1. Climate Leadership and Community Protection Act

Lois New, NYSDEC, provided information about New York’s Climate Leadership and Community Protection Act (CLCPA). Highlights include:

- CLCPA establishes GHG reduction goals and sets them in statute. It sets goals of 70 percent renewable energy by 2030 and 100 percent clean electricity by 2040.
- Creates a Climate Action Council to develop the plan for achieving these goals. The Climate Action Council has two years to develop a draft plan of recommendations for achieving the GHG reductions and an additional year to finalize the plan. The Council will be co-chaired by DEC and NYSERDA, and will appoint several advisory panels to develop recommendations for strategies to reduce emissions in various areas.
- Includes commitments to disadvantaged communities and environmental justice during the transition to a low-carbon economy. Resources will be directed in a manner designed to achieve goals for disadvantaged communities to receive a percentage of the benefits of spending on programs or projects.
Maureen Leddy, NYSDEC, presented information about the Transportation & Climate Initiative of the Northeast and Mid-Atlantic States (TCI).

- TCI is a collaboration of state energy, environment and transportation agencies in 13 jurisdictions from Maine to Virginia, with the goal of tackling transportation challenges regionally and reducing emissions. The Georgetown Climate Center serves as the facilitator for the TCI members.
- In 2018, the states held listening sessions where about 800 people provided input on transportation needs and opportunities, goals for a future low carbon-transportation system, and how different types of policies and actions can help meet those goals.
- Maureen summarized the policy actions identified most often by stakeholders: price pollution transparently and reinvest proceeds; electrify all travel modes; incorporate smart growth, zoning changes, transit-oriented development and affordable housing in plans; encourage all modes of transportation; support alternative fuel use; and improve ports and other freight facilities.
- The outcome of the listening sessions led to a commitment to design a policy proposal that would cap and reduce carbon emissions from transportation fuels and allow each TCI jurisdiction to invest proceeds into low-carbon and more resilient transportation infrastructure. The cap would get smaller over time, resulting in a reduction in pollution across the region.
- The states are developing the program through multi-state workgroups, with engagement by stakeholders.
- TCI released a draft regional policy proposal framework in October 2019.
- TCI is looking for input on the policy proposal, including what should be considered as a covered fuel, what entities should be required to participate in the program, how a regional cap should be set, and how reductions of the cap should be structured.
- Looking forward, TCI will develop a model rule and legislative steps that may be needed to implement the regional program. Jurisdictions may then conduct the rulemaking process to adopt regulations and begin implementation as early as 2022.

Jen Ceponis will follow-up with NYSAMPO regarding CLCPA and providing input to the process.

In summary, Lois New asked the WG to review materials and invited comments and input. She provided the following links:

- For questions or comments, email climateandtransportation@dec.ny.gov
- Information on the regional process including webinars and regional workshops: https://www.transportationandclimate.org/main-menu/tcis-regional-policy-design-process-2019
- Information on upcoming meetings around the state: http://www.dec.ny.gov/energy/99223.html
2. **EV Installation Resources for Planners and Developers**

Victoria McGarril, Energetics, briefed the WG on a *Developers and Planners Guide to Electric Vehicles and Charging Stations*. The Guide was developed by Energetics, with support from NYSERDA. It provides information to support EV charging station deployment, including incentives and installation guidelines for residential and commercial property owners and developers in New York.

Victoria emphasized that EV charging offers benefits for developers, including qualifying for LEED points and helping with tenant retention. In addition, planning and preparing for EV charging during design and construction can significantly reduce future EV station installation costs.

The Guide includes several modules:

- EV Planning and Policy Tool Summary.
- Action Items for EV-Ready Communities.
- Communities Taking Action: New York State Local Examples.
- Site Selection Guide for EV Charging Stations.

Training resources and recorded webinars are also available. Victoria discussed incentive programs and funding sources available in New York and provided examples of EV-related building codes by county.


3. **NY Truck Voucher Incentive Program / VW Settlement Update**

Jen Ceponis briefed the CCWG on the New York Truck Voucher Incentive Program (NYTVIP), which provides $20 million for a diesel truck and bus replacement program to improve air quality and reduce greenhouse gas emissions. NYTVIP vouchers reduce the cost for businesses and municipalities that purchase or lease new, clean electric vehicles or repower commercial trucks and buses (all-electric (BEV), plug-in hybrid electric (PHEV), conventional hybrid electric (HEV), compressed natural gas (CNG), or propane medium- and heavy-duty vehicles) and scrap a similar older diesel vehicle that is part of their fleet.

Voucher amounts are based on the incremental cost of the vehicle, which is the difference in cost between the alternative fuel vehicle and a comparable diesel vehicle, up to a per-vehicle cap. Voucher incentive amounts may differ by vehicle technology, vehicle weight class, and location where the vehicle is housed. The WG will continue to monitor this program.

Information about the Truck Voucher Incentive program is available at: [https://www.nyserda.ny.gov/All-Programs/Programs/Truck-Voucher-Program](https://www.nyserda.ny.gov/All-Programs/Programs/Truck-Voucher-Program)
4. **NYSDEC ZEV Rebate**

Myra Fedyniak, NYSDEC, discussed the Municipal ZEV Clean Vehicle Rebate Program, which provides rebates to cities, towns, villages, and counties (including New York City boroughs) to purchase or lease new clean vehicles for fleet use. Eligible vehicles must be purchased or leased on or after July 1, 2019 and placed into service at a dealership located in New York State. Plug-in hybrid electric, all-electric, and hydrogen fuel cell vehicles with a 10- to 50-mile electric range are eligible for a rebate of $2,500 and vehicles with 51 or greater miles of electric range are eligible for a rebate of $5,000. Municipalities may purchase and receive rebates for multiple vehicles. Grant funds totaling $500,000 are available, and no more than 50 percent of the total amount will be awarded to any one municipality. Applications are reviewed and rebates awarded on a first come, first served basis in the order they are received.

Myra also discussed the Municipal ZEV Infrastructure Grant Program, which provides grants to cities, towns, villages, and counties (including New York City boroughs) to purchase and install electric vehicle supply equipment (EVSE) or hydrogen fuel cell filling stations for public use. At least 20 percent of the total project cost must be provided as local match. A total of $2,500,000 is available under the program, with a maximum award limit per facility and another per municipality. Applications are reviewed and grants awarded on a first come, first served basis until May 29, 2020.

Information about both municipal grant funding opportunities is available at http://www.dec.ny.gov/energy/109181.html.

5. **Micromobility Fact Sheet Update**

Jen provided an update on development of the micromobility fact sheet. The Bike-Ped Working Group continues to work on the fact sheet. The legislature passed legislation and is waiting for the Governor’s signature. Once the status is available the Bike-Ped WG will complete a new draft of the fact sheet.

6. **Partner Agency Updates**

NYSERDA provided an update on current funding opportunities.

7. **Next Meeting/Adjourn**

The meeting will be scheduled for January 2020.
A Potential Regional Approach to Transportation and Climate

September 5, 2019
Climate Leadership and Community Protection Act

Most aggressive GHG reduction goals of any major economy:
40X30, 85X50
70% renewable energy by 2030, 100% clean electricity by 2040
Path to carbon neutrality
Codifies clean energy targets
Commitments to environmental justice, disadvantaged communities, and just transition
First statutory Climate Action Council
Climate Action Council

2 years: Draft Scoping Plan of recommendations for achieving GHG limits, final in 3 years

Co-chaired by DEC and NYSERDA

Agencies: DOT, DOH, ESD, DAM, HCR, DOL, PSC, NYPA, LIPA, DOS

2 Governor appointments

8 Legislative appointments

Advisory panels:

- transportation
- land use and local government
- housing and energy efficiency
- energy intensive industries
- power generation
- agriculture and forestry
Investing in Disadvantaged Communities

Invest or direct available and relevant programmatic resources in a manner designed to achieve a goal for disadvantaged communities to receive 40% of overall benefits of spending on:

- clean energy and energy efficiency programs
- projects or investments in the areas of housing, workforce development, pollution reduction, low income energy assistance, energy, transportation and economic development

Receive no less than 35% of the overall benefits of spending on clean energy and energy efficiency programs, projects or investments (does not alter funds already committed)
Transportation & Climate Initiative

12 northeast and mid-Atlantic states and the District of Columbia

Working together to reduce GHG emissions from transportation

Georgetown Climate Center provides facilitation, conducts research, and supports the states
Transportation is the Largest and Growing Share of GHG Emissions in NYS & TCI Region

Data Source: WRI CAIT, 2018
In 2018 TCI States Engaged Stakeholders and Communities through Listening Sessions

Through six regional listening sessions, and an additional 5 in NYS, over 800 stakeholders discussed:

• Transportation needs and opportunities

• Goals for a future, low carbon-transportation system for our region

• How different types of policies and actions can help meet those goals
Policy Actions Identified Most Often by Stakeholders

1. Price pollution transparently and reinvest proceeds
2. Electrify all travel modes
3. Incorporate smart growth, zoning changes, transit-oriented development and affordable housing in plans
4. Encourage all modes of transportation
5. Support alternative fuel use
6. Improve ports and other freight facilities
2018 TCI Regional Policy Announcement

• Announcement in December 2018

• “design a regional low-carbon transportation policy proposal that would cap and reduce carbon emissions from the combustion of transportation fuels... and allow each TCI jurisdiction to invest proceeds from the into low-carbon and more resilient transportation infrastructure”

• All 13 jurisdictions are participating in the process
HOW
CAP. AND INVEST WORKS
What emissions level to start?

What sources?

How Does it Work?

What reduction pathway?

Link up programs?

CORE MECHANICS?

ADDITIONAL MECHANISMS?
HOW CAP AND INVEST WORKS

Emissions Budget

The "Cap" ⇒ \[ \& = \text{Allowances} \]

Allowances are distributed into the marketplace.
CAP GETS SMALLER OVER TIME

OVERALL EMISSIONS DECREASE ACROSS REGION
AUCTION

↓↓

INVEST IN
LOW-CARBON TRANSPORTATION PROGRAMS
INVESTMENTS CAN BE TARGETED TO SPECIFIC LOCATIONS
TCI States Engaging Communities and Stakeholders and Conducting Analysis

Stakeholder Engagement

Modeling and Analysis

State Working Groups

TransportationAndClimate.org
2019 TCI Regional Policy Design Overview

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timing</th>
<th>Milestones</th>
</tr>
</thead>
</table>
| Phase 1 | January-March 2019 | • Identify milestones  
                                      • Finalize workplan, schedule, and processes |
| Phase 2 | April-July 2019  | • Conduct modeling and policy analysis  
                                      • Conduct further stakeholder engagement  
                                      • Coordinate activities to inform decision-making, including public input portal |
2019 TCI Public Workshops and Updates

TCI Workshop: Regional Cap and Invest for Transportation - Key Design Elements (April 30, Boston)

TCI Workshop and Roundtable Discussion: Advancing Equity & Creating Opportunities for All Communities (May 15, Newark)

Webinar: Reference Case Assumptions for Policy Program Design

TCI Workshop: Low-Carbon Transportation Investments, Strategies and Outcomes (July 30, Baltimore)

Webinar: Reference Case Results

Release of Framework for a Draft Regional Policy Proposal (October 1)
# 2019 TCI Regional Policy Design Overview

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timing</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 3</td>
<td>August - November 2019</td>
<td>• Review input from stakeholders and analysis to develop specific regional policy options to share with the public, inviting feedback.</td>
</tr>
<tr>
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<td></td>
<td>• October 1, 2019 – Release of framework for a draft regional policy proposal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• October/November 2019 – Gather and consider public input on framework</td>
</tr>
</tbody>
</table>
Framework for a Draft Regional Policy Proposal

October 1 Public Release
Program Framework
Detailed timeline
Modeling memo
‘What We’ve Heard’
Key Program Design Elements

Selection of Covered Fuels

Determine Regulated Entities

Setting a Cap and Reducing Emissions
TCI Program Development Timeline

Spring – Fall 2020 – Participating jurisdictions develop a “model rule” and take any legislative steps that could be needed to implement the regional program.

2021 – Jurisdictions conduct rulemaking process to adopt regulations.

As early as 2022 – Program implementation begins.
Policy Could Raise Significant Proceeds to Fund Emissions Reductions and Improved Transportation Services

Image Sources: (complete streets) City of Boulder, (electric bus) Howard County, MD
Thank You

• Please send any questions or comments to: climateandtransportation@dec.ny.gov

• For more information on the regional process including webinars and regional workshops, visit: https://www.transportationandclimate.org/main-menu/tcis-regional-policy-design-process-2019

• More information on upcoming meetings around the state see our website: http://www.dec.ny.gov/energy/99223.html
PROMOTING EV CHARGING STATIONS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS

Information, Incentives, and Installation Guidelines for New York Property Owners & Developers
NOTICE

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ABOUT US

Energetics, a division of Akimeka, LLC, is an engineering and management consulting firm assisting government and industry in developing new solutions in energy, climate, transportation, and security.

WXOY architecture + urban design is a planning and design firm focused on social and environmental transformation of the public realm at multiple scales.

As a public benefit corporation, NYSERDA offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA advances energy solutions while working to protect the environment.
CONTENTS

1 Intro to EV Charging
2 Developer Incentives
3 EV Building Codes & Guidelines
A Appendix
HIGHLIGHTS

• EV registrations are increasing as EV makes and models continue to diversify and expand
• EV charging offers benefits for developers, including qualifying for LEED points and tenant retention
• Municipalities are establishing standards and codes around EV charging
• Planning and preparing for EV charging during design and construction reduces future installation costs
## ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) COMPARISON

### LEVEL OF CHARGE

#### AC LEVEL 1
- Best for 6 hour+ or overnight charging
- Requires 120 volt supply at 12–16 amps
- Alternating Current (AC) provided at 1.4–1.9 kW
- Station hardware $500–$1,000 per port

#### AC LEVEL 2
- Best for 2–6 hour dwell times
- Requires 208/240V supply at 20–80 amps
- AC provided at 3.3–19.2 kW (6.6 kW most common)
- Station hardware $600–$5,000 per port

#### DC FAST CHARGE
- Best for fast charging and high turnover contexts (30 minute charge)
- Requires 3-phase 480 volt supply at 80–200 Amps
- Direct Current (DC) provided at 40–100 kW
- Station hardware $7,000–$50,000 per port

### SUITABLE INSTALLATION CONTEXTS

<table>
<thead>
<tr>
<th>LEVEL OF CHARGE</th>
<th>SUITABLE INSTALLATION CONTEXTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC LEVEL 1</td>
<td>Single-Family, Multi-Family</td>
</tr>
<tr>
<td>AC LEVEL 2</td>
<td>Single-Family, Multi-Family, Commercial, Municipal/Private Fleet</td>
</tr>
<tr>
<td>DC FAST CHARGE</td>
<td>Municipal/Private Fleet, Public Metro Areas</td>
</tr>
</tbody>
</table>

**LEVEL OF CHARGE IMPACTS THE DURATION OF CHARGING**
LEVEL 2 EVSE COST CONSIDERATIONS

PREPARING FOR FUTURE EVSE INSTALLATIONS CAN SIGNIFICANTLY LOWER COSTS

• Average dual-port Level 2 station costs $20,000 (2012-2016 NYSERDA Charging Station Deployment Program)

• Preparing site can reduce total installation costs by 33% or $6,700
  • 1”–1.5” conduit run from the electrical panel to the potential EV charging station location
  • Electrical panel with additional capacity and available breaker slots

2018-present NYSERDA Charge Ready NY Program: Average dual-port Level 2 station costs $14,000 (ranges from $7,000–$25,000) with hardware ~$7,000 ($3,000–$9,000) and installation ~$7,000 ($2,000–$17,000).
SNAPSHOT: NEW YORK STATE
BEV: 19,094
PHEV: 26,295
Total: 45,389
EV Market Share: 0.48%
Charging Stations: 1,448

Data: EV Registrations EValuateNY.com 10/16/2019;
Charging Locations US DOE AFDC, October, 2019

SNAPSHOT
PHEV: 3,886
BEV: 4,720
Total: 8,606
EVSE (ports): 470

Lower Hudson Valley

Total Registered EVs in NYS
- Battery Electric Vehicles (BEV)
- Plug-in Hybrid Electric Vehicles (PHEV)
BENEFITS OF EVSE

**OWNER/DEVELOPER**

- LEED points and other sustainability bonuses
- Greater tenant retention
- Stronger garage lease negotiating power

**TENANT**

- Attractive amenity
- Ease of access and reliability of exclusive use
- Enables EV ownership for those without other charging options

**GARAGE OPERATOR**

- Higher revenue potential for charging
- Futureproofed for emerging vehicle technology

11/20/2019

Energetics | WXY
## INCENTIVES & FUNDING RESOURCES

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>INCENTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NYSERDA Charge Ready NY</strong></td>
<td>Rebates of $8,000 for a dual-port charging station installation</td>
</tr>
<tr>
<td><strong>Department of Taxation and Finance</strong></td>
<td>Tax credit for installation of charging stations equal to the lesser of $5,000 or 50% of the cost of property, less any cost paid from</td>
</tr>
<tr>
<td><strong>Alternative Fuels and Electric Vehicle</strong></td>
<td>the proceeds of grants</td>
</tr>
<tr>
<td><strong>Recharging Property Credit</strong></td>
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<tr>
<td><strong>New York Power Authority Charge NY</strong></td>
<td>Assistance and incentives for EV Charging stations for municipalities</td>
</tr>
<tr>
<td><strong>Department of Energy Alternative Fuels Data Center</strong></td>
<td>Laws and Incentive resources by State</td>
</tr>
<tr>
<td><strong>Joint DOT &amp; DOE Guide to Federal Funding &amp; Financing EV/EVSE</strong></td>
<td>Federal financing, funding, and other incentive opportunities</td>
</tr>
<tr>
<td><strong>Clean Cities Coalition Network</strong></td>
<td>Part of DOE Vehicle Technologies Office – local coalitions can be a resource for more information</td>
</tr>
<tr>
<td><strong>Municipal Zero-emission Vehicle Clean Vehicle Rebate and Infrastructure Program</strong></td>
<td>Rebates for municipalities to install public EVSE. Rebates also available for the purchase or lease clean vehicles for fleet use.</td>
</tr>
</tbody>
</table>

Note: All programs are subject to change and funding may be resource or time limited.
# EXAMPLES OF EV/EVSE BUILDING CODES BY COUNTY (NY)

<table>
<thead>
<tr>
<th>Municipality</th>
<th>County</th>
<th>Local Law</th>
<th>Defines EVSE in local code</th>
<th>Establishes permitting process for EVSE</th>
<th>Designates EVSE as traditional parking</th>
<th>Sets design standards for EVSE Installations</th>
<th>Sets installation requirements based on site space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohoes</td>
<td>Albany</td>
<td>Chapter 285 Zoning and Land Use §285 - 176</td>
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<tr>
<td>Otto</td>
<td>Cattaraugus</td>
<td>§6.6 Electric Vehicle Supply Equipment (EVSE)</td>
<td>X</td>
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<tr>
<td>Brutus</td>
<td>Cayuga</td>
<td>§ 125-110: Electric Vehicle Supply Equipment Regulations</td>
<td>X</td>
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<tr>
<td>Redhook</td>
<td>Dutchess</td>
<td>Local Law No. 1-2014</td>
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<tr>
<td>Brockport</td>
<td>Monroe</td>
<td>Local Law No. 2 of 2016 - Electric Vehicle Charging Stations</td>
<td></td>
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<td>X</td>
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<tr>
<td>Port Washington North</td>
<td>Nassau</td>
<td>§ 176-213 Electric Vehicle Charging Systems</td>
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<tr>
<td>New York City</td>
<td>New York</td>
<td>Local Law No. 130</td>
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<tr>
<td>Oneida</td>
<td>Oneida</td>
<td>Local Law No. 2 Of 2016 - EV Resolution 16-115</td>
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<tr>
<td>Ithaca</td>
<td>Tompkins</td>
<td>§ 271 - 16 Planned Development Zone No. 15</td>
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<tr>
<td>New Paltz</td>
<td>Ulster</td>
<td>§ 140-52 - Site Plan Review</td>
<td></td>
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<td>X</td>
</tr>
</tbody>
</table>
### FACILITATING INSTALLATION

**CONSIDER THE FOLLOWING IN PLANNING OR INSTALLING EVSE**

<table>
<thead>
<tr>
<th>Site Prep</th>
<th>Monitoring</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consult with licensed electrician and notify your local utility</td>
<td>• Electricity can be monitored by EVSE software, available through network subscription</td>
<td>• Valet parking reduces access issues</td>
</tr>
<tr>
<td>• Place EVSE close to electrical panel</td>
<td>• Network subscriptions are necessary for station pricing</td>
<td>• Monthly parking reservation system could manage access and payments</td>
</tr>
<tr>
<td>• Use electrical panel with additional capacity and available breaker slots</td>
<td>• Meter accuracy should meet utility billing standard</td>
<td>• Establish system or policy to move fully charged vehicles to regular parking spots</td>
</tr>
<tr>
<td>• Fit design to the required electrical capacity</td>
<td>• Place new meters close to power source to reduce trenching costs</td>
<td>• Use visible signage and pavement markings dictating EVSE user etiquette and terms of use</td>
</tr>
<tr>
<td>• Energy management systems can split power among multiple circuits</td>
<td>• Incentives offered by utilities (i.e. ConEd) may reduce cost of separate meter</td>
<td></td>
</tr>
</tbody>
</table>

Source: US DOE, ChargeNY
Thank You

Contact for more information and full resource

Victoria McGarril
(315) 749-9932
vmcgarril@energetics.com