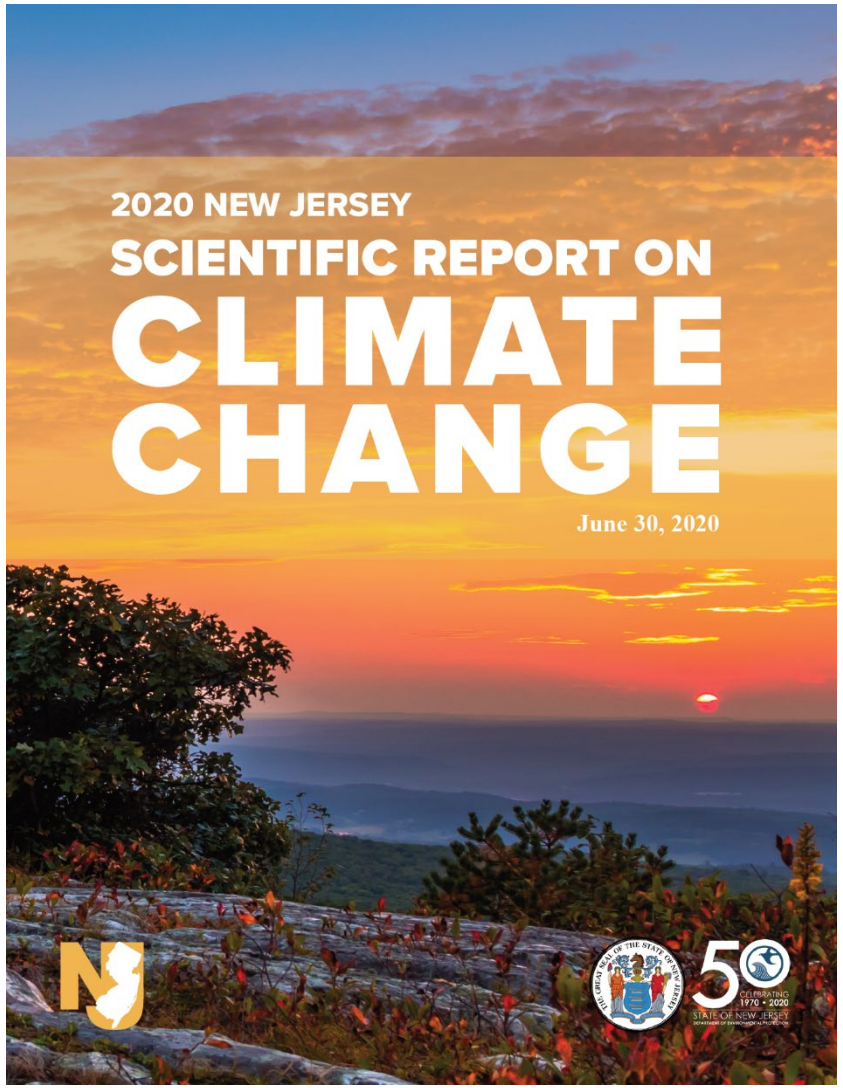
- Research the need, ability and success of mitigation to vernal habitat.
- What are the best methods of mapping nearshore suitable habitats for marine species such as Shellfish, SAV?
- What does the current science say about impacts of horizontal directional drilling to groundwater and what steps are appropriate to minimize any threat?

DSR - Completed Research
Highlights

SCIENTIFC REPORT ON CLIMATE CHANGE

www.nj.gov/dep/climatechange

- Greenhouse Gases & Climate Pollutants
- Temperature
- Precipitation
- Sea-Level Rise
- Ocean Acidification
- Resources and Ecosystem Impacts
- Research and Data Gaps



WATER QUALITY TRENDS IN NUTRIENTS IN NEW JERSEY STREAMS, WATER YEARS 1971-2016

28 stations located throughout the state

Nitrate plus nitrite as nitrogen

8 ↓ 7 ↑ 13 –

Total nitrogen

14 ↓ 3 ↑ 11 –

Total phosphorus

17 ↓ 1 ↑ 10 –

BIOLOGICAL CONTROL OF SEA NETTLES USING NUDIBRANCHS (MONTCLAIR STATE UNIVERSITY)

Objectives:

- ✓ Identify potential nudibranch predators of sea nettle polyps in Barnegat Bay.
- ✓ Assess nudibranch potential as a biological control of sea nettle polyps.
- ✓ Field assessment of nudibranch feeding.

Status:

- ✓ 50 laboratory feeding trials on sea nettle polyps with a few different Nudibranch species.
- ✓ Field based experiments conducted
- ✓ DNA analysis for species identification.

Coryphella sp. Source: njscuba.net

POLYCYCLIC AROMATIC HYDROCARBON STUDY

Objectives:

Phase I - determine background levels of the contaminants throughout New Jersey and assess potential relationships between PAH concentrations and characteristics including depth of sample, county, population density, distance to nearest known contaminated site, forested versus open areas, and metal concentration.

Phase II - determine whether there was a change in PAH concentrations as distance from potential sources, such as railroads and asphalt surfaces, increased.

Takeaway:

- The majority of concentrations measured did not exceed the lowest levels of regulatory concern.
- Typically, surface concentrations exceeded subsurface concentrations.
- Concentrations decreased with distance from source.

PEER-REVIEWED PUBLICATIONS (2020)

•Davis, G.E., M.F. Baumgartner, P.J.Corkeron, J. Bell, C. Berchok, J.M. Bonnell, J.B. Thornton, S. Brault, **G.A. Buchanan**, et al. (2020). Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data. Global Change Biology 26.9:4812-4840.

•Flanagan, S. V., **N. A. Procopio**, S. Spayd, J. A. Gleason, and Y. Zheng. (2020). Improve private well testing outreach efficiency by targeting households based on proximity to a high arsenic well. Science of the Total Environment. V738:139689.

•Flanagan, S.V., S. Braman, R. Puelle, J. Gleason, S. Spayd, **N.A. Procopio,** G. Proswimmer, A. Navas-Acien, J. Graziano, S. Chillrud. (2020). Leveraging healthcare communication channels for environmental health outreach in New Jersey. Journal of Public Health Management and Practice.

•**Goodrow, S.M., B.R. Ruppel, R.L. Lippincott, G.B. Post, N.A. Procopio.** (2020). Investigations of level of perfluoroalkyl substances in surface water, sediment, and fish tissue in New Jersey, USA. *Science of the Total Environment.* 729.

•Iwanowicz, L.R., K.L. Smalling, V.S. Blazer, R.P. Braham, L.R. Sanders, A. Boetsma, N.A. **Procopio, S.M. Goodrow, G.A. Buchanan, D.R. Millemann, B. Ruppel,** J. Vile, B. Henning, J. Abatemarco. (2020). Reconnaissance of Surface Water Estrogenicity and the Prevalence of Intersex in Smallmouth Bass *(Micropterus Dolomieu)* Inhabiting New Jersey." *Int. J. Environ. Res. Public Health.* 17(6).

PEER-REVIEWED PUBLICATIONS (2020)

•Mailloux, B. J., **N. A. Procopio**, M. Bakker, T. Chen, I. Choudhury, K. M. Ahmed, T. Ellis, M. R. Mozumder, S. Chillrud and A. van Geen. (2020). Recommended sampling intervals for arsenic in private wells. Groundwater.

•McCord, J.P., M. J. Strynar, J.W. Washington, E.L. Bergman, and **S.M. Goodrow**. (2020). Emerging Chlorinated Polyfluorinated Polyether Compounds Impacting the Waters of Southwestern New Jersey Identified by Use of Nontargeted Analysis. *Environmental Science & Technology Letters.*

•Minerovic, A.L., Potapova, M.G., Sales, C.M., Price, J.R., **Enache, M.D.** (2020). 18S-V9 DNA metabarcoding detects the effect of water-quality impairment on stream biofilm eukaryotic assemblages. *Ecological Indicators.* 113.

•**Post, G.B.** (2020), Recent US State and Federal Drinking Water Guidelines for Per- and Polyfluoroalkyl Substances. *Environ Toxicol Chem.*

•Rockafellow-Baldoni, M., B. L. Lubenow, **N. A. Procopio**, J. A. Gleason, S. E. Spayd. (2020). School-based private well testing outreach event for arsenic and boron in New Jersey. Journal of Environmental Health. V83(2):26-32.

•Washington, J.W., C.G. Rosal, J.P. McCord, M.J. Strynar, A.B. Lindstrom, E.L. Bergman, **S.M. Goodrow,** Haile K. Tadesse, Andrew N. Pilant, Benjamin J. Washington, Mary J. Davis, Brittany G. Stuart, and Thomas M. Jenkins. (2020). Nontargeted mass-spectral detection of chloroperfluoropolyether carboxylates in New Jersey Soils. *Science.* 368 (6495):1103-1107 .

DSR - Active Research

ENVIRONMENTAL TRENDS

- ✓ 39 chapters on the status of key environmental parameters
- ✓ Updated as new data become available
- ✓ Provides a summary of a major environmental issue
- ✓ Each chapter includes references, DEP contacts, and sources of additional information
- ✓ 8 reports updated and posted since last November.

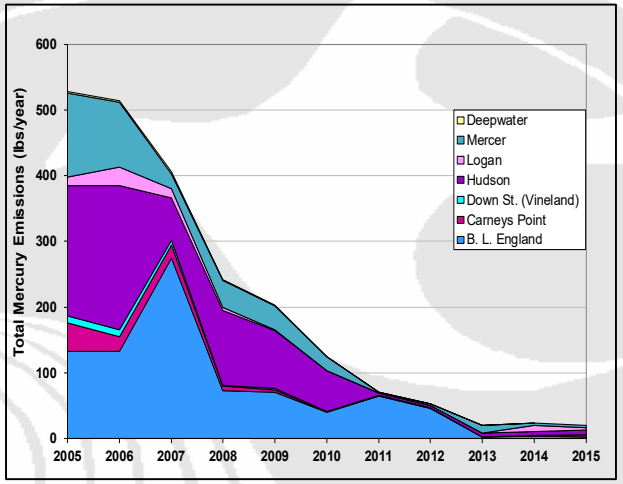
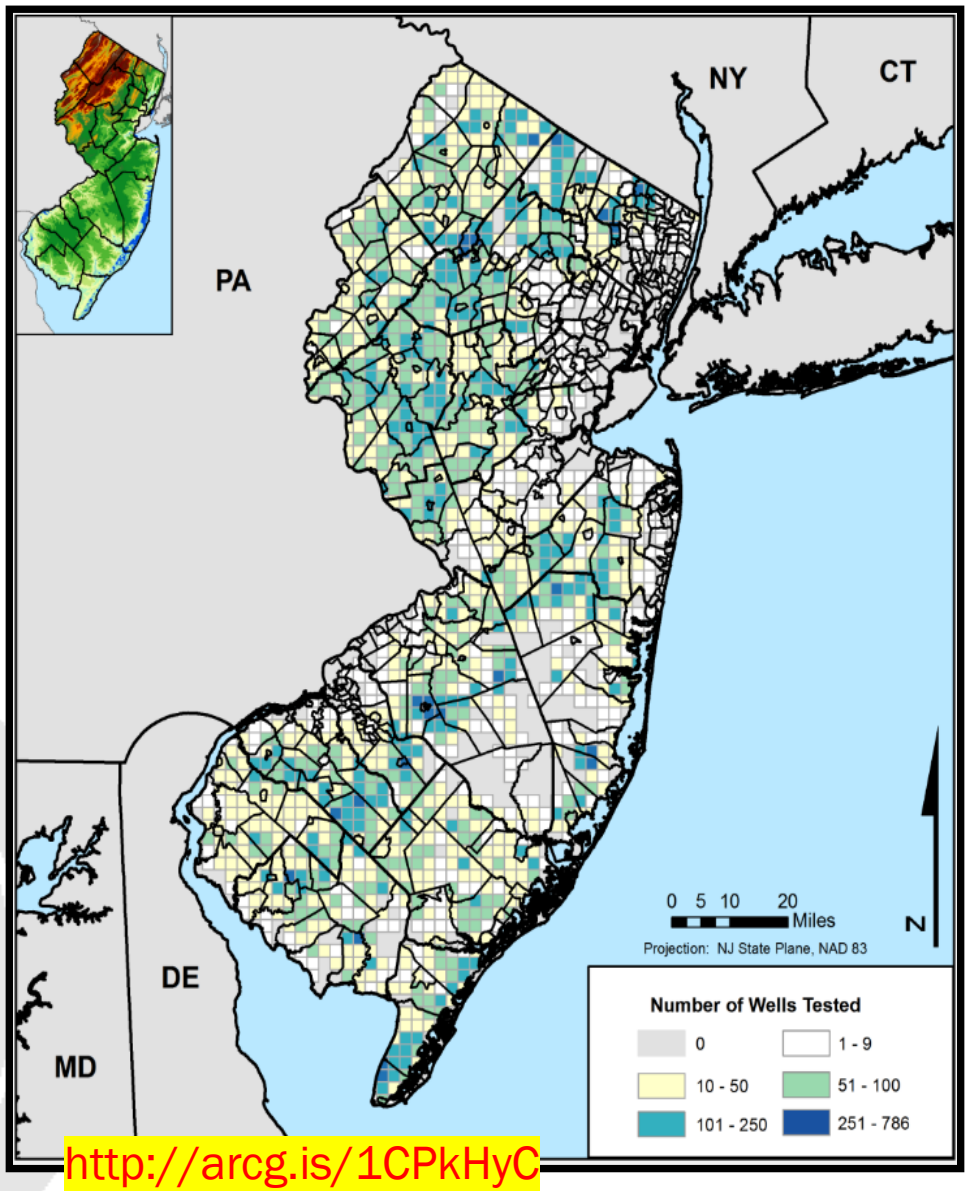


Figure 1: Annual **mercury** emissions from NJ coal-burning power plants

NEW JERSEY PRIVATE WELL TESTING

Added PFAS & 1,2,3 TCP statewide & Uranium in north + As in south

- ✓ Approximately 400,000 private wells (13 % of residents) in NJ.
- ✓ Wells are required to be tested for bacteria, nitrates, 26 volatile organic compounds, lead, pH, arsenic, gross alpha (radionuclides), iron, and manganese. Mercury and uranium are only required in certain counties.
- ✓ Analysis of data show the variability in the concentration of each parameter to state standards.
- ✓ Data from the PWTA can be used to identify vulnerable communities and direct outreach efforts.
- ✓ Data is also used by SDW, SRP, and NJGS.



http://arcg.is/1CPkHyC

MONITORING AND TARGETED RESEARCH OF SELECTED CHEMICAL CONTAMINANTS IN NEW JERSEY FISH http://fishsmarteatsmartnj.org/

- **Task 1 - Routine Monitoring of Toxics in Fish**
  - Includes the monitoring of fish tissue statewide, evaluating multiple target contaminants, fish species and water bodies;
  - Informs the appropriateness of current fish consumption advisories and need for modifications;
  - Examine new species, contaminants, and waterbodies; and
  - Support education and outreach efforts in protecting the public.

Bruce Ruppel, DSREH

MONITORING AND TARGETED RESEARCH OF SELECTED CHEMICAL CONTAMINANTS IN NEW JERSEY FISH

- **Task 2 - Investigate Levels of Perfluoroalkyl Substances (PFAS) in NJ Fish Species, sediment and water**
  - As an emerging compound, PFAS, particularly PFOS, have been found to accumulate in fish tissue if a source is present.
  - Contamination has been identified in public and private drinking water wells, and potential sources have been identified, NJ fish and consumers may be impacted.
  - Concentrations in fish tissue will be quantified and evaluated along with health criteria.


Passaic River

Harmful Algal Blooms

Harmful cyanobacteria blooms are increasing in both frequency and duration on inland waters. Some blooms are producing toxins not typically monitored while other blooms with similar species composition produce common toxins. Factors determining which toxins are produced remain unknown.

Research Objective:

- Increase understanding of drivers behind both non-toxic and toxigenic blooms.
- Build out a rapid and accurate field assessment kit to determine bloom composition and toxin capacity.
- Build a risk assessment model for NJ waterbodies to help assess their ability to support either a toxigenic bloom or non-toxigenic bloom.

ECOSYSTEM MONITORING OF PRE- AND POST-CLOSURE OF OYSTER CREEK NUCLEAR GENERATING STATION (YEAR 3)

- Assessment of the impacts of the OCNGS on gelatinous zooplankton and planktonic community structure (Montclair)
- Assessment of the effect of cooling water effluent on fish, crab, and benthic invertebrates (Rutgers and Rider Univ.)
- Study of zooplankton for monitoring and assessment of the closure Oyster Creek Nuclear Plant (Monmouth Univ.)
- Characterization of phytoplankton community changes in Barnegat Bay related to the closure of Oyster Creek Nuclear Generating Station, combining next generation sequencing and microscopy analyses (George Mason Univ.)

NUTRIENT AND CARBON FLUXES TO BARNEGAT BAY FROM MARGINAL SALINE WETLANDS (USGS AND ANS-DU)

Goals and Objectives

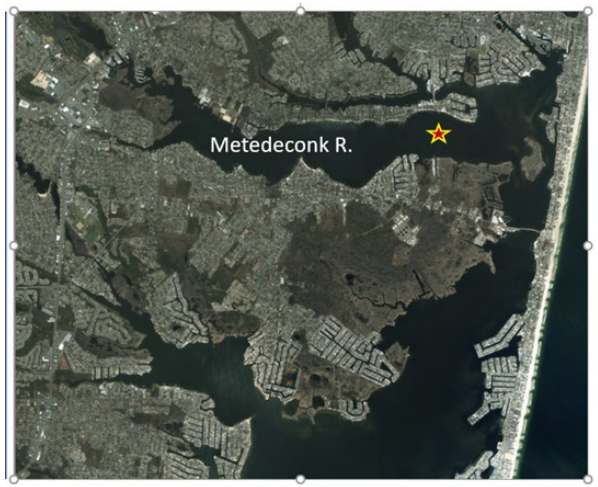
Measure nutrient and carbon exchange between the tidal streams flowing through marginal saline wetlands of Barnegat Bay.

Determine whether the marshland surrounding the creek is acting as a source or sink of nutrients as they are transported from the uplands, through the marsh complex into the bay

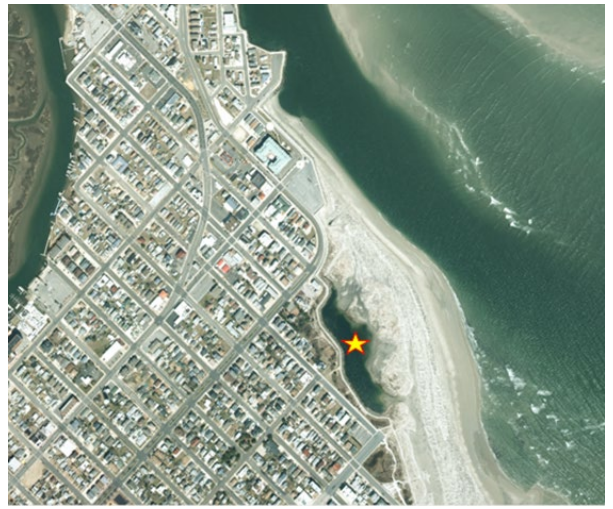
The results will provide information needed to integrate wetlands into the Barnegat Bay geochemical model and determine how marsh creeks impact nutrient loading.

CLINGING JELLYFISH – INVASIVE SPECIES

CLINGING JELLYFISH - ONGOING MONITORING



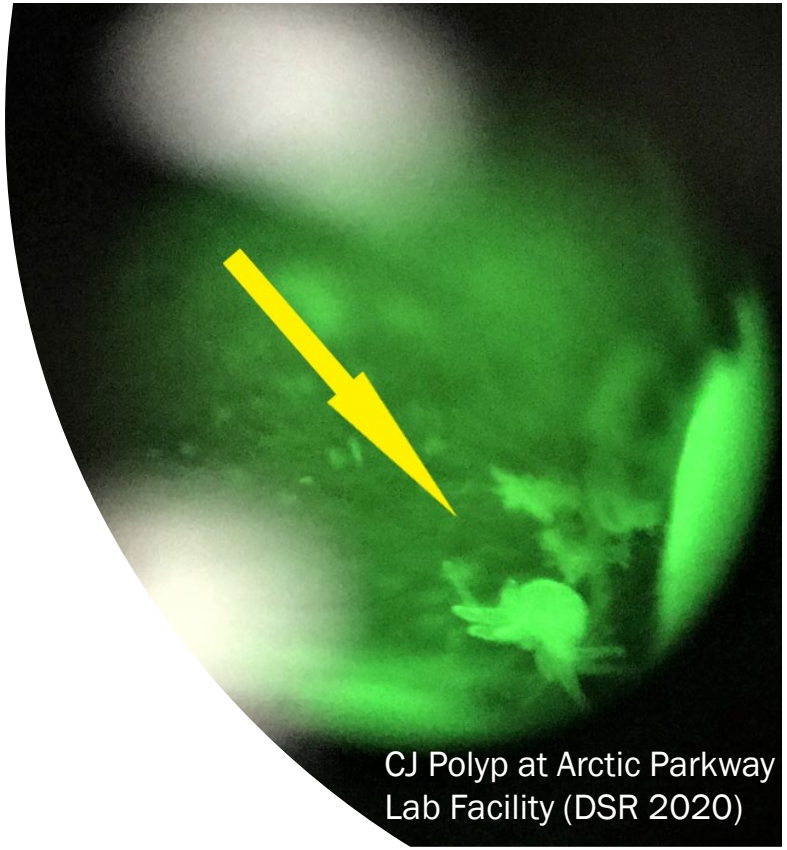
- Shark River
- Cape May Canal
- Toms River
- Focused Sampling: Metedeconk and North Wildwood
- Other sites: Shrewsbury, Manasquan, IBSP



CLINGING JELLYFISH 2020-21: RESEARCH OBJECTIVES

MSU and NJDEP Collaboration

- Development of a Molecular monitoring protocol for detecting CJ's and other non-native, marine invasives in New Jersey
- Focus on full seasonal life cycle in 'hot-spots' (Metedeconk and North Wildwood)
- Population biology: Clonal vs. Reproductively successful populations
- Venom genomics?



CJ Polyp at Arctic Parkway Lab Facility (DSR 2020)

EPA Wetland Development Grant-funded Research

Developing a Reference Wetland Tool for Tidal Wetland Restoration Planning

- ✓ Local reference sites make useful comparisons for evaluating wetland condition, designing restoration projects and setting realistic goals. Unfortunately, reference site data does not always exist.

- ✓ Research Objectives:
  - + Aggregate and summarize the extensive tidal wetland monitoring data collected across NJ in the publicly available Reference Wetland Database and Tool, developed by Riparia at Penn State;
  - + Expand the long-term wetlands monitoring system to be inclusive of coastal wetland systems found in NJ.
  - + Study the hydrology of tidal wetland systems in NJ to help inform future restoration projects.

Improving Marsh Restoration

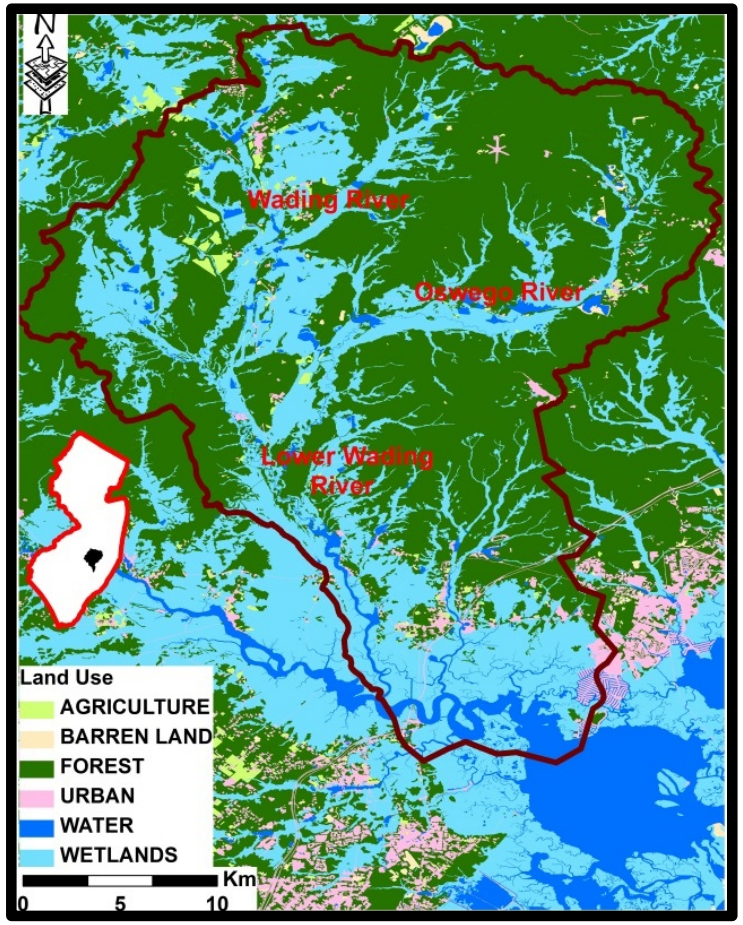
- Continued monitoring of three pilot projects that used dredged material to enhance salt marshes and dissemination of lessons learned.

- Research Objectives:
  - Track changes in the marsh ecosystem after dredged sediment was placed to increase elevation;
  - Relate findings back to enhancement methods in order to improve methods for future projects;
  - Make best management practices that can be gleaned from the pilot projects readily available to the public.

Developing a Wetland Baseline at the Watershed Scale

- ✓ Up to 80% of commercial/recreational fishes, shellfish and their forage base in coastal regions have “estuarine dependent” early life stages.

- ✓ Research Objectives:
  - + conduct a meta-analysis of existing literature that relates the role of riverine fresh, tidal fresh, and tidal saline marshes as essential habitat for the secondary production of fauna:
  - + use aerial photo interpretation and remote sensing to develop qualitative measures of vegetation coverage, diversity, and “health”;
  - + establish quantitative metrics that relate marsh geomorphology to species access.



ON THE HORIZON…

- Wastewater Epidemiology
  - using wastewater to track COVID-19 and identify potential community hotspots
- Off-shore Wind Power Development
  - Research and monitoring of ecological systems
- Evaluation of PFAS through wastewater treatment and biosolids
- Invasive Species

Division of Science and Research

Acknowledgements: DSR Scientists, DEP Programs, Principal Investigators and their Universities

Director: Gary.Buchanan@dep.nj.gov

Bureau Chief: Nick.Procopio@dep.nj.gov

Information and Publications:
www.nj.gov/dep/dsr/

Check for new reports!

Questions?

Afternoon Break

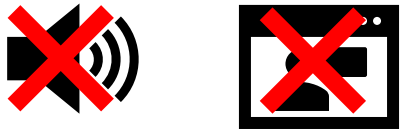
Upcoming AWMA-NCNJ EVents

- Renewable Energy Webinar – Q1 2021
  - Janice Fuller, President, Mid-Atlantic - Anbaric - Offshore wind
  - Peter Protopappas, Director - American Electric Power - Distributed Generation and Solar projects

- Graduate and Undergraduate Student Poster Competition and Career Panel – Q1 2021

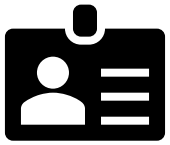
Reminders

- Keep yourself on mute and video off



- Use question feature to type in your question

- Add your name and affiliation to the questions



- Moderators will try to get as many questions as we can within the allotted session

Bureau Chief Kim Cenno

Water Monitoring and Standards Updates and Initiatives

19th Annual Regulatory Update Conference

Division of Water Monitoring and Standards Highlights and Initiatives

Kimberly Cenno, Bureau Chief

Division of Water Monitoring and Standards

Bureau of Environmental Analysis, Restoration and Standards

Division of Water Monitoring & Standards

FRESH WATER & BIOLOGICAL MONITORING

Rivers, Streams and Lakes, Physical/Chemical Monitoring, Biological Monitoring – Benthic Macroinvertebrates & Fish, Flow, Continuous Water Quality Monitoring, Stressor Identification, Ground Water Monitoring, Laboratory Identifications & Analyses







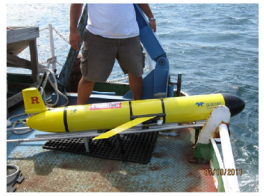




MARINE WATER MONITORING

Coastal and Estuaries, Shellfish Classification, Beach Monitoring, Clean Shores, Remote Sensing for Algal Blooms & Phytoplankton, Real Time Water Quality Monitoring, Nonpoint Source Tracking, Laboratory Analyses



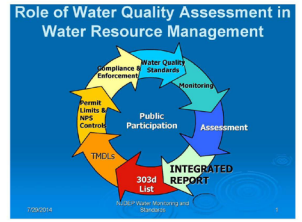


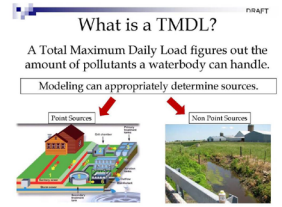


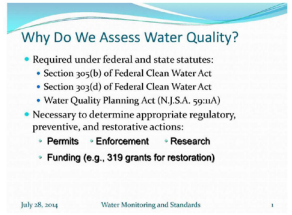


ENV. ANALYSIS, RESTORATION & STANDARDS

Water Quality Assessment, Surface and Ground Water Quality Standards, TMDLs, Water Quality Restoration, Volunteer Monitoring, AmeriCorps Watershed Ambassadors







DWM&S HIGHLIGHTS FOR 2020

Adopted 600 Stream Miles C1 Waters to SWQS **4/6**

Adopted PFOA (14 ppt) and PFOS (13 ppt) to GWQS **6/1**

Adopted 2016 303(d) List of Impaired Waters **8/17**

Adopted 24 Mercury TMDLs **5/28**

6 Million Dollars in NPS Grant Awards (24 projects)

Update Harmful Algal Bloom Strategy

Update New Jersey Vibrio Control Plan

New Jersey Nonpoint Source Program Plan (2020-2025) **11/10**

SURFACE WATER QUALITY STANDARDS – CATEGORY ONE UPGRADES

On April 6, 2020 NJ adopted 600 additional stream miles as C1

47% of NJ's Waters Classified as C1 or better

Protected from no measurable change to existing water quality

300-ft riparian zone surrounding water body

A more efficient approach to addressing impairments is to prevent them from occurring

Environmental Analysis, Restoration and Standards
AmeriCorps NJ Watershed Ambassadors
Community Water Monitoring
Watershed Education and Urban Fishing
Water Quality Assessment
Total Maximum Daily Loads (TMDLs)
Watershed Based Plans
Beach Monitoring
Nonpoint Source (NPS) Pollution Management Program
WQ Restoration Grants for NPS Pollution
Clean Shores
Surface Water Quality Standards (SWQS)
Ground Water Quality Standards (GWQS)
Water Quality Management Planning ▸
Rule Responsibility ▸
Technical Support Documents
GIS Coverages
Email (Listserv) Subscriptions

Search C1 waters near you on NJDEP's interactive storymap.
Application works best with Google Chrome Browser.

What is the C1 Waters Storymap? ▼

Instructions for Using the C1 Waters Storymap ▼

Download GIS Data Within the C1 Waters Storymap ▼

Read Surface Water Quality Standards (SWQS) Amendments ▼

Category One Waters

This storymap is for informational purposes only, and is not legally binding. When interpreting the SWQS, the written standards found in the most recently adopted SWQS rules at N.J.A.C. 7:9B always take precedence.

Introduction to Category One Waters | Map - All Category One Waters | Map - 2020 Category One Upgrades and Trout Reclassifications

Fix issues in your story × | Story not shared × | Edit ×

What are Category One Waters?

A **Category One** (C1) designation is one of the three antidegradation designations that are applied to New Jersey's surface waters. The other two designations are **Outstanding National Resource Waters** (ONRW), which are provided the highest level of antidegradation and are federally-identified waters to be preserved in their pristine state. **Category Two** (C2) waters encompass all other waters that are not ONRW or C1.

Category One waters are designated through rulemaking for protection from measurable changes in water quality because of their Exceptional Ecological Significance, Exceptional Water Supply, Exceptional Recreational Significance, and Exceptional Fisheries to protect and maintain their water quality, aesthetic value, and ecological integrity.

The Department of Environmental Protection (DEP) has developed a fact sheet that goes into more detail regarding each of the protective designations and how they are implemented.

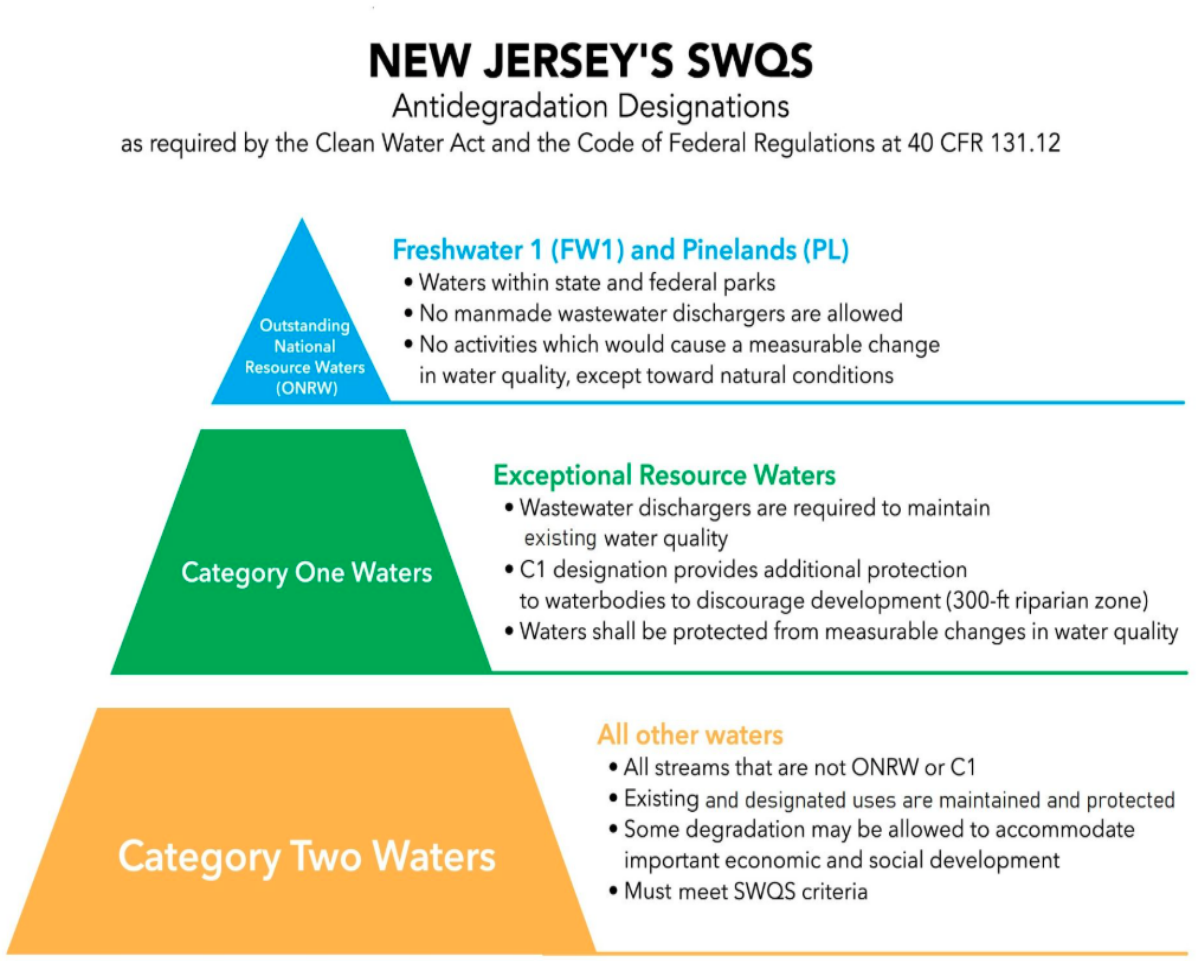
For more information regarding the latest rulemaking upgrading 600 river miles to C1 designation on April 6, 2020, please visit the C1 FAQ prepared by the DEP.

Why designate waters as Category One?

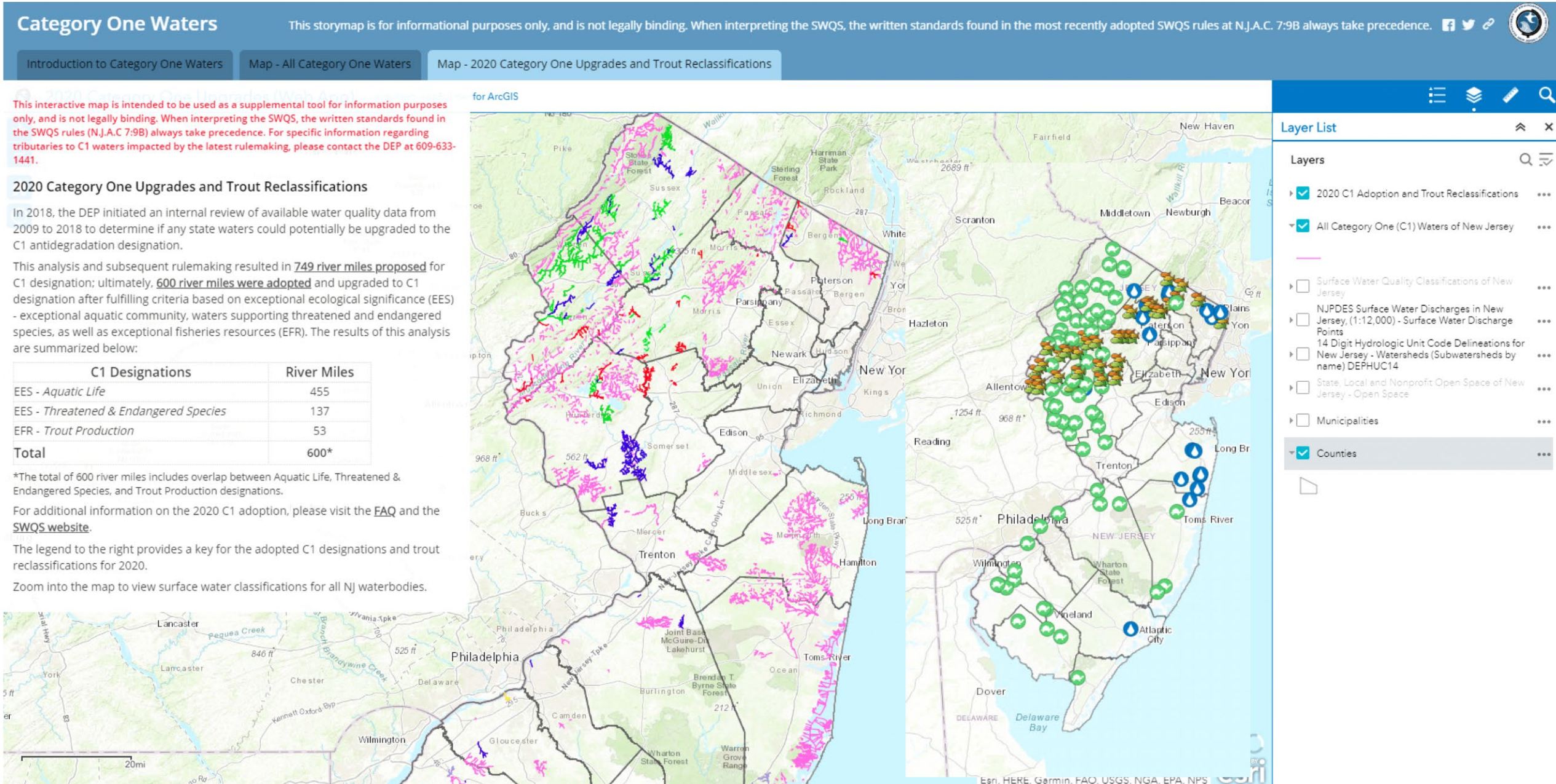
What protections are provided to Category One Waters?

How are these protections implemented?

How are Category One waters identified?



Interactive Storymap – Category One Waters



CLEAN WATER ACT AND THE INTEGRATED REPORT

- Section 305(b) requires a biennial COMPREHENSIVE review of water quality
- 303(d) requires a listing of all impaired waters of the state
- Combined, the deliverables from state environmental agencies on water quality in each state is called the **Integrated Report**
- 2016 Integrated Report Adopted August 17, 2020

Swimmable, Drinkable, Fishable Waters

2016 Integrated Report

A Story Map

Background | Designated Uses | Trends | Aquatic Life General | Aquatic Life Trout | Fish Consumption | Recreation | Shellfish | Water Supply

New Jersey's Integrated Report assesses the health of the state's waters as required under sections 303(d) and 305(b) of the federal Clean Water Act, the NJ Water Quality Planning Act, and the NJ Water Pollution Control Act.

This report provides information on:

- Current water quality conditions
- Water quality trends
- Causes of water quality impairment
- Restoration and protection efforts
- NJDEP Water Programs

The EPA and New Jersey state government will use this information to:

- Determine regulatory, preventative, and restoration priorities
- Identify funding for protecting, restoring, and maintaining waters of the state

New Jersey's waterbodies provide environmental, public health, recreational, and economic benefits to our citizens.

It is important to regularly analyze whether these benefits are being supported currently and to ensure their protection for decades to come.

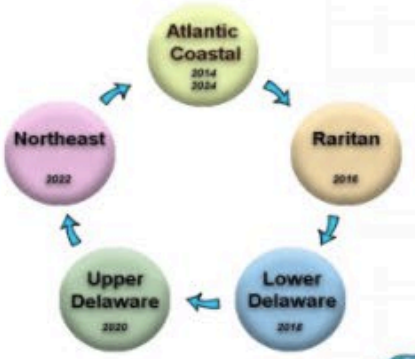
Ocean waters are **100%** swimmable

A significant increase in data over the last decade:

- Increase from 300,000 data samples used in the 2006 assessment to 5 million data samples used in the 2016 assessment.
- Number of AUs with at least one designated use assessed rose to 97%.
- Unassessed designated uses declined from 45% to 23% of AUs because of insufficient data*.
- Number of AUs where all designated uses are assessed rose from 30% to 55%*.

* Does not include fish consumption

Rotating Regional Approach



Since 2014, DEP has employed the rotating regional approach to integrated water quality assessments. This approach includes a comprehensive assessment of one of New Jersey's five water regions each cycle. The current report focuses on the **Raritan Water Region**.

New Jersey's Water Regions

The Integrated Report covers 958 Assessment Units (AUs): over 19,000 miles of rivers and streams, 48,000 acres of lakes, ponds, and reservoirs, 950,000 acres of wetlands, 610 square miles of estuaries, 127 miles of coastline, and 450 square miles of ocean.

AMENDMENT TO STATEWIDE MERCURY TMDL

Original State-wide Mercury TMDL (adopted in 2010)

Amendment to add 26 HUC 14s under the existing TMDL

- 14 HUC 14s approved by EPA in 2011
- 12 HUC 14s are newly proposed
- Adopted May 28, 2020

2019 WATER QUALITY RESTORATION GRANTS FOR NONPOINT SOURCE POLLUTION

13.5M in Funding and New Initiatives to Address Harmful Algal Blooms

RFP#1 2.5M HABs Prevention and Management

RFP#2 1M Lakes Management

Clean Water State Revolving Fund 10M in principal forgiveness

HARMFUL ALGAL BLOOMS

2020 HABs Strategy

Interactive Mapping/

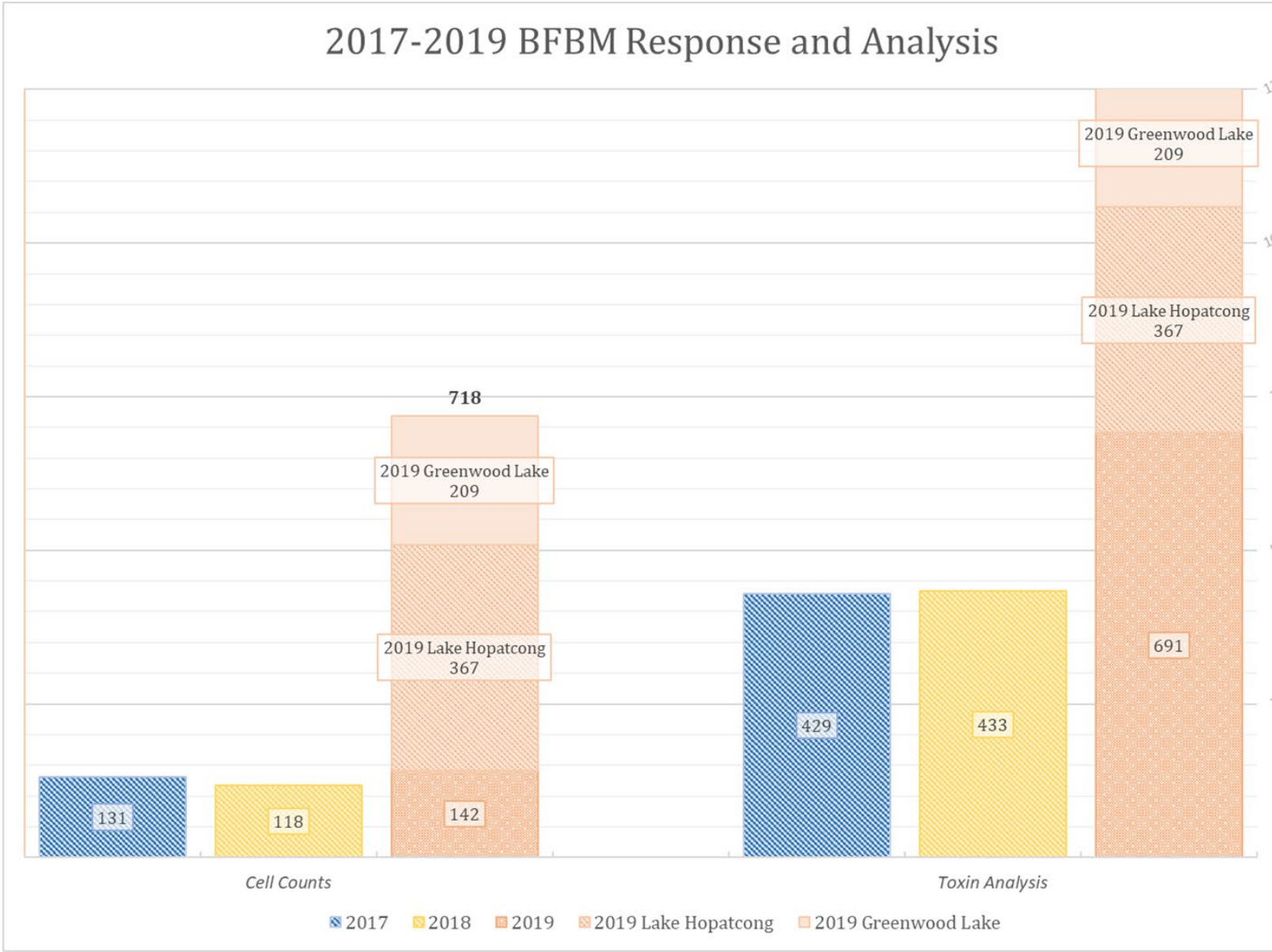
Reporting System

New Alert level thresholds

HAB Workshops

30 waterbodies w/ at least 1

site w/a HAB alert level posting



HABS – NEW 2020 RECREATIONAL RESPONSE STRATEGY

HAB ALERT LEVEL	CRITERIA	RECOMMENDATIONS
NONE	HAB report investigated and no HAB found	None
WATCH *Suspected or confirmed HAB ith potential for allergenic and irritative health effects*	Suspected HAB based on visual assessment or screening test **OR** Lab confirmed cell counts between 20k – 40k cells/mL **AND** No known toxins above public health thresholds	Public Bathing Beaches Open (dependent upo health authority evaluation and assessment) Waterbody Accessible: • Use caution during primary contact swimming) and secondary (e.g. non-contact boating) recreational activities Do not ingest water (people/pets/livestock) Do not consume fish
ALERT *firmed HAB that requires greater vation due to increasing potential for toxin production* **LIC BATHING BEACHES INCREASE MONITORING**	Lab confirmed cell counts between 40k – 80k cells/mL **AND** No known toxins above public health threshold	**WATCH remains in effect.** **Public Bathing Beaches Open (dependent upo health authority evaluation and assessment) a should observe and report changing bloom conditions** Waterbody Accessible: • Use caution during primary contact swimming) and secondary (e.g. non-contact boating) recreational activities Do not ingest water (people/pets/livestock) Do not consume fish
ADVISORY *irmed HAB with **moderate risk of erse health effects** and increased tial for toxins above public health thresholds*	Lab testing for toxins exceeds public health thresholds **OR** Lab confirmed cell counts above 80K cells/mL **OR** Field measurement evidence indicating HAB present and above guidance thresholds (e.g. phycocyanin readings)	Public Bathing Beaches Closed Waterbody Remains Accessible: • Avoid primary contact recreation (e swimming) • Use caution for secondary contact recreation (e.g. boating without water contac Do not ingest water (people/pets/livestock) Do not consume fish
WARNING *rmed HAB with **high risk of adverse th effects** due to high toxin levels*	Toxin (microcystin) 20 - 2000 µg/l **AND/OR** Additional evidence, including, expanding bloom, increasing toxin levels (i.e. duration, spatial extent or negative human or animal health impacts) indicates that additional recommendations are warranted	Public Bathing Beaches Closed Waterbody Remains Accessible: • Avoid primary contact recreation (e swimming) • May recommend against secondary contact recreation (e.g. boating without wate contact) with additional evidence Do not ingest water (people/pets/livestock) Do not consume fish
DANGER *firmed HAB with **very high risk of rse health effects** due to very high toxin levels*	Toxin (microcystin) > 2000 µg/l **AND/OR** Additional evidence, including, expanding bloom, increasing toxin levels (i.e. duration, spatial extent or negative human or animal health impacts) indicates that additional recommendations are warranted	Closure of Public Bathing Beaches Possible closure of all or portions of waterbo possible restrictions access to shoreline. Avoid primary contact recreation (e.g. swimm May recommend against secondary contact recreation with additional evidence Do not ingest water (people/pets/livestock) Do not consume fish

Significant Changes

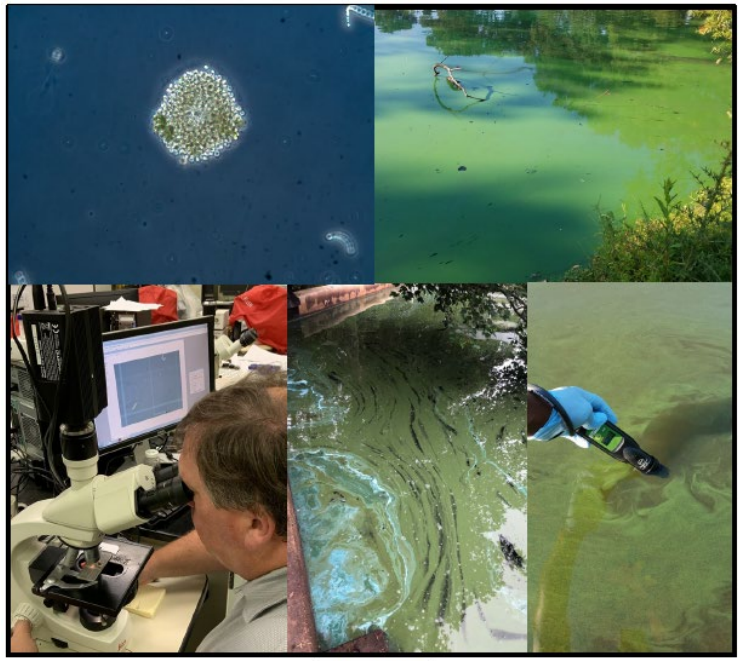
Color Coded Five Tier Alert Levels:

- Watch
- Alert (Beach monitoring)
- Advisory
- Warning
- Danger

New Beach Closing/ Advisory at 80,000 cells/ ml or toxins > Guidance Thresholds. Waterbody accessible with caution.

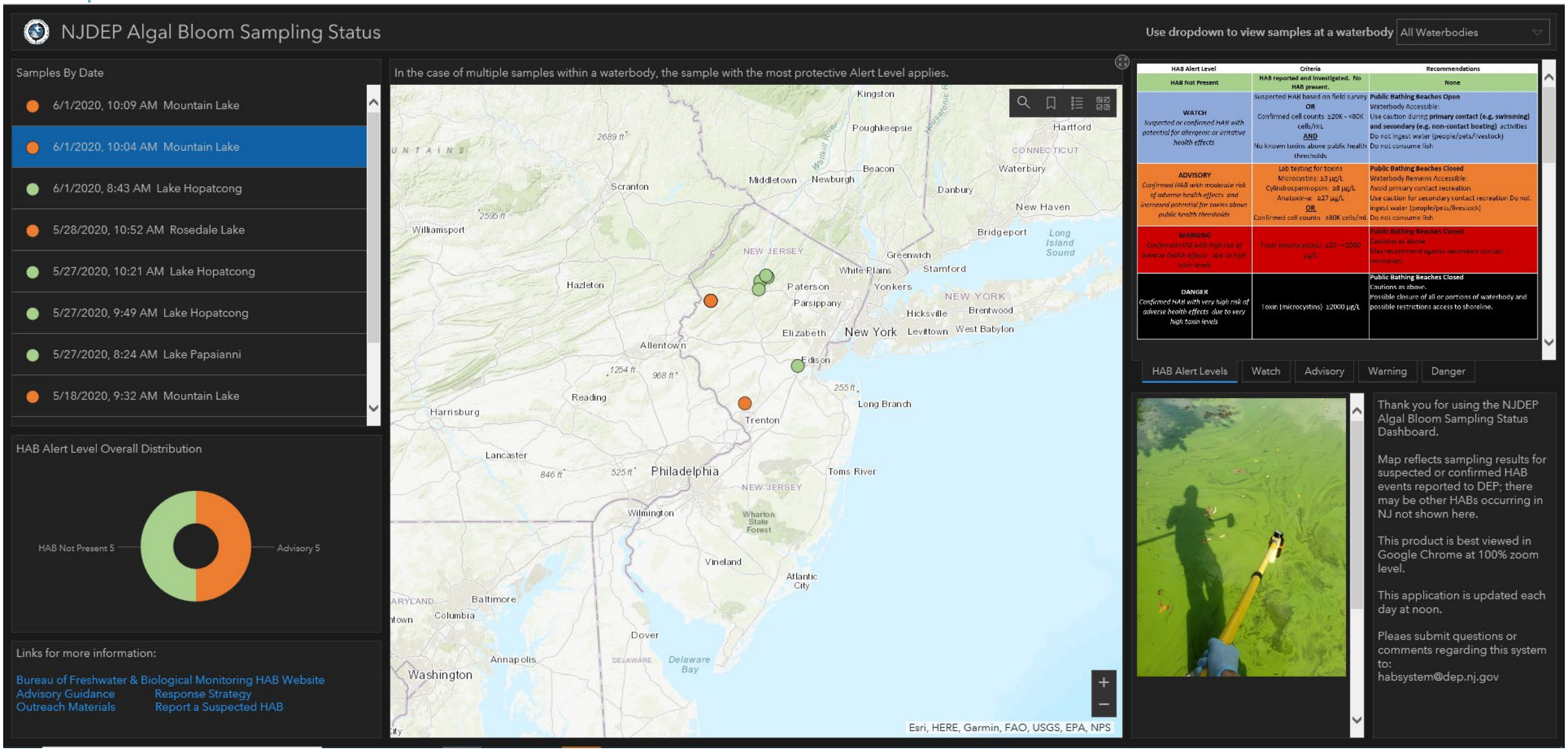
NJ Department of Environmental Protection
Division of Water Monitoring and Standards
Bureau of Freshwater & Biological Monitoring

2020 Cyanobacterial Harmful Algal Bloom (HAB) Freshwater Recreational Response Strategy



June, 2020

HABS: NJDEP HAB INTERACTIVE MAP REPORTING AND COMMUNICATION SYSTEM



DWM&S INITIATIVES FOR 2020/2021

GWQS Rule Proposal

SWQS Rule Proposal

C1 Workgroups

Community Water Monitoring

2018/2020 Combined Integrated Report

Lake TMDLs

2020 RfP Water Quality Restoration Grants for Nonpoint Source Pollution

Harmful Algal Bloom Expert Panel

Shellfish Upgrades

GROUND WATER QUALITY STANDARDS

Anticipated Rule Proposal in 2021

Update criteria and practical quantitation levels (PQLs) for 74 constituents of Class II-A ground water, using best available science.

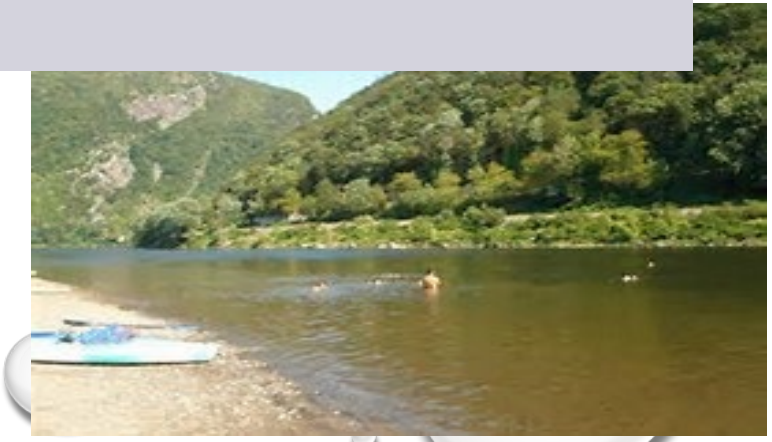
Proposing amendments to afford the DEP flexibility in developing the health-based levels, updating default values, and altering the rounding provisions.

ANTICIPATED REVISIONS TO SWQS

- **Recreational Criteria – Primary contact**

  New geomeans and statistical threshold values for *E. Coli* and *Enterococcus*
- **Update Freshwater Ammonia Criteria**

  New temperature and pH-dependent formulas developed by the EPA
- **Water Quality Standards Variance**
- **Protection of Downstream Uses**
- **Nutrient Criteria**
- **Additional C1 Upgrades**



Community Water Monitoring

Community water monitoring is the collection of scientific water quality data by concerned people working in partnership with professional scientists and government.

The goal is to increase the quality, quantity and spatial extent of data produced by community water monitoring programs to aid in assessment of statewide water quality conditions and to support science-based decisions (C1 and HABs).

NJ Watershed Watch Network in partnership with Watershed Institute
https://njwatershedwatch.org/

NEW JERSEY DEP
Division of Water Monitoring & Standards

NEW JERSEY WATERSHED WATCH NETWORK

COMMUNITY WATER MONITORING DATA QUALITY TIERS

Tier 1 Educational

Requirements:

- Study Design with defined methods, locations, and timeframe

Tier 2 Targeting

Requirements:

- Quality Assurance Project Plan using standard methods, approved by data user

Tier 3 Regulatory

Requirements:

- Quality Assurance Project Plan approved by NJDEP, EPA, or USGS
- Certified lab for chemical and microbiological analyses
- Use of NJ-WWN macroinvertebrate method

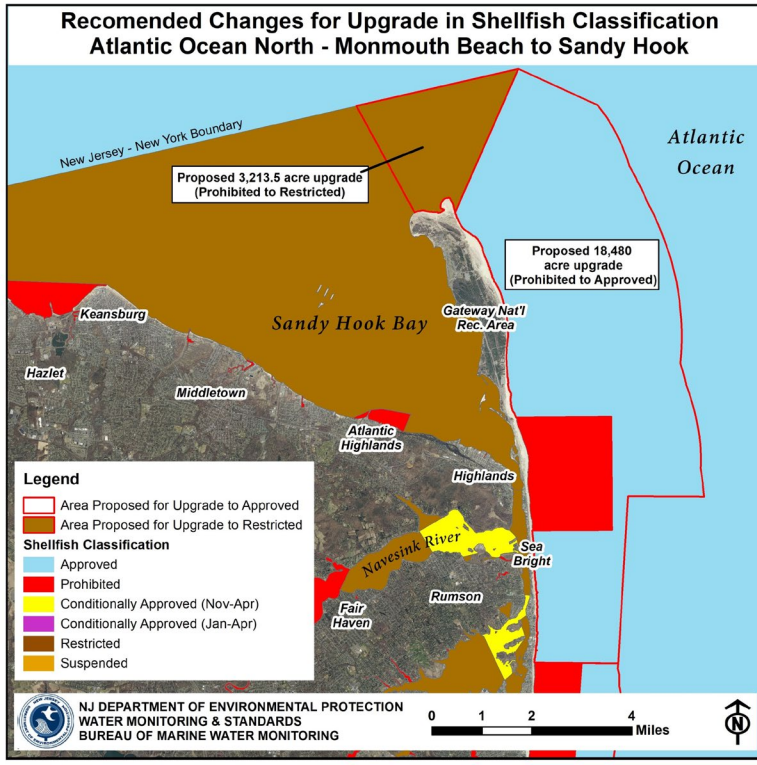
Shellfish Growing Water Classification Rules N.J.A.C. 7:12

The Shellfish Growing Water Classification rule establishes:

- The procedures for the classification of shellfish waters and the boundaries of the waters so classified;
- The procedures for the Department to impose immediate shellfish harvest suspensions and restrictions;
- The requirements for shellfish license holders for the harvest, handling, and transport of shellfish in order to ensure harvested shellfish are safe for human consumption; and
- The permits for aquaculture and harvesting molluscan shellfish from waters other than Approved.

The Department will be proposing amendments to update the delineations of shellfish growing waters classified as Prohibited, Restricted and Conditionally Approved reflecting data the Department has collected through annual assessments conducted in accordance with the National Shellfish Sanitation Program's Guide for the Control of Molluscan Shellfish, in which thousands of water samples are collected and actual and are inventoried.

Updating the shellfish growing water classifications will include upgrades in 18 different areas totaling over 32,000 acres and downgrades in 6 different areas totaling approximately 2,000 acres. The upgrades include some large sections of the Atlantic Ocean.



THANK YOU

https://www.state.nj.us/dep/wms/

Questions?

Air Program Panel Presentations on Climate Change

Director Frank Steitz

Assistant Director Peg Hanna

Assistant Director Bob Kettig

Assistant Director Ken Ratzman

19TH ANNUAL REGULATORY UPDATE CONFERENCE

Robert Kettig, Assistant Director
NJDEP, Air Quality, Energy & Sustainability

New Jersey's 2018 GHG Inventory

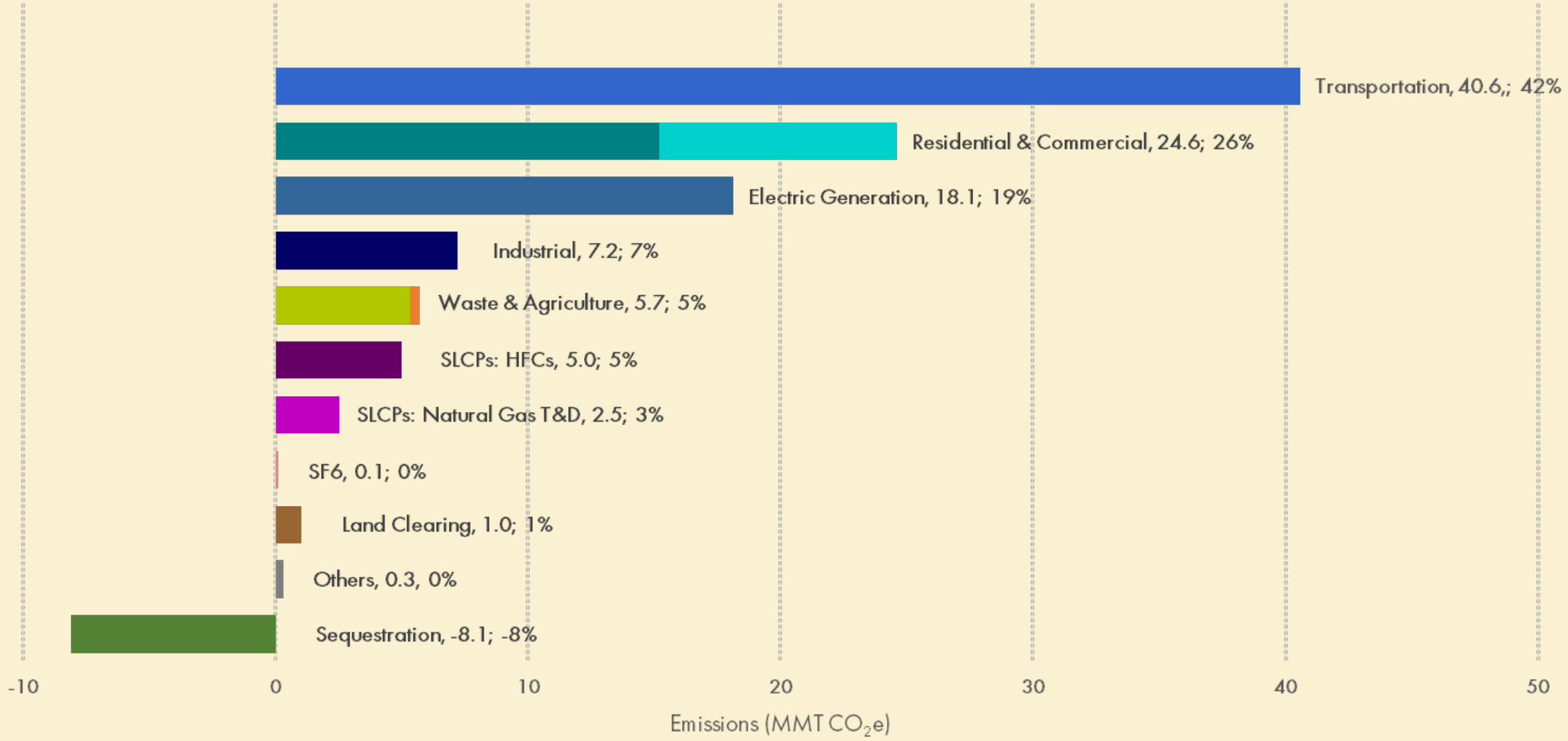


Figure ES.1. New Jersey GHG and Black Carbon Emissions Business-as-Usual Projection for 2050 (MMT CO_2e).
Emissions will not decrease substantially unless alternative technologies are widely deployed, and renewable energy resources are greatly expanded.

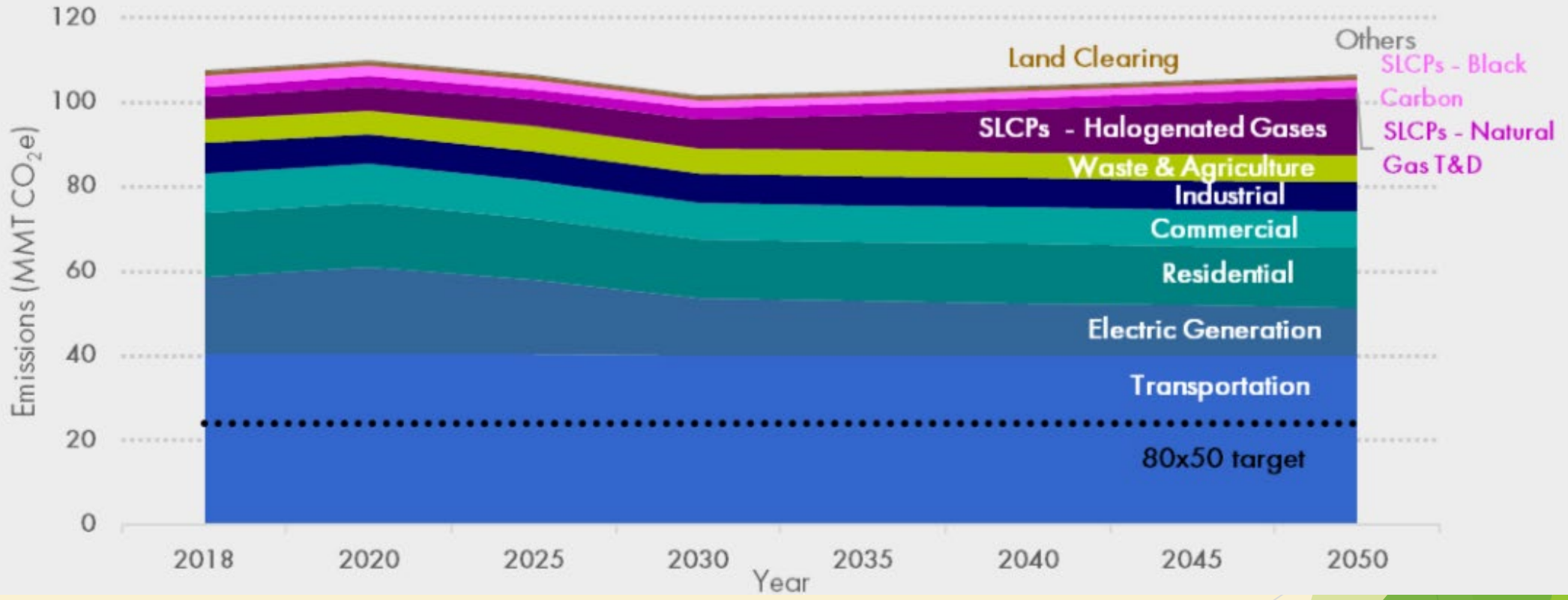
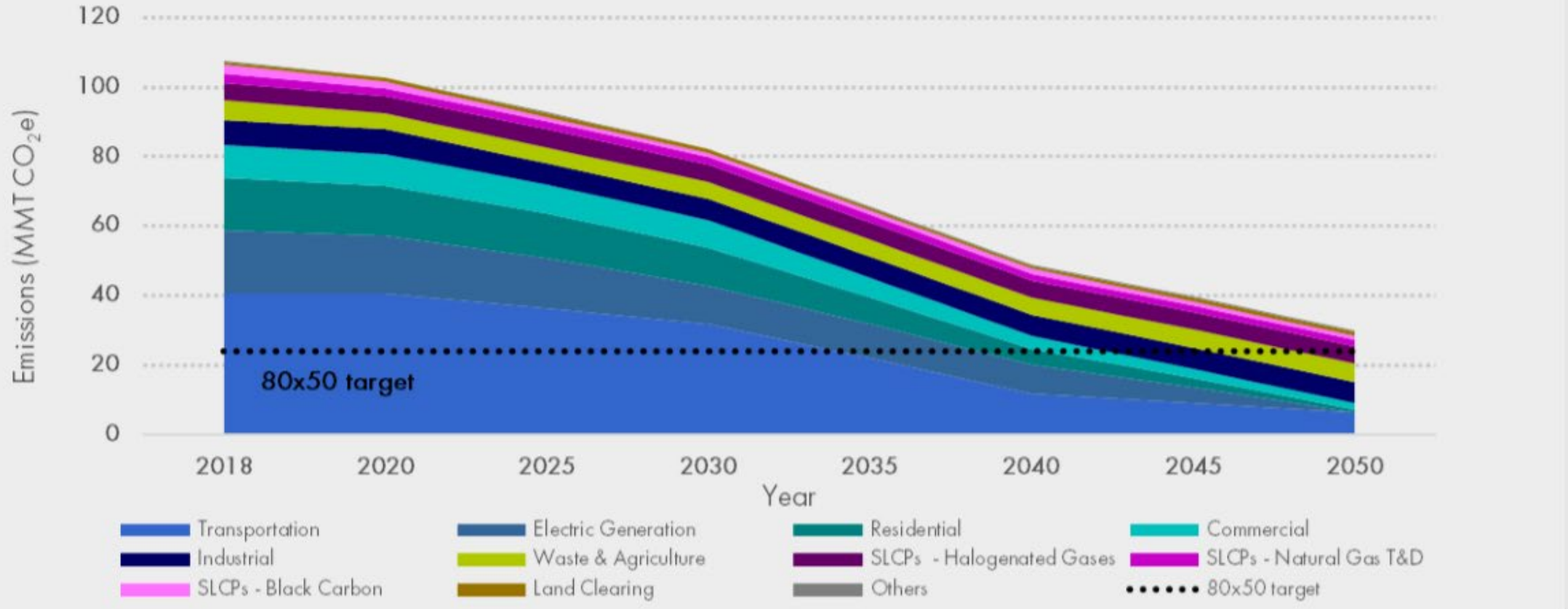
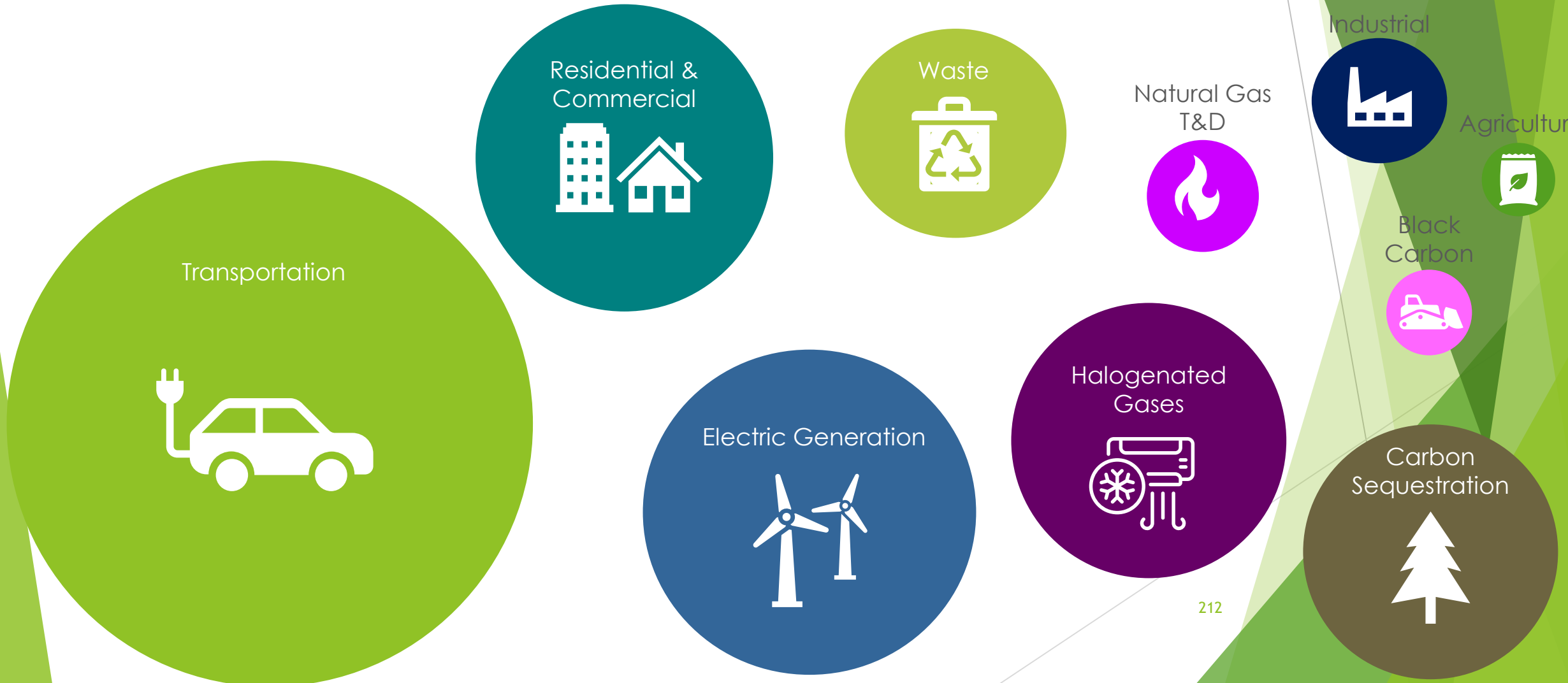


Figure ES.3. New Jersey GHG Emissions Pathway to 2050 (MMT CO_2e).

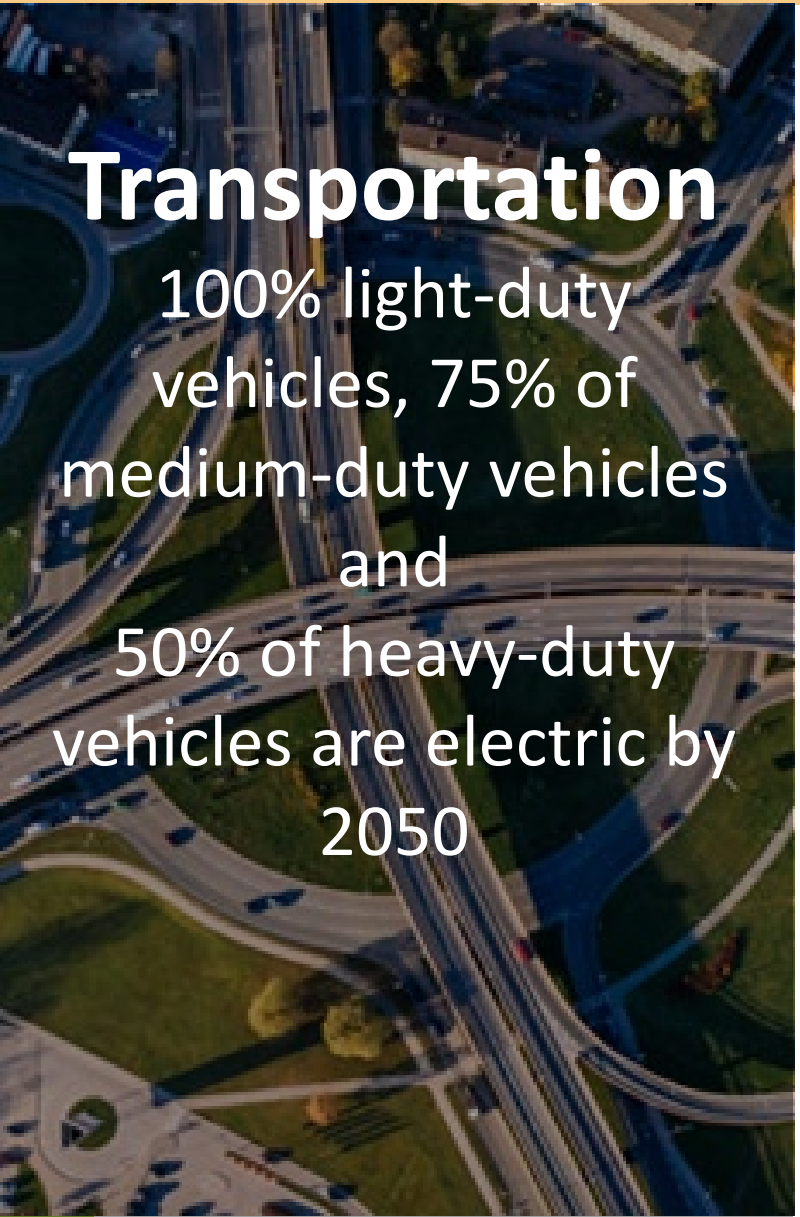
The 2019 EMP least cost pathway combined with non-energy sector strategies, and carbon sequestration (not shown) have the potential to reduce net emissions below the 80x50 target prior to 2050.



Some Big Picture and Some Smaller Targeted Initiatives are Needed to meet the 80x50 Mandate

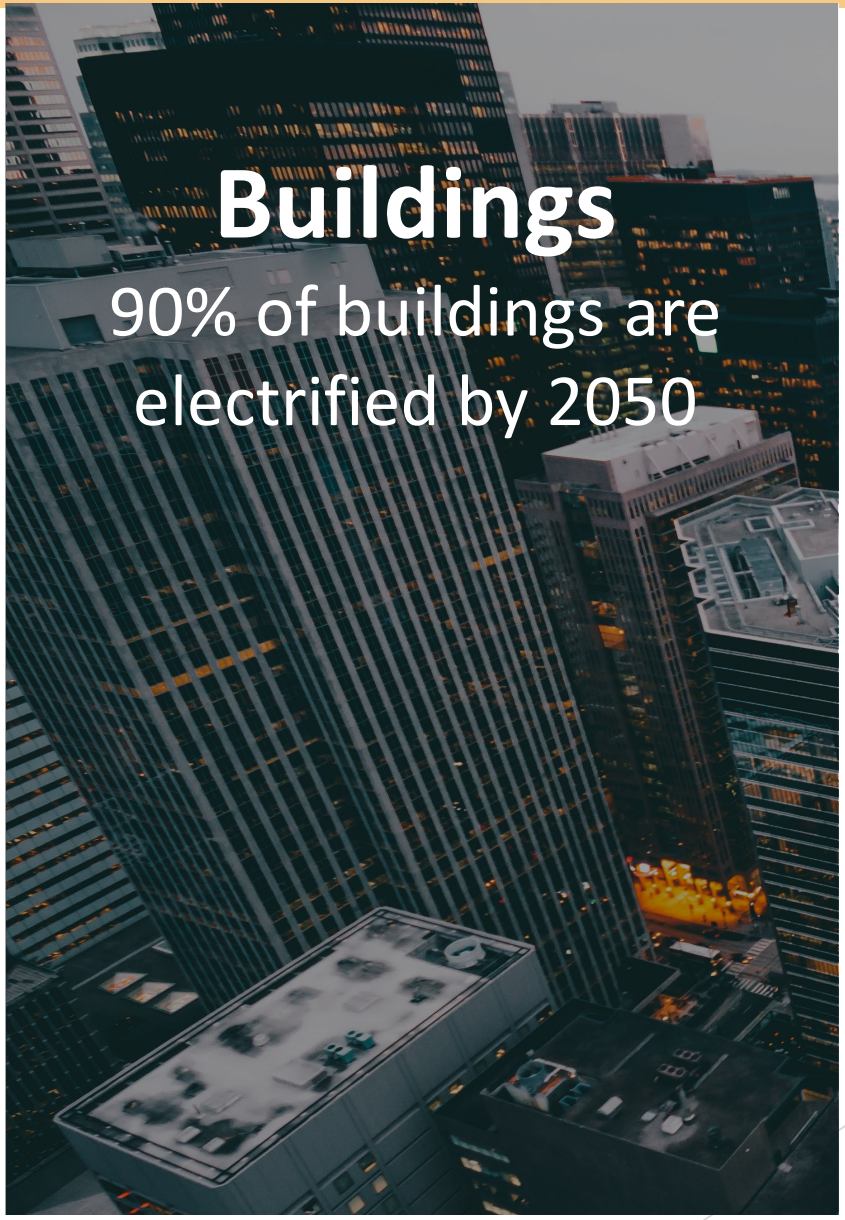


Key Strategies to Achieve 80x50



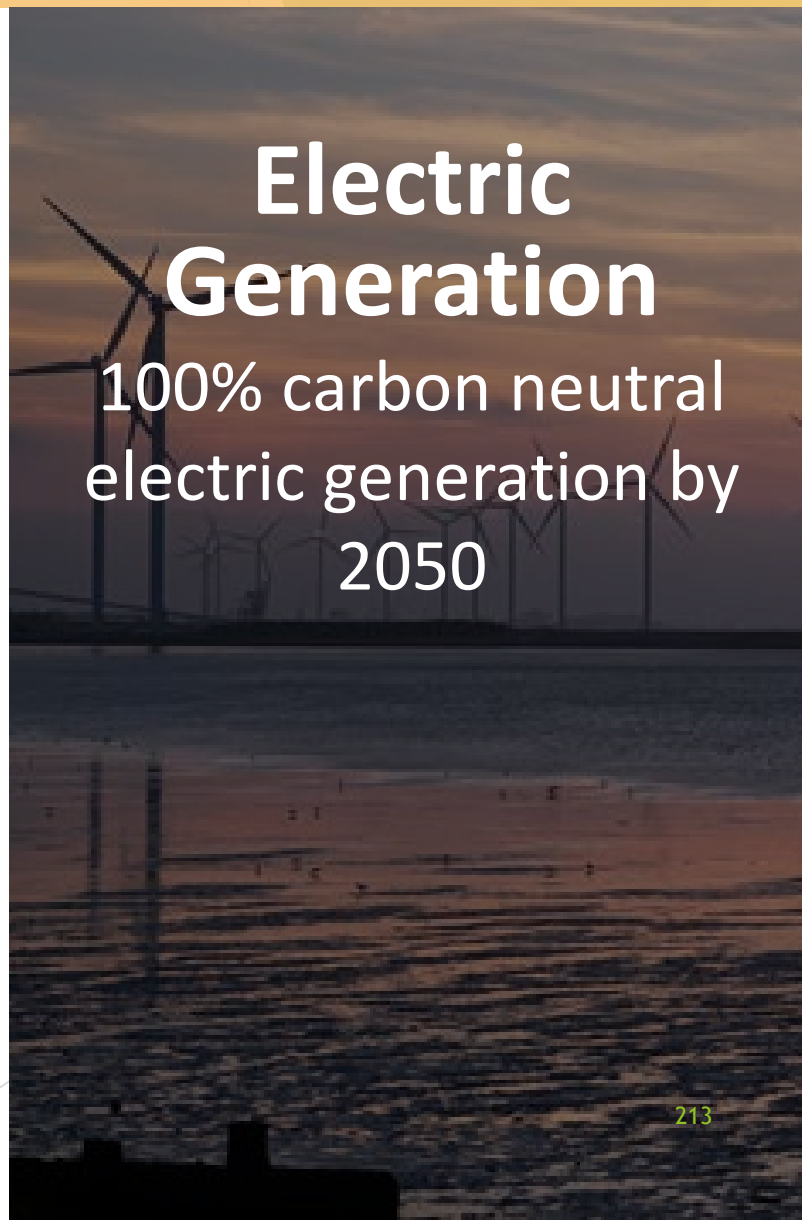
Transportation

100% light-duty vehicles, 75% of medium-duty vehicles and 50% of heavy-duty vehicles are electric by 2050



Buildings

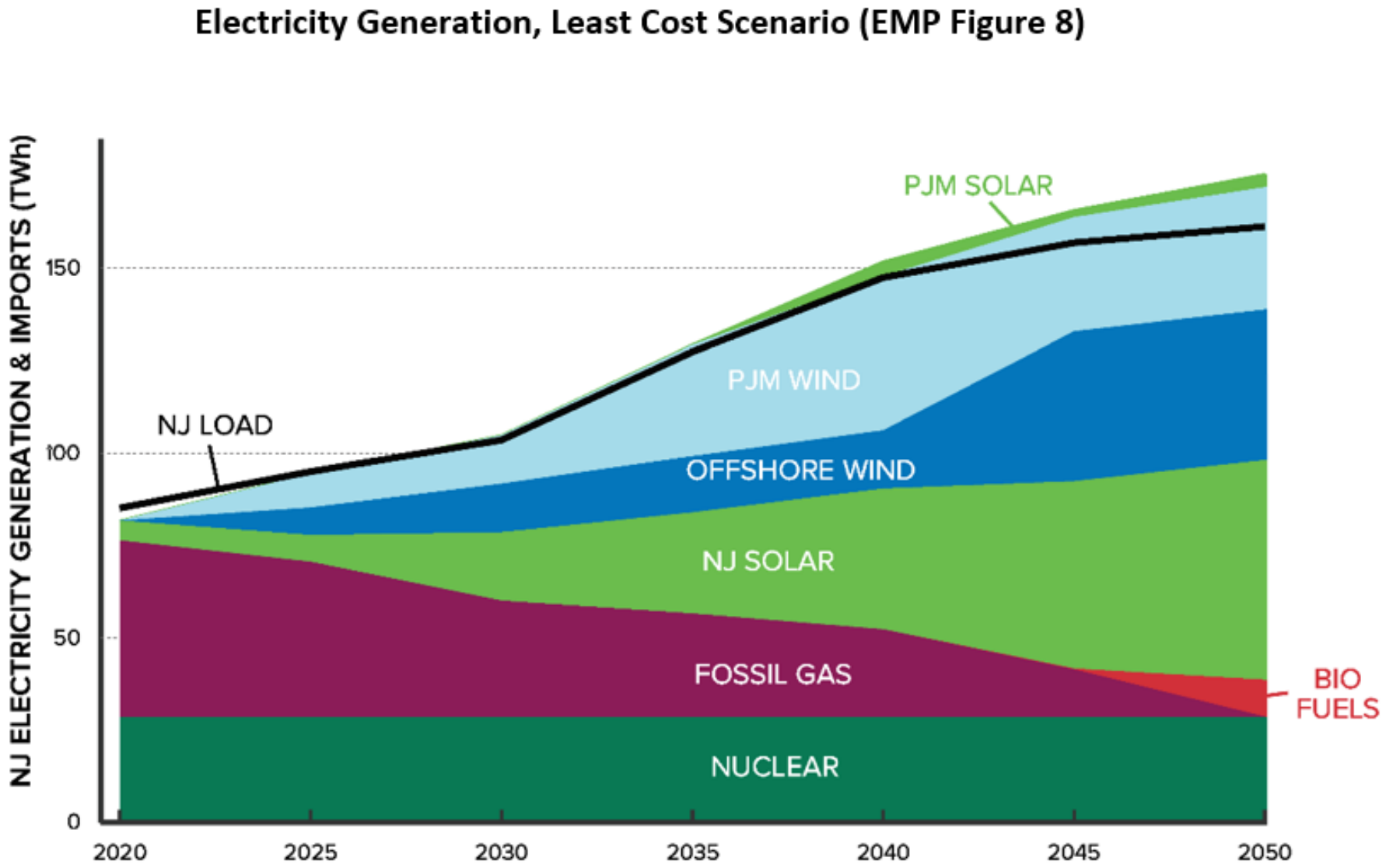
90% of buildings are electrified by 2050



Electric Generation

100% carbon neutral electric generation by 2050

Electric load growth due to electrification of transportation & buildings



Source: NJBPU 2019 Energy Master Plan
www.nj.gov/emp/

WASTE Mgmt. Sector GHG Reduction Opportunities

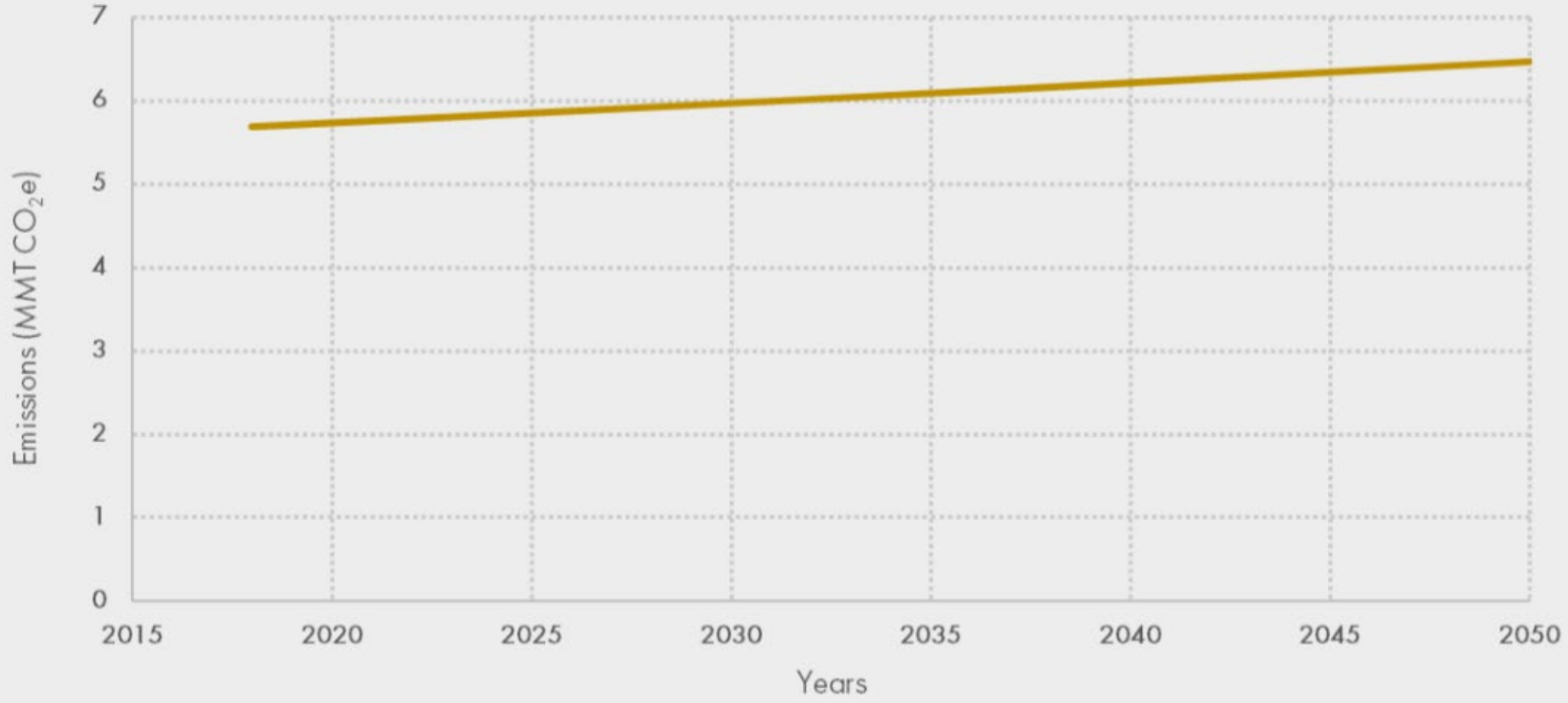
Waste Management GHG Emissions

- Waste management is the largest source of non-energy greenhouse gas (GHG) emissions in New Jersey. It consists of two separate subsectors; municipal solid waste (MSW) management and wastewater treatment (WWT), both of which are sources of methane and carbon dioxide (CO2) in New Jersey.

- In 2018, the state's waste management and agricultural sectors collectively emitted 5.7 million metric tons (MMT) CO2e contributing to New Jersey's net GHG emissions of 97.0 MMT CO2e or 6% (NJDEP, 2019a).

- Emissions generated from ancillary operations related to waste management facilities, such as the collection and transport of waste, and the consumption of electricity and energy to run these facilities, are accounted for in other chapters in this report.

Figure 5.4. Business-As-Usual Waste Management and Agriculture Emission Trends, 2018-2050 (MMT CO_2e).
Without reduction strategies, emissions will gradually increase through 2050 based on anticipated population growth.



Waste & Agricultural Emissions

Waste Sector Reduction Pathways

1

Reduce and Recover Food Waste

2

Optimize Energy Recovery in Wastewater Treatment

Thank you!

Robert Kettig, Assistant Director
NJDEP, Air Quality, Energy & Sustainability

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NJPACT: AN EVOLVING APPROACH

Ken Ratzman, Assistant Director

Division of Air Quality

NJDEP

FRAMEWORK FOR ADDRESSING CLIMATE CHANGE

CO_2 Budget Trading Program (RGGI)	Global Warming Response Act (GWRA), N.J.S.A. 26:2C-37 et seq.	Executive Order No. 100 NJPACT
• RGGI is a market-based program designed to cap and reduce CO_2 emissions from fossil fuel power plants. The current RGGI regional CO_2 cap will decline by 30 percent from 2020 to 2030.	• Requires NJ to reduce GHG emissions to 80 percent less than the 2006 level of statewide GHG emissions by 2050 (80x50 goal).	• Directs the Commissioner of the Department to, among other things, reform and modernize its air and land use regulations to mitigate the effects of climate change.

Administrative Order 2020-01

Requires the Department to propose rules that:

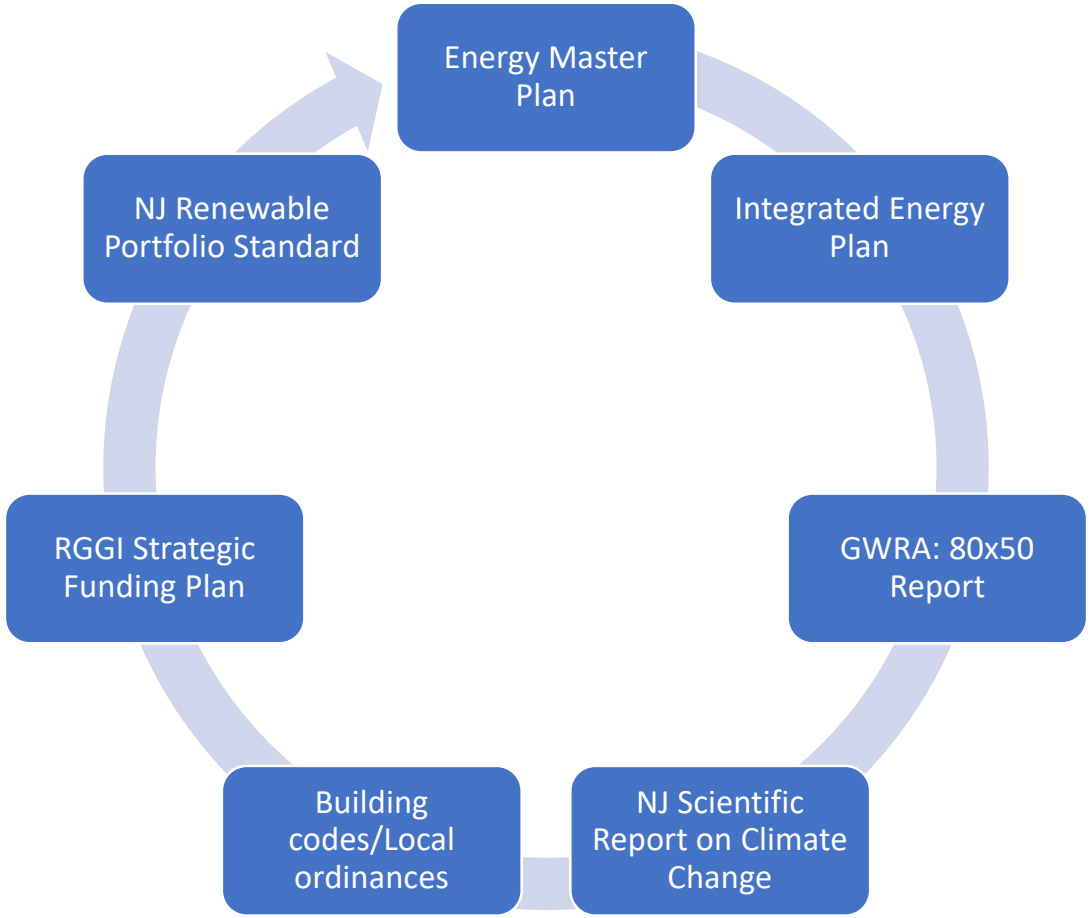
- ✓ Prepare a report recommending measures to reach the 80x50 goal
- Propose rules establishing a GHG monitoring and reporting rule
- Propose rules that establish the criteria for reducing CO_2
- Propose rules that reduce SCLPs, consistent with the recommended measures in the 2050 Report

Propose rules establishing a GHG monitoring and reporting rule

- The Department concluded the stakeholder process for the GHG monitoring and reporting rule in February 2020
- The Department is in the process of drafting the rules to capture those emissions that are not currently represented in existing monitoring and reporting requirements
- The rule proposal is expected to focus on HFCs and methane emissions

What factors has the Department considered as it works to develop the initial criteria to be used to reduce CO_2 emissions?

EXAMPLES OF NEW JERSEY-CENTRIC DYNAMIC INFLUENCES



EXAMPLES OF REGIONAL/NATIONAL/GLOBAL DYNAMIC INFLUENCES

- PJM Energy Generation Mix
- FERC policy
- Pace of Innovation
- Economy
- Intergovernmental Panel Climate Change

THE 80X50 REPORT IDENTIFIED 3 KEY STRATEGIES

STATIONARY SOURCES

- Move the electric generation sector to carbon neutral generation
- Electrify buildings

MOBILE SOURCES*

- Electrify the transportation sector

* As discussed in Peg Hanna's presentation

STRATEGIC CHALLENGES: Demand versus Supply

Electrification of transportation and buildings will create greater demand. The Department, in coordination with BPU, will need time to ensure that the supply carbon neutral electric generation increases in proportion to the increased demand of electrification. If NJ moves too quickly on the demand-side, the State will reach a tipping point that may:

- Result in leakage
- Risk grid reliability

NJPACT RULES

The Division of Air Quality, Energy & Sustainability will propose rules consistent with the NJPACT directives that will address the 3 key strategies.

BALANCING ACT

In order to balance the interests of electrification and generation, the Department will undertake ***progressive*** efforts to advance the 80x50 goal. The first steps will include:

- A CO_2 emission limit for new and existing EGUs to ensure that NJ has a reliable supply that meets rigorous performance standards
- Banning the use of carbon intense fuels
- Driving commercial & industrial buildings toward electrification

THANK YOU!

Ken Ratzman, Assistant Director

Division of Air Quality, NJDEP

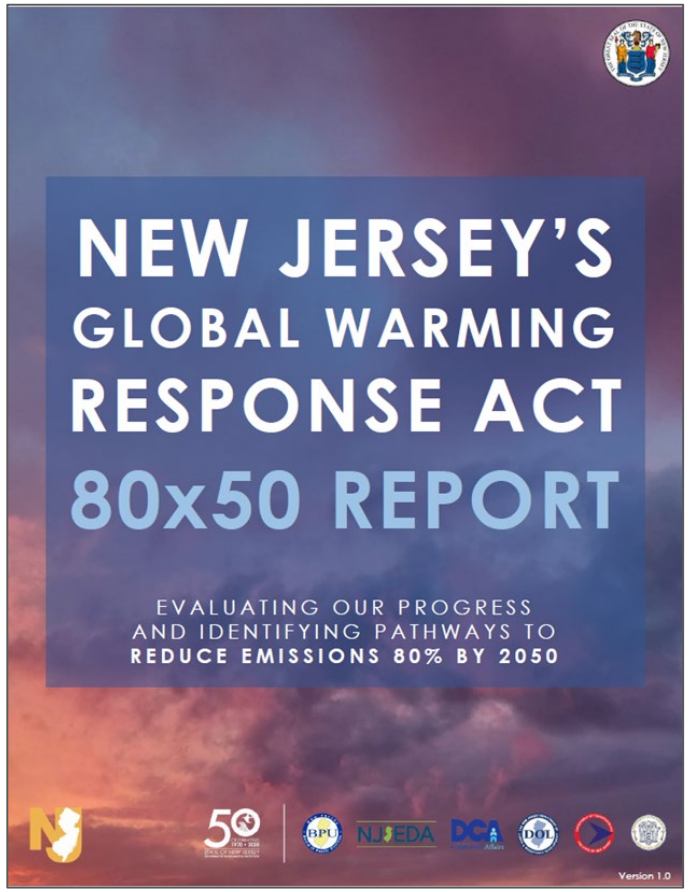
ken.ratzman@dep.nj.gov

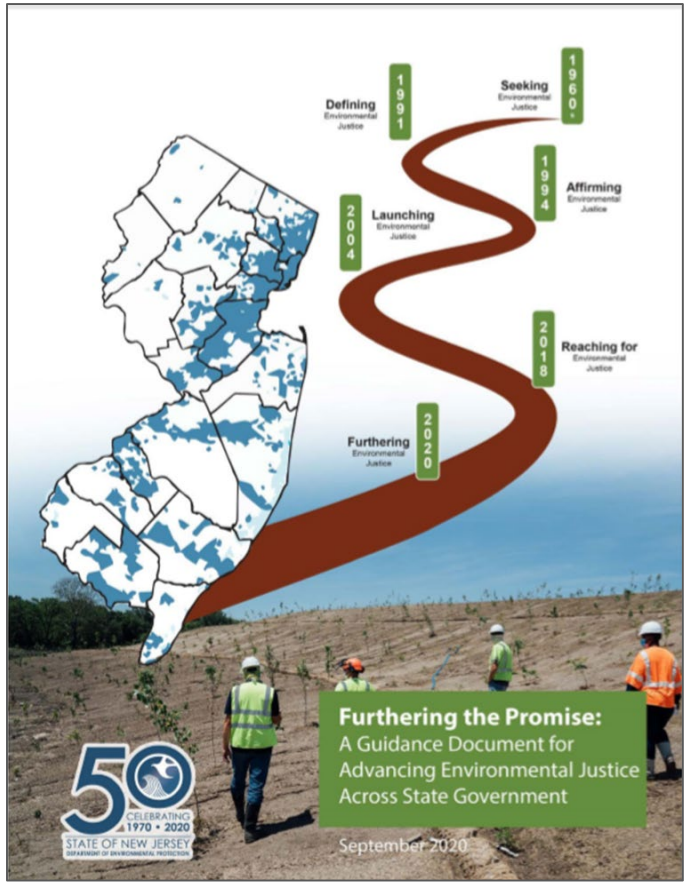
TRANSPORTATION ELECTRIFICATION: GETTING TO 2050

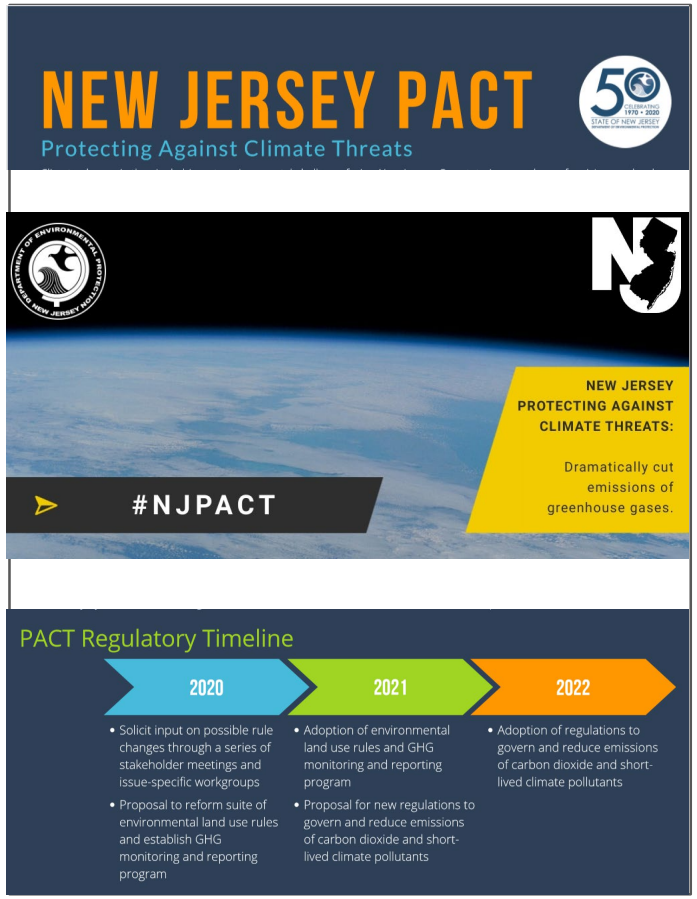
Peg Hanna, Assistant Director

Division of Air Quality

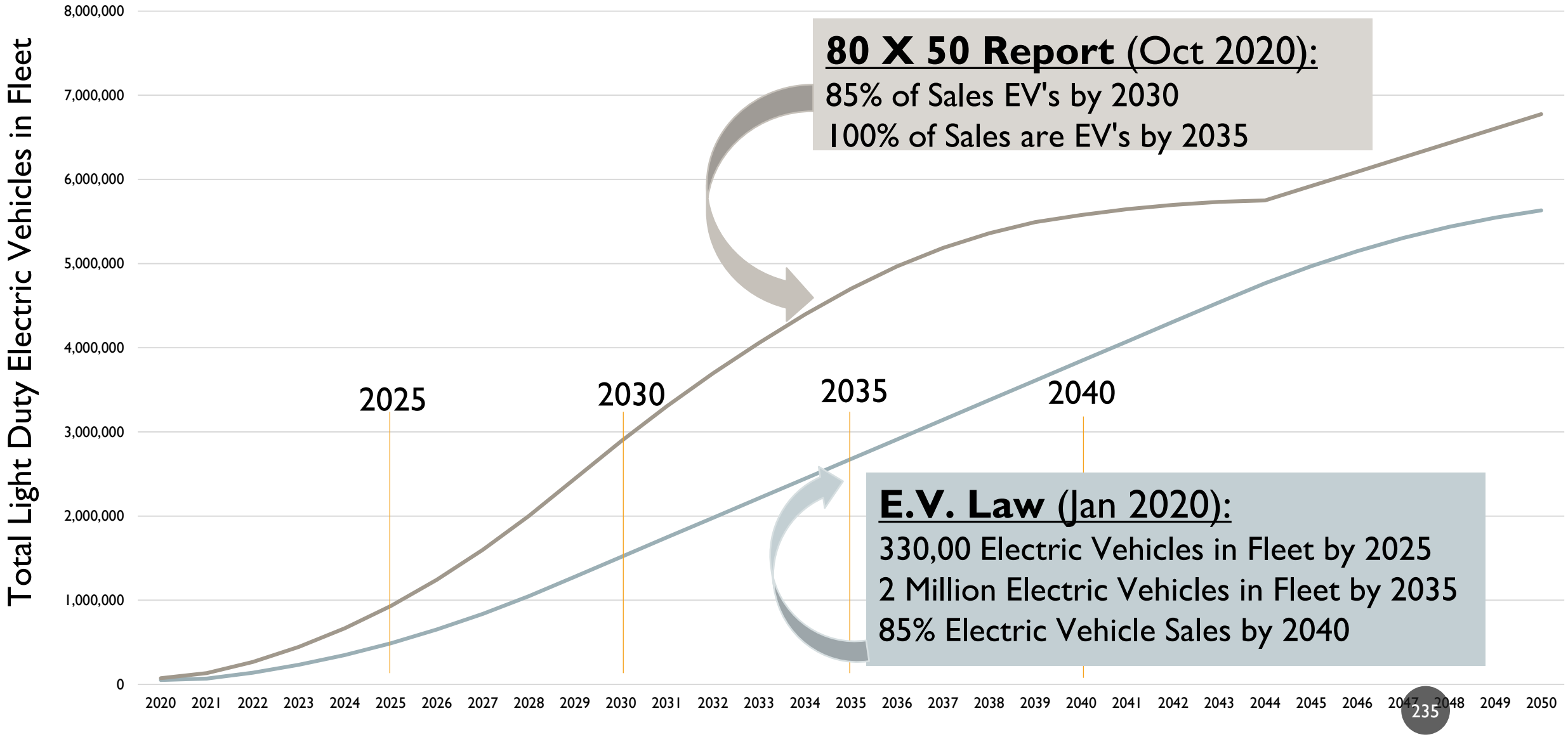
NJDEP


NEW JERSEY'S
GLOBAL WARMING
RESPONSE ACT
80x50 REPORT
EVALUATING OUR PROGRESS
AND IDENTIFYING PATHWAYS TO
REDUCE EMISSIONS 80% BY 2050
Version 1.0

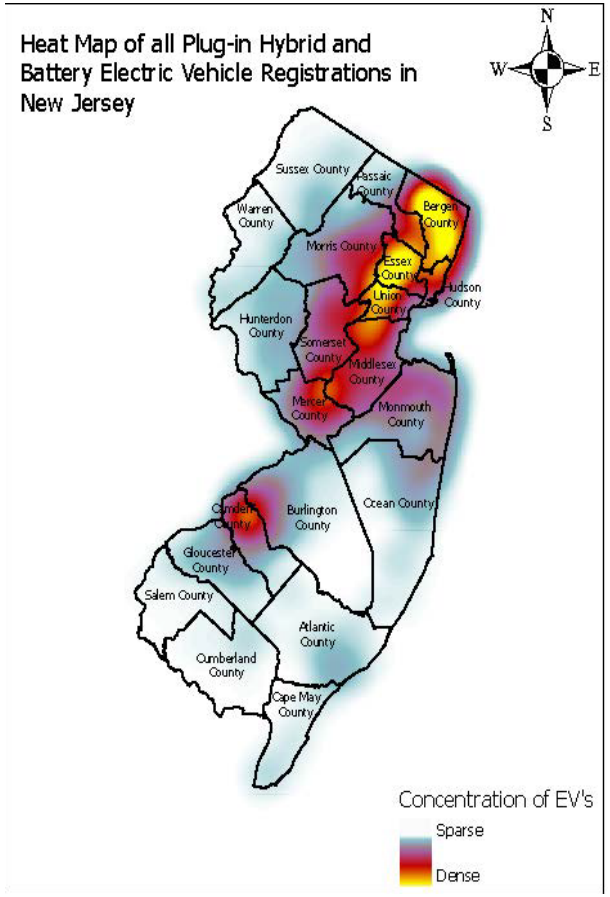

Defining Environmental Justice
1991
Seeking Environmental Justice
1960
Launching Environmental Justice
2004
Affirming Environmental Justice
1994
Reaching for Environmental Justice
2018
Furthering Environmental Justice
2020
Furthering the Promise:
A Guidance Document for
Advancing Environmental Justice
Across State Government
September 2020
CELEBRATING 1970 • 2020
STATE OF NEW JERSEY

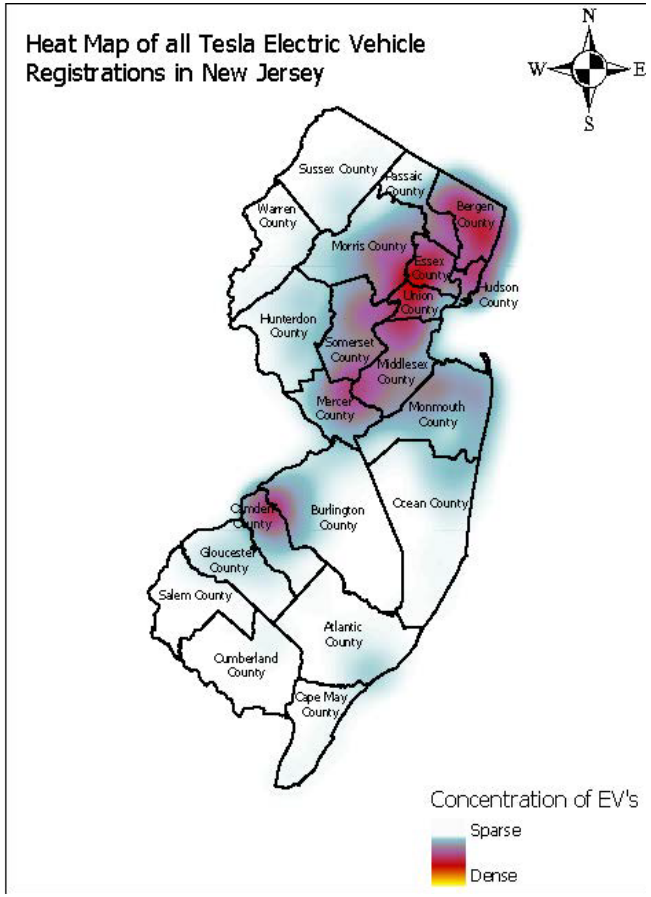

NEW JERSEY PACT
Protecting Against Climate Threats
#NJPACT
NEW JERSEY
PROTECTING AGAINST
CLIMATE THREATS:
Dramatically cut
emissions of
greenhouse gases.
PACT Regulatory Timeline
2020
2021
2022
• Solicit input on possible rule changes through a series of stakeholder meetings and issue-specific workgroups
• 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 short-lived climate pollutants
• Adoption of regulations to govern and reduce emissions of carbon dioxide and short-lived climate pollutants

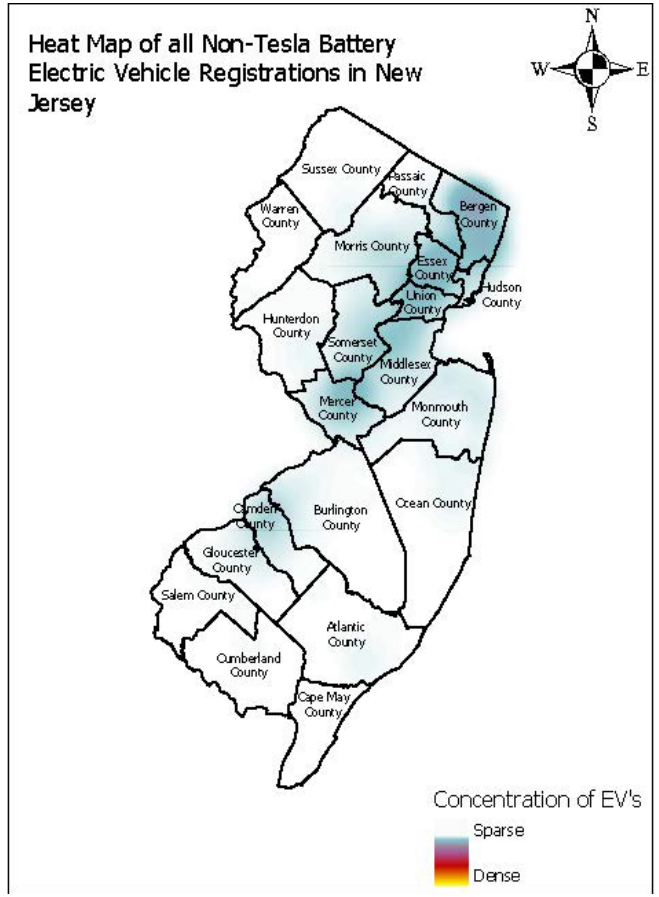
Light Duty Electrification Goals



Electric Vehicle Registrations (June 2019)







84% of BEVs are Tesla

Remainder of BEVs are about 5% Chevy Bolt, 5% Nissan Leaf, 2.5% BMW i3, 3.5% everything else

It Pay$ to Plug In

NJDEP's Grant Program for EV Charging Stations

Up to $4,000 per port for ***Level 2 chargers*** *at* ***public places, workplaces (including fleets), multi-family homes,*** *and* ***shared mobility.***

NEW!!!

Up to $200,000 per location for ***public DC fast chargers along major roadways.***

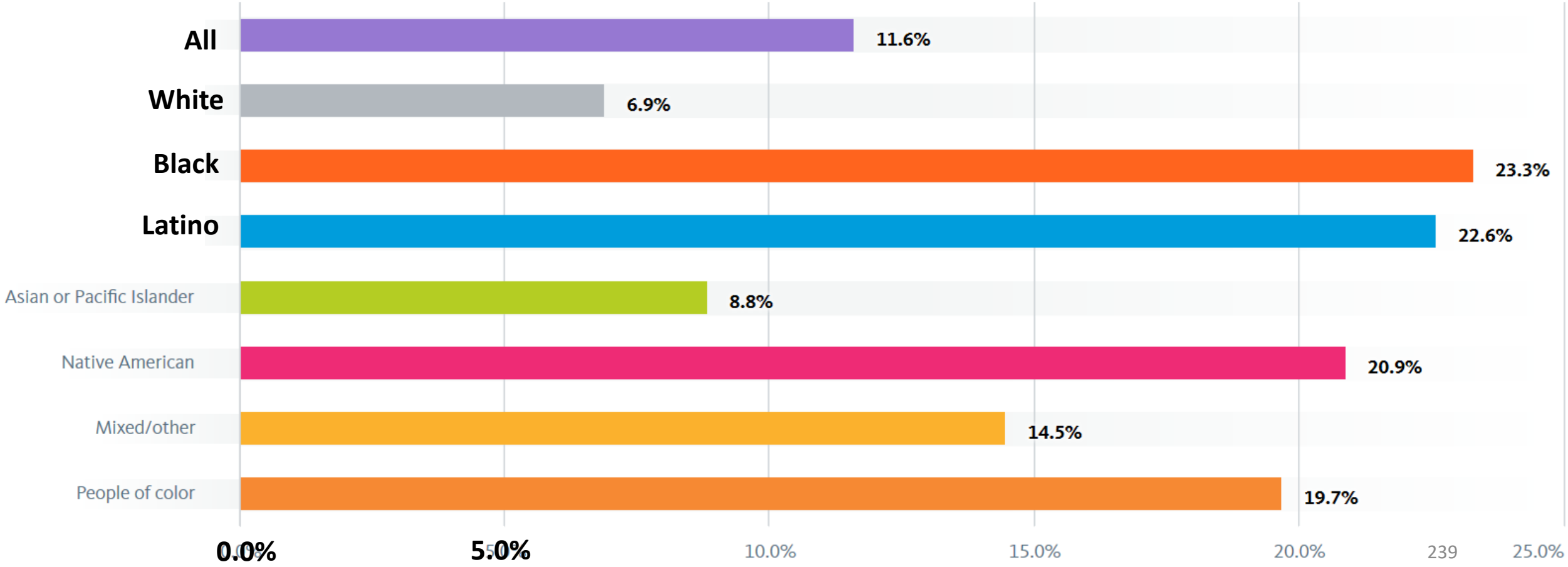
Dealer training and certification program

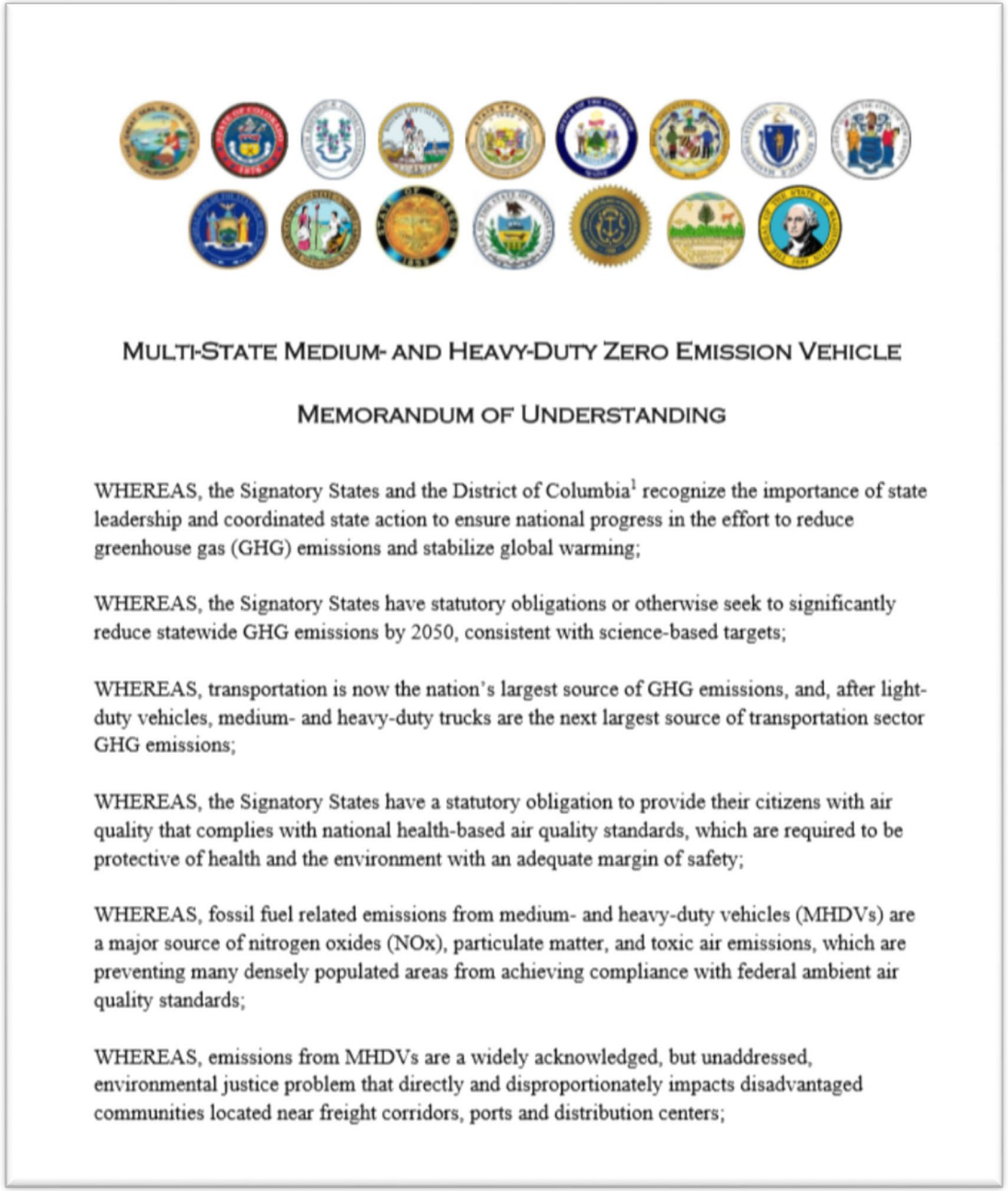
DEP's branded comprehensive EV website

Promoting EV-friendly towns and cities

Electrification equity

Percent of household without a vehicle by race/ethnicity: New Jersey, 2015





MULTI-STATE MEDIUM- AND HEAVY-DUTY ZERO EMISSION VEHICLE

MEMORANDUM OF UNDERSTANDING

WHEREAS, the Signatory States and the District of Columbia[1] recognize the importance of state leadership and coordinated state action to ensure national progress in the effort to reduce greenhouse gas (GHG) emissions and stabilize global warming;

WHEREAS, the Signatory States have statutory obligations or otherwise seek to significantly reduce statewide GHG emissions by 2050, consistent with science-based targets;

WHEREAS, transportation is now the nation's largest source of GHG emissions, and, after light-duty vehicles, medium- and heavy-duty trucks are the next largest source of transportation sector GHG emissions;

WHEREAS, the Signatory States have a statutory obligation to provide their citizens with air quality that complies with national health-based air quality standards, which are required to be protective of health and the environment with an adequate margin of safety;

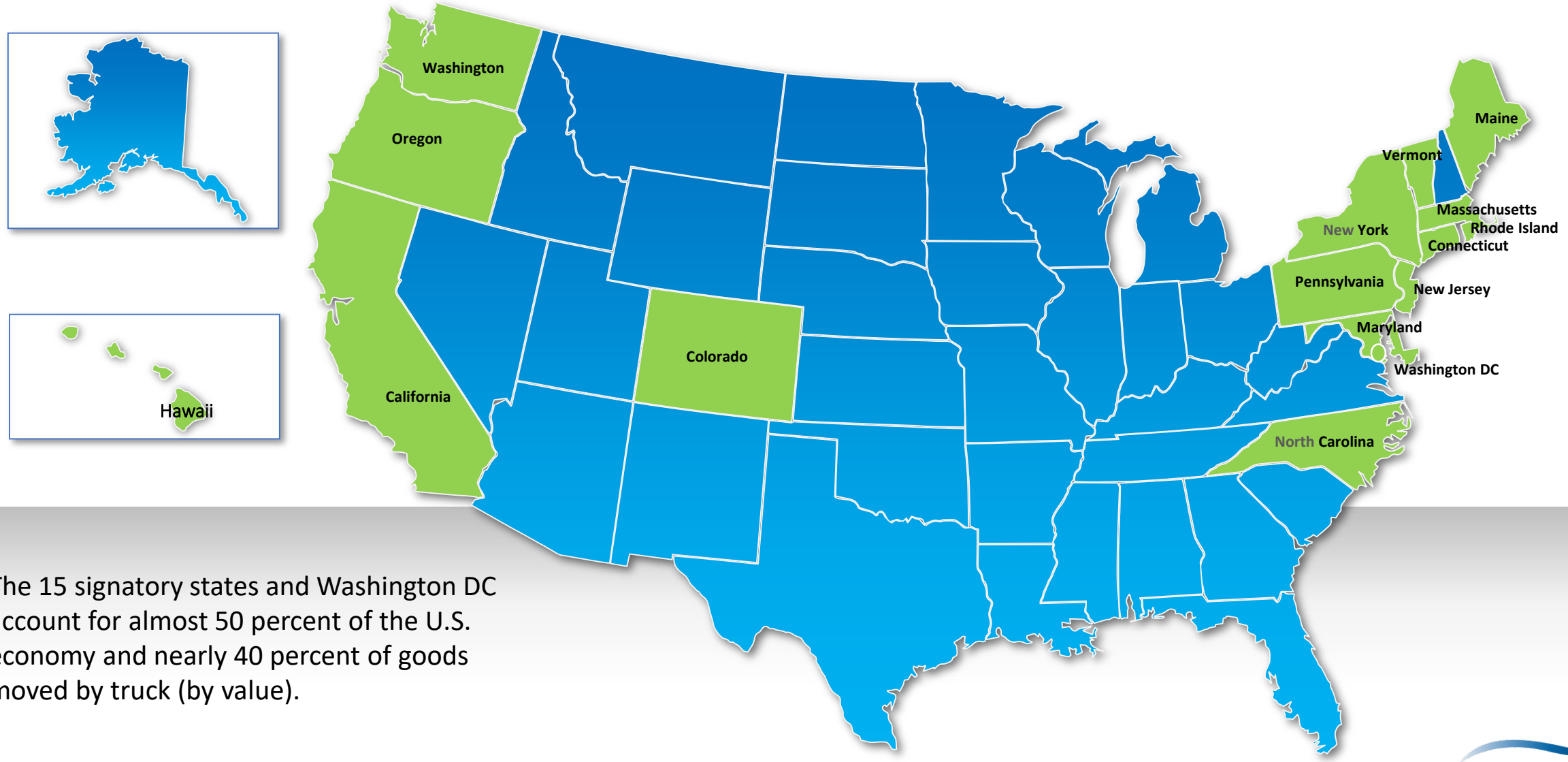
WHEREAS, fossil fuel related emissions from medium- and heavy-duty vehicles (MHDVs) are a major source of nitrogen oxides (NOx), particulate matter, and toxic air emissions, which are preventing many densely populated areas from achieving compliance with federal ambient air quality standards;

WHEREAS, emissions from MHDVs are a widely acknowledged, but unaddressed, environmental justice problem that directly and disproportionately impacts disadvantaged communities located near freight corridors, ports and distribution centers;

Medium- and Heavy-Duty Zero Emission Vehicle MOU

- Builds off success of 2013 governors MOU and subsequent Action Plans for light-duty vehicles.
- Commits signatories to work together to foster a self-sustaining market for zero emission medium- and heavy-duty vehicles.
- Calls for 30% of new truck and bus sales to be zero-emission by 2030 and 100% by 2050.
- Emphasizes need to accelerate deployment of zero-emission trucks and buses in disadvantaged communities.
- Directs development and implementation of a MHD ZEV Action Plan.

MHD ZEV MOU Signatories

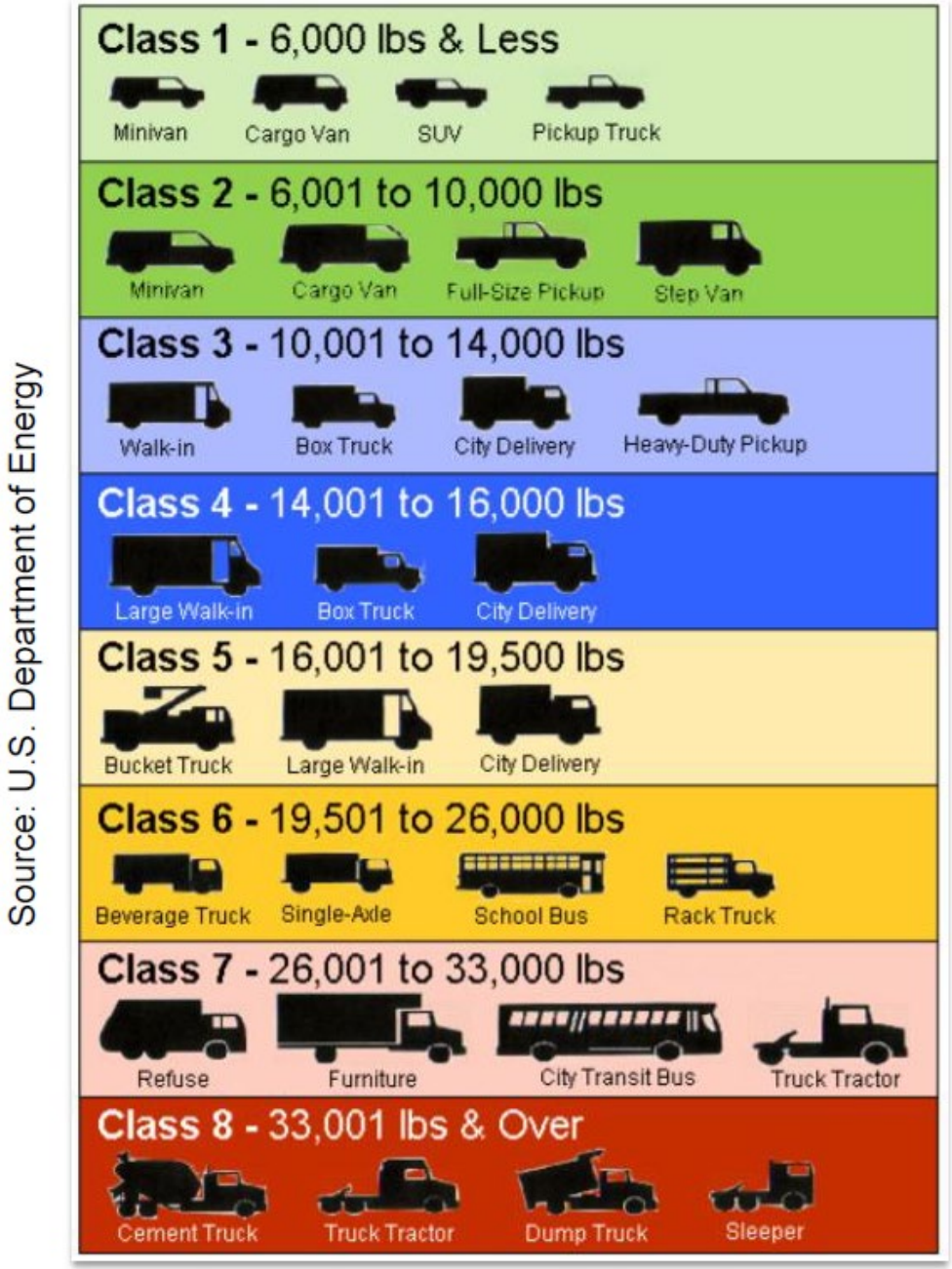


The 15 signatory states and Washington DC account for almost 50 percent of the U.S. economy and nearly 40 percent of goods moved by truck (by value).

Sources:
U.S Bureau of Economic Analysis https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1;
FHWA Freight Analysis Framework https://faf.ornl.gov/faf4/Extraction1.aspx

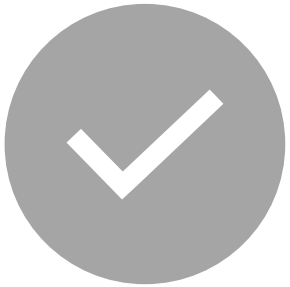
NESCAUM

Vehicles affected



Key considerations in setting sales targets

Total cost of ownership parity



CARB analysis & rule

Product availability & fleet announcements

Estimating # vehicles required to meet interim sales target

Volkswagen Settlement

$72.2 million including
$10.8 million for EV charging

BOSCH
Invented for life

VIOLATION

FIAT

THANK YOU!

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THANK YOU.

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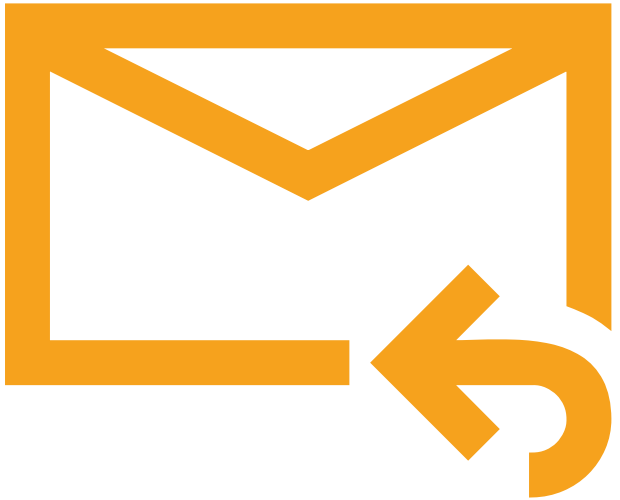
ROBERT KETTIG@ ROBERT.KETTIG@DEP.NJ.GOV



Questions?

Closing Remarks

AIR & WASTE MANAGEMENT
ASSOCIATION

Northern and Central New Jersey Chapter

Thank you for joining us!