Contents

Drive Electric Hudson Valley: Program Summary 4

The Market Context 5

2016: Engaging Hudson Valley Communities 6
  Pilot design 6
  Partnerships 10
  Pilot results 14
  Lessons learned 20

Best practice symposium 21

2018 - 20: Replicating and Scaling for Regional Impacts 24

Appendix 1: survey design 28
Appendix 2: team bios 30
Appendix 3: program materials 32
  Event flyer
  FAQ
  Sample handout
Appendix 4: Social media reach 36

References and Resources 37

About Sustainable Hudson Valley 38
Drive Electric Hudson Valley: Program Summary

Drive Electric Hudson Valley is a comprehensive capacity building and market development program serving New York’s electric vehicle marketplace to coordinate development of the consumer market, dealer capacity and charging infrastructure. Our 2016-17 pilot program set the goal of inspiring 65 participants to get an electric vehicle. But in less than one year, 176 new EV drivers have resulted from the program through direct consumer education and assistance to dealers in selling and leasing the vehicles.

Inspired by the success of Sustainable Hudson Valley’s Solarize program, which used the same principles as an effective early EV marketing program run by Drive Electric’s Program Manager, the effort was piloted with funding from the New York State Energy Research and Development Authority (NYSERDA). Launched in the fall of 2016 during National Drive Electric Week, this effort was a nine-month “deep dive” to create an integrative approach to EV market acceleration. The primary elements of this replicable model are:

- Consumer education and empowerment: opportunity to interact with EV owners and subject matter experts who freely share knowledge and provide one-on-one support for drivers to get their questions answered, combined with opportunities to test drive the vehicles in a fun social environment.
- Dealer engagement to make sure that the dealerships are fully prepared with vehicles charged and ready to drive, and with knowledgeable staff who are motivated to sell and lease EVs.
- Consistent, useful information and support for communities and property owners so that charging infrastructure is rapidly scaled up in public spaces throughout the region and range anxiety is a thing of the past.
- Coordinated response to opportunities in the marketplace including new discounts and incentives, funding and training programs, and news hooks of interest to drivers.
- Creation of a replication plan to build upon the initial outreach, capturing lessons learned to support the multi-year work that will be needed to empower consumers, prepare dealers, make sure that infrastructure is widely accessible, and support the stakeholders who need to work together to continue progress.

This report summarizes lessons learned, and the principles underlying
Drive Electric’s results, in order to support New York’s goal of having a million EV on the road by 2030 with the necessary infrastructure in place.

**The Market Context**

Drive Electric Hudson Valley was developed in 2016 to provide coordinated education and incentives to consumers, dealers and communities as they prepare for the shift to electric cars. This coordinated marketplace intervention supports New York’s goal of getting a million EVs on the road by 2030 and deploying charging infrastructure to service this demand.

New York is an active participant in the Zero Emission Vehicle (ZEV) Task Force representing eight states. Through its Advanced Transportation Program at the New York State Energy Research and Development Authority (NYSERDA) New York has developed road maps for scaling up the EV marketplace, integrating EV charging and storage into the electric grid, and stimulating strategic EV and charging markets such as tourism. In spite of strong political leadership, federal and state tax incentives, a variety of state supports for infrastructure, and direct rebates of up to $2,000 on electric cars, the EV marketplace in New York has suffered from the same constraints that are seen in much of the country: consumers who are hesitant or waiting for the next big breakthrough in technology; dealers that lack commitment or sophistication when it comes to selling the cars; less than full use of charging stations, giving rise to slow progress in expanding that infrastructure. These conditions of the marketplace have reinforced each other and limited New York’s progress.

All this could change if the vicious cycle of mutually reinforcing market barriers could be turned into a virtuous one: if more and more consumers were empowered to decide that it’s timely and worthwhile to make the shift to an EV.... if dealers could receive signals of consistent customer interest and readiness to buy or lease EVs..... if those dynamics could encourage faster rollout of charging infrastructure ...... then progress in scaling up electric vehicle adoption could advance much more quickly and in better coordination.

This “acceleration through coordination” is the purpose of Drive Electric Hudson Valley. With funding from NYSERDA and an extensive network of partners, this was the first EV market transformation model in New York to connect the elements of customer, dealer and infrastructure engagement in the context of the current generation of EVs.
2016-17: Engaging Hudson Valley Communities

Pilot design

To begin, the team designed and delivered a highly interactive, intensive pilot program based on thorough investigation of market conditions, policy and political factors throughout the region, including:

- Consumer attitudes;
- dealer awareness and preparedness;
- state of infrastructure deployment and attitudes of key decision makers;
- incentive and support programs at the state and local level (current and foreseen), and
- the overall context of transportation planning and the region’s environmental goals such as air quality and congestion mitigation.

Based on this background research and relationship development, we designed a pilot community-based social marketing and capacity building program that would leverage existing efforts such as the Clean Energy Communities and Climate Smart Communities programs, incentives from NYSERDA and the Department of Environmental Conservation, utilities’ programs in development, county and regional transportation plans. The program was explicitly designed to engage stakeholder groups with our team and each other, in a coordinated manner, so that progress with any one stakeholder group would open doors with the others. Coordination and synergy were at the heart of the strategy.

To identify consumers’ motivations and priorities in considering electric vehicles, a survey was developed (headed “Will Your Next Car Be Electric?”). It identifies attitudes, market drivers and barriers, and preferred channels of communication for EV education. This was distributed in spring/summer 2016, both online and in hard copy form at outreach events. The survey helped to identify early adopters’ attitudes toward EVs, their knowledge base and preferred learning modes. We met our initial goal of engaging over 200 survey respondents through appropriate outreach partnerships, with most coming from these networks:

- Sustainable Hudson Valley and its Solarize program volunteers
Survey highlights included:

- 65% of respondents commute 20 miles or less, and 60% of these drive solo in their own vehicle.
- 80% say their next car will be a purchase (not a lease) and 50% of these plan to get that car in the next two years.
- 72% said they will consider an EV.
- 70% can name at least one make and model of EV.
- 72% will consider an electric vehicle for their next car.
- The top 4 motivators for respondents’ next car selection were reliability, fuel economy, practicality, and environmental impact.
- Of those who said they would consider an EV, top reasons were environmental impact (which was the top response by a wide margin) then performance, convenience & cost.
- The top incentives that would motivate respondents were forms of up-front cost reduction.
- Preferred information channels were: online 60%; talk w/ owners 45%; see cars 40%; workshops 30%.
- Would you share data in exchange for discount? 88% said yes or maybe.

This was not intended to be a random sampling of the market, but to shine a light on likely early adopters of sustainable technologies based on their values and lifestyles. This is a population we consider critical to understand and reach out to in order to accelerate uptake of electric vehicles in the marketplace and charging infrastructure in communities, at a fast enough pace to sustain engagement of the auto industry and support pro-EV public policies.

In light of this receptivity, we believed the most critical initial activity was providing education and decision support to drivers who were likely early adopters of electric vehicles but might not be well enough informed about the market readiness, affordability and benefits of EVs. This activity would spur dealers to feature the vehicles more prominently and be better prepared to sell them. It would also encourage scaled-up installation of charging infrastructure. We identified as many approaches to consumer engagement as possible: stand-alone workshops, dealership-based
education, information at commuter hubs, and participation in special events such as festivals -- with test drive opportunities wherever possible. Activating consumer curiosity and demand, in ways that fit those consumers’ learning styles and priorities, would be the key to motivating dealer interest in EVs and making it a priority for municipalities to move more aggressively in scaling up charging infrastructure. We reached out to these potential EV drivers, first, to participate in low-risk, enjoyable activities such as workshops and test drive events. These were the portal into registration in Drive Electric Hudson Valley, essentially creating a community of consumers exploring EV and experts available to help them figure out their options.

This effort began during Drive Electric Week, in early September of 2016, with a day-long exhibit and test drive event in coordination with Ulster County, the Kingston Farmers Market, several community organizations and dealers. We concertedy tried out every type of outreach in the initial vision, repeated most kinds of activity several times, regularly debriefed on lessons learned, and refined the plan as we observed the impacts. Attendance at our events ranged from 50 in Woodstock, where we had strong community outreach support (e.g. volunteers who spent a day distributing flyers and posters), down to three in Poughkeepsie on a snowy night; but those three were among the most motivated to get their EVs. We followed up with everyone who expressed interest by means of 4 targeted e-blasts, personalized emails, phone calls to over 100 potential participants, and concerted communication on Facebook through the Hudson Valley EV enthusiasts’ page and our own.

Each outreach mode we considered had support, but a majority of respondents said they preferred direct interaction with EVs and drivers, supported by online research. The survey gave rise to our emphasis on web and social media presence combined with varied hands-on opportunities to see, touch and drive the cars and interact with owners. Our workshop content and handouts were deployed in support of those primary activities, as well as to bolster potential consumers with information for their test driving process.

The outreach was strategically developed, first to educate potential EV drivers and pique their interest, and second to bring them into our program – that is, to have them sign up to receive information through e-blasts, phone calls, and social media. The basic logic of the outreach was to cast a very wide net and then work closely with the individuals who showed the greatest interest. Our email and social media reach, and the currency of the subject matter, made it easy to continue raising this profile and engaging
potential EV drivers on this scale. Because our followup system was not fully operational until we had produced a number of the events, our capacity for real-time followup with interested folks is much greater now than when we started; we would expect to increase the numbers of sign-ups with our program going forward.

Most of this design and outreach work was done before the New York State Drive Clean Rebate was rolled out, in March 2017. While many car companies were in “wait and see” mode, several leading dealerships and one national company provided discounts from the start:

- Ford was the first to come forward with dedicated, model-specific discounts for our program, but their emphasis was on plug-in hybrids rather than full battery electric vehicles. We were concerned that this might represent overall lack of commitment to the EV transition, so we hesitated to push this discount too hard.
- Tesla made their standard $1000 voucher easily available to the program plus discounted the standard $7,500 off the top of every lease for the Federal Electric Vehicle tax credit
- Nissan offered $300 to all who attended or heard about the test drive event produced jointly by Kingston Nissan and All American Ford, and $100 – 500 discounts generally for our referrals.
- Chevy applied discretionary discounts on sales they made through our referrals.

Apparently, word spread about the availability of these discounts and the potential for others. Especially after the Drive Clean Rebate was activated, customers approached us asking for help with additional discounts; we communicated in depth with dealerships to make these happen via very personalized customer advocacy. Dealers did not expect this level of sustained customer engagement from a grassroots pilot effort. They responded by working closely with the customers we referred, and by supporting our marketing with events, materials and publicity.

We have been mindful that publicity and public education require a combination of consistent messaging and fresh approaches -- and a serious investment of time. Our workshop content and educational handouts remained consistent throughout the pilot and were well received – as shown especially by the commuter railroad station leafletting events in which nearly 50,000 pieces of paper were handed out and virtually none ended up in the parking lots. We tried always to think of ourselves as not just publicists but
educators, getting information and ideas into circulation beyond attracting people to our events. We used interactions with cars and drivers to create news-worthy moments such as Seth Leitman’s test-drive of a Tesla up to the Mid-Hudson for a photo-opportunity in front of the new Tesla chargers near the New York Thruway in Kingston, and an impromptu test drive for a member of the Rosendale Town Board he ran into.

**Partnerships**

Collaboration has been critical, in order to align this program with the goals and interests of the many agencies and enterprises now working in the EV space to advance New York’s goals. We have enrolled partners in taking concrete action during the pilot phase and used these opportunities to build relationships that will make a full-scale program much easier to establish.

Not all of these partnerships have been easy to develop, but historic working relationships have helped to open new doors. At times, we knowingly disregarded conventional wisdom about what would be possible - for example, in orchestrating the first collaborative event involving competing Ford and Nissan dealerships. At times, entire groups needed to be won over - for example, it took considerable trust-building before dealers were comfortable sharing information on purchases and leases resulting from our effort, not to mention sharing their questions and uncertainties about how to serve the EV marketplace.

<table>
<thead>
<tr>
<th>PARTNER</th>
<th>Benefits to date</th>
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<tbody>
<tr>
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<td>-----</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tesla</td>
<td>Access to $1,000 referral program; Tesla interest in Mid-Hudson (8 chargers in Kingston) could be connected with our work. Assisted with destination charging feasibility assessment at a Catskill hotel.</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>Provided VW eGolf July through October. Called us for one test drive resulting in the program’s first car sale.</td>
</tr>
<tr>
<td>Ford</td>
<td>Observed and offered discounts. In most cases 0% and $4,250 down. One instance of $5,000 down and $500 APR discount. We are told that Corporate marketing is watching this closely. Held one collaborative dealer workshop, open to others. After rebate from NYS was issued, some lease discounts equaled $28,000.</td>
</tr>
<tr>
<td>Chevrolet</td>
<td>Provided Volt &amp; Bolt for Newburgh Illuminated Festival June 3. Created an all electric vehicle ride and drive event with diverse vehicles and educational opportunities at Romeo dealership. We have generated significant interest.</td>
</tr>
<tr>
<td>BMW</td>
<td>Initially provided 250 tote bags and marketing literature. Brought vehicles to Newburgh Illuminated Festival, then initiated our most successful dealer-hosted test drive in August 2017. Dealership discounts have been increasing up to 15 - 25% off Manufacturer’s Standard Retail Price.</td>
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<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Mercedes, Porsche, Kia, Hyundai, Audi, Toyota</td>
<td>Toyota provided a Prius Prime for Newburgh Illuminated Festival. Prestige Toyota expressed an interest in working on a dealer event.</td>
</tr>
<tr>
<td>Nissan</td>
<td>This most supportive marketing partner reinforced our view that we are not only helping customers but dealers. Their Kingston dealership is highly motivated and has seen a steady increase in sales.</td>
</tr>
<tr>
<td>Metropolitan Transportation Authority / Metro North Railroad</td>
<td>High-trafficked locations have been key to our outreach strategy. They will be priority locations for recommending charging infrastructure and potentially a station car outreach program. Relationship can support their goals in EV infrastructure development.</td>
</tr>
<tr>
<td>Ulster County Dept. of Environment</td>
<td>Interested in EV Connect charger assistance and possibly collaboration on EV tourism. Further collaboration included outreach for EV Connect with the private sector, became a member of Electric Auto Association board and Chair of our Kingston event for Drive Electric Week 2017.</td>
</tr>
<tr>
<td>Orange and Dutchess County Planning</td>
<td>Interested in EV Connect charger assistance</td>
</tr>
<tr>
<td>NYS Department of Transportation Region 8</td>
<td>Invited us to co-produce annual Municipal Action Forum in 2018</td>
</tr>
<tr>
<td>Central Hudson Gas &amp; Electric</td>
<td>Event outreach on social media, extensive help with event venues and publicity from Community Relations Director John Maserjian.</td>
</tr>
<tr>
<td><strong>NY Power Authority</strong></td>
<td>Got their assistance in communicating the benefits to MTA and facilitating our outreach at train stations. Interested in working with our program once we want to do demonstrations of vehicle to grid or solar to grid and storage at charging stations.</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>EV Connect</strong></td>
<td>$75,000 partnership launched in April 2017 to roll out charging infrastructure in municipal, commercial, tourist and commuter hub locations.</td>
</tr>
<tr>
<td><strong>New Yorkers for Clean Power</strong></td>
<td>Betta Broad joined us as dedicated outreach partner in February, 2017.</td>
</tr>
<tr>
<td><strong>Sierra Club</strong></td>
<td>Dedicated staff person for EV policy and an active EV interest group which promotes our events while benefitting from the grassroots visibility. Have regularly briefed their strong NY EV Chapter statewide. Members participated in our program and got their EVs.</td>
</tr>
</tbody>
</table>
Results

The pilot was designed to launch during Drive Electric Week 2016 and continue through the end of March 2017.

In fact, opportunities for outreach events, driver and dealer interaction, infrastructure expansion and planning assistance continued to present themselves. To maintain momentum, we have continued our efforts beyond the formal close of the pilot funding period to the present time. Accordingly, we report results at the close of the pilot and again

DEHV Results by Formal Close of Pilot (3/31/17)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of outreach events</td>
<td>28</td>
</tr>
<tr>
<td>Pieces of literature distributed</td>
<td>30,000</td>
</tr>
<tr>
<td>Reach of project through media (conventional and social)</td>
<td>2.5 M</td>
</tr>
<tr>
<td>Potential EV drivers directly engaged [attended events,</td>
<td>3,000 at train station information tables</td>
</tr>
<tr>
<td>literature, survey, social media interaction]</td>
<td>and 200 at other events</td>
</tr>
<tr>
<td>Online sign-ups for further information and support</td>
<td>200</td>
</tr>
<tr>
<td>New EV drivers (sale/ lease) resulting</td>
<td>75</td>
</tr>
</tbody>
</table>
**DEHV Results by April 22, 2018**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of outreach events</td>
<td>36</td>
</tr>
<tr>
<td>Pieces of literature distributed</td>
<td>50,000</td>
</tr>
<tr>
<td>Reach of project through media (conventional and social)</td>
<td>3.75M</td>
</tr>
<tr>
<td>Potential EV drivers directly engaged</td>
<td>5,250 at train station information tables and hundreds at other events</td>
</tr>
<tr>
<td>Online sign-ups for further info &amp; support</td>
<td>275</td>
</tr>
<tr>
<td>New EV drivers (sale/ lease)</td>
<td>176 total, including 49 receiving direct support and the rest by helping dealers to establish and gear up EV sales programs</td>
</tr>
</tbody>
</table>

While labor-intensive and challenging to develop and launch, the program exceeded our goals, quantitatively and qualitatively as well. We did not anticipate the number of well informed drivers who came to two or three separate events to learn from other participants as well as our team. Nor did we expect EV drivers to come with their cars to show them off and educate others. We took risks — such as inviting competing dealers to collaborate on an event — and they paid off. The model is nearly 100% replicable. This intensive interaction with customers and dealers produced virtually no complaints or negative feedback -- a sign to us that the program resonated in the marketplace. Drive Electric Hudson Valley has successfully brought together diverse partners, government entities, and funders—all with distinct missions and needs. It has established ongoing collaboration to reduce the region’s carbon footprint while addressing air quality and
economic development. Interest among drivers, dealers and partners has continued beyond the pilot period, and so has our work.

Our interactions with drivers ranged from straightforward answers to a single question, up to very sustained dialogue, guidance and at times advocacy for the customer with a particular dealer. We developed the practice of contacting each customer’s first choice car dealer right away, introducing the customer and requesting that every possible discount be provided. In many cases we negotiated with the dealer while “hand holding” the customer. Here are some examples:

Iris Marie Bloom met Melissa at an environmental forum and filled out the survey. Iris wanted a Chevy Bolt because of the range and quality of the overall package at that time. She had done considerable homework herself, but went into action mode because of our support. We referred her to Matt Spoth at Romeo Chevy who sold her a Chevy Bolt with a discount (and low interest rates as they often do with new products).

Robert Joseph Rivera and his son heard about our events online and came to the combined Ford-Nissan dealer event in Kingston. They were both heavy duty enthusiasts on clean transportation. He had been studying options, and was even thinking about a way to have a flex fuel car in the future that could use hydrogen. He had decided on the Leaf, then heard about the event, came and got a used Nissan Leaf that day with $3,000 off the Manufacturer’s Standard Retail Price, as well as the NYS rebate and favorable interest.

Melissa Ortquist did her own homework, but heard about the Drive Electric program through word of mouth. She emailed us to say her family had bought a Prius Prime, and wanted us to know they had received the discount.

Charlie Carbone came to a couple of Drive Electric events, including the Ford / Nissan workshop, before making a purchase. He was waiting for the NYS rebate. We showed him how to fill out the request for assistance online, which he did. Charlie wanted a “driver’s car” with pep, and one that he would feel comfortable sitting in. He liked the features and range of the Bolt and felt the range was more reliable / consistent than the Leaf, which he had also test driven. He too got a Bolt at Romeo – one of the earliest active dealerships we worked with.

Direct support of drivers was the program’s initial point of entry into the marketplace, enabling us to begin the higher-leverage work of educating and empowering car dealers -- both dealerships as organizations, and individual salespeople who became champions. We were encouraged by the extent to which the potential customers became part of the educational force.
- for example, at events at Romeo Chevy and All-American Ford, we overheard customers coaching the dealer on the importance of mentioning the state rebate and tax credits. One of our early events - a collaboration between Kingston based Nissan and Ford dealers, turned into a small group round table in which the customers and our team were sharing knowledge and the dealers were primarily listening. This face-to-face outreach was leveraged by the consistent use of social media for substantive education by our team. Initial dealer events were modestly attended but still had an impact on the hosts who in most cases had little or no experience focusing on EVs. More recent dealer events showed a sharp spike in attendance and enthusiasm.

“I learned more at this event than in any dealer training I have attended.” -- Kingston Nissan salesperson.

Our initial objective was to facilitate the purchase or lease of at least 65 cars in the Hudson River corridor, mainly the Mid-Hudson REDC region. Actually, the program was able to support the signing of 152 purchase and lease contracts. This was possible by virtue of the partnerships we developed with dealers and the in-depth support we provided for them as well as the customers. In fact, as the work progressed, our primary focus evolved from customers to encompass greater engagement with dealers and communities, creating multiple channels of communication from the marketplace to the dealer and allowing more customer interaction to be done in groups rather than 1:1. This is an important factor for scalability of the model. As we tested the interest of other stakeholders, such as transit agencies and utilities, we began to see a network of agencies coalesce that, together, are capable of implementing a full-scale program.
## Summary: EV purchases and leases by make and model

<table>
<thead>
<tr>
<th>Make/Model</th>
<th># Closes by participating dealers</th>
<th>Drive Electric direct help to customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nissan Leaf</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Chevy Volt</td>
<td>59</td>
<td>6</td>
</tr>
<tr>
<td>Chevy Bolt</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Prius Prime</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Tesla</td>
<td>52</td>
<td>3</td>
</tr>
<tr>
<td>BMW i3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Other models</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>176</td>
<td>49</td>
</tr>
</tbody>
</table>
Lessons learned

1. Empowering consumers

We learned that there is a significant, reachable population of drivers who have been considering EV and have specific questions – many around range and price. They also have specific learning styles and preferences, especially hands-on approaches such as test drives and interaction with EV owners. Motivated by environmental commitment and interest in technological innovation, these customers are smart, realistic, flexible and interested in being part of a program like ours. Above all, drivers exploring electric vehicles do not want a dumbed-down or “salesy” presentation; they enjoy the learning process. This led to our formation of a Hudson Valley chapter of the Electric Auto Association, a platform for peer to peer information exchange that will take us beyond the “sage on the stage” approach, to be genuinely empowering to drivers considering an EV.

2. Supporting dealers and the auto industry

We began dealer outreach in the opening days of the pilot as our team worked collaboratively with car dealers at the 2016 Drive Electric Week events. Relationships born there were a major source of opportunities for dealership-based events in our pilot program. We worked with VW negotiating a 3 month loan of an E-Golf which Hugo Jule used well for publicity, leading to the first car sale in the program. We worked through Ford Corporate to get hands raised from dealers for joint events, then settled on a small number for test drive event collaboration based on common goals. We engineered a collaborative test drive with Ford and Nissan, and saw a significant short-term commitment from Nissan to do promotional videos, charge and display cars, promote and participate in the event. Months later, corporate commitment from Nissan caught up with dealer enthusiasm as we were asked to help spread the word on Nissan’s deep discounting of the 2017 Leaf. We also held dealer events at BMW of the Hudson Valley and Romeo Chevrolet.

3. Infrastructure planning needs and opportunities

Infrastructure planning progress is quite variable among municipalities and counties as well as workplaces and other private entities. This has given rise to a patchwork of installed chargers, unevenly distributed around the region. To reduce range anxiety among consumers – and to be prepared for acceleration in demand – we see a need to make more progress in charger
access. This includes quantity, quality and distribution. Partnership with EV Connect, during and after the pilot phase, has illustrated that here, too, a diverse network of early adopters is instrumental in engaging diverse site owners to install EV chargers -- so far in three counties and at locations including a campus, small businesses, a retreat center, a resort and a county fairgrounds. Close coordination with the Clean Energy Communities and Climate Smart Communities programs has made it seamless for municipalities to install chargers using cost-share, and receiving credit, from these programs.

4. Understanding other stakeholders

Electric vehicles represent a system transformation. As such, they impact diverse stakeholders, from utilities to transportation and transit providers to policy and regulatory agencies, as well as the car companies and consumers that were our primary focus. Understanding this, we cast a wide net and built relationships and visibility among stakeholders in transportation planning and policy, the auto industry, advocates and others who would be instrumental in scaling up the work.

The region’s metropolitan planning organizations (MPOs) have been crucial to the success of the demonstration. We reached out to the New York Metropolitan Transportation Council (NYMTC) for guidance at the outset. We also briefed the Mid-Hudson South Transportation Coordinating Committee (TCC) (Rockland, Putnam and Westchester Counties) and the Orange County Transportation Council, as well as the Dutchess County Department of Planning and Ulster County Department of the Environment.

Utilities around the country must upgrade the grid substantially and face pressures to do so in ways that accommodate renewable energy. While renewables only shift demand for electricity away from conventional generation, electric vehicles actually increase that demand and potentially contribute to expanded utility revenues that can ease the pain of grid modernization. The New York Power Authority has had EV programs over the last several years - outgrowths of the initial NYPA-Th!nk Clean Commute program managed by Drive Electric’s current program manager - and we see significant opportunity for expanding our work to support NYPA’s goals. Central Hudson Gas and Electric has also shown strong interest in entering the space either through charging services or by promoting the vehicles. NYPA staff have closely watched and advised our pilot, and Central Hudson has been an active partner in co-hosting consumer workshops, coordinating publicity, distributing our materials at events and bringing us in on specific
opportunities such as a major Nissan marketing partnership.

New York’s **Clean Energy Communities** and **Climate Smart Communities** programs both encourage EV infrastructure and community engagement. Their staff participated in our replication symposium and will advise and coordinate on the pilot. The regional Clean Energy Communities resource person, Ulster County’s Department of Environment coordinator, has been a uniquely helpful partner in our work.

5. Synthesizing lessons learned

Having learned how to orchestrate successful consumer education and engage the primary stakeholders including dealerships, municipalities, and resource agencies, we have found that success with each group builds credibility and interest among the others. This confirms the basic thesis of Drive Electric - that the most accelerated progress in the shift to electric vehicles will result from a highly coordinated approach.

As we transition to a full, ongoing program, our goal is not only to accelerate EV adoption but to help with deployment of infrastructure, services, and supportive policy that will only be possible with continued and enhanced coordination. We see this coordination and leadership as the pathway to establishing the long-term economic viability of the shift to a zero-emission electrified transportation system, and mobilizing the marketplace to achieve that vision.
2018-20: Replicating and Scaling: The Emerging Model

At the end of the pilot phase, we collaborated with NYSERDA to host a symposium to examine best practices in accelerating the EV marketplace. Three case studies were presented: Mass. Clean Cities, the Electrification Coalition’s Rochester Accelerator, and Drive Electric Hudson Valley. Common themes across the programs included the importance of hands-on consumer experience and coordination of assistance to drivers, industry and infrastructure planners. The three programs deployed these elements in unique ways and with varying degrees of structure, but the underlying logic was quite consistent across the programs.

This pilot effort confirmed the premise that EV marketplace advances would be directly connected to the three elements of our “acceleration through coordination” strategy -- supporting home and business consumers, dealers, and an expanded approach to infrastructure rollout. We hope to continue this work over a longer timeframe and with greater penetration into communities. Our evolving approach will also include several features that require larger scale, such as a station car program focusing on EV access at commuter hubs (described below) and a data sharing component.
An anchor for this work is the new Hudson Valley chapter of the Electric Auto Association, a highly credible national platform with growing membership and useful program resources. The EAA has begun to host quarterly speaker-centric meetings, drive events and social media outreach building on the already-active EV community in the region. The group can amplify the advocacy and feedback to dealers and share the individual stories of drivers who have made the switch to EV. We will work with this group to become knowledgeable, as well, on the environmental benefits of EVs, their connection to renewable energy and overall low-impact lifestyles. This synergy will amplify the messages originated by our team through integrated use of Facebook, Twitter, Instagram, blogging, email communications and earned coverage in traditional media.

An early project of the EAA Hudson Valley chapter will be to survey stakeholders on their needs for, and willingness to share, customer data in order to design dealer-based incentives for customers who agree to do this. We will continue regular interaction with dealers as we hand-hold customers and help the dealers to do the same, serving as a conduit of information between the industry, the state and other stakeholders, and the marketplace. This will allow us to identify and provide additional stakeholder information, training, and other services that help our resource agency partners to meet their goals for emissions reduction, air quality and congestion mitigation as well as public engagement. A second project will be to investigate and promote discounts for used electric vehicles and help expand the marketplace to serve more low to moderate income drivers.

Our program work will continue to revolve around regular diversified dealer events supported by concerted email based education and social media interaction. Additional consumer workshops will be available as needed, but the focus will sharply shift to dealers and commuter hubs where our ongoing presence will lay the groundwork for establishment of a station car program by the beginning of Year 2, which will become a primary focal point for our work. As EV adoption scales up, we will be working with both EV owners and curious drivers who have not yet made the move, so we will be presented with a wide range of education and networking opportunities as well as the demonstration of tangible incentives at the commuter stations such as preferred parking with charging [and informing drivers about the
Clean Pass from the NY Thruway Authority].

This basic design will provide a replicable model for other parts of New York and beyond. Widespread uptake of electric cars can serve as the foundation to a broader electric vehicle market that meets the needs of commuters, transit, transportation and urban planning entities, and municipalities.

**Solar synergy:** Scaled-up electric vehicle use must be strategically coordinated with scaled-up renewable energy, and especially distributed solar power, so that charging load does not bring increased demand for fossil fuel generation. Electric vehicles combined with solar power can show an especially strong economic case through tax benefits and incentives. SHV’s Solarize program engaged with thousands of home- and business owners who have continued to track trends and are likely to be a prime audience for EV education and overall clean energy initiatives. SHV’s next phase will include a focus on 100% renewable energy for homes and businesses, supporting deep energy retrofits, new clean energy technologies and resource-efficient lifestyles. An important tool here will be NYSERDA’s EV/ PV calculator to model the economics of combining these technologies in a home or business. We will also explore opportunities for collaboration between EV dealers and solar installers for synergistic discounts and consumer education.

**Commuter focus - station car program:** We expect the full-scale Drive Electric program to concentrate outreach at locations where many drivers congregate, and park -- foremost among these, commuter hubs including train stations and Park and Rides. There is a large and constantly growing group of suburban rail commuters in the New York Metropolitan region who drive short distances every day from home to the station, and parking spaces are highly valued at commuter rail stations. The region has a growing need to promote clean, efficient transportation as a means of reducing air pollution and congestion. This makes a station-based EV lease incentive program an especially high-leverage feature of a scaled-up Drive Electric Hudson Valley. As demonstrated by the NYPA-Th!nk Clean Commute program and many others since, incentives such as dedicated parking, discounted insurance, and other transit-related discounts do motivate drivers who have been considering an EV to make the leap. Sites should
meet three criteria:

1. Be selected by the respective stakeholders (county, town, village, MPO) at least one per county
2. Be located in a municipality that has a proactive approach to environmental issues
3. Be locations – such as commuter stations or park & rides -- where capacity is, or could soon become, a limiting factor so that dedicated parking spaces are sought after.

The station car component will be designed in close collaboration with stakeholders, including owners of the parking lots and, power supply, and local / state transportation planning agencies.

**Data sharing:** We found that a majority of drivers exploring EVs said they would consider sharing data on their driving experience in exchange for a discount on the vehicle. The value of driver opinion and attitude data, combined with the concrete experience of driving, charging, and maintaining the vehicle, can create significant value for the industry and for program designers in New York and beyond. Our upcoming survey of auto industry and resource agency contacts will identify the primary data of current interest and best methods for collecting.

These factors, combined, will help meet the goals of NYSERDA and New York State, NYPA, utilities, Climate Smart Communities and of course the auto industry as the program builds on lessons learned in this pilot phase.
APPENDIX 1: SURVEY DESIGN

SUSTAINABLE HUDSON VALLEY’S DRIVE ELECTRIC CAMPAIGN

Sustainable Hudson Valley is conducting a survey to help spark interest in the adoption of 100% electric vehicles (EV) and plug-in hybrid vehicles. With your help, we hope to make clean transportation technologies more affordable and available to everyone in the Hudson Valley.

1. I own or lease the following. Check all that apply:
   - Gas/diesel vehicle
   - Hybrid (without plug-in feature)
   - Plug in Hybrid car
   - 100% electric car
   - Other type or do not own a car, please specify:

2. How many miles (round trip) do you travel to and from work?
   - Less than 5 miles
   - 5-10 miles
   - 10-20 miles
   - 20-50 miles
   - More than 50 miles

3. Which statement best describes your travel to and from work?
   - Commute driving my own car
   - Commute via carpool
   - Commute to park and ride
   - Commute by public transportation
   - Bike, walk or telecommute most of the time
   - I don’t work/commute (retired, unemployed, etc.)

4. For your next vehicle do you expect to:
   - Buy a new car
   - Buy a used car
   - Lease a car
   - Not Applicable

5. How soon do you expect to get your next vehicle?
   - Less than 1 year
   - 1-2 years
   - 3-4 years
   - 5-9 years

6. What is a reasonable monthly car payment for you?
   - Under $200
   - $200-$300
   - $300-$400
   - over $400

7. When looking for your next vehicle, do you plan to consider a plug-in hybrid or 100% EV?
   - Yes
   - No
   - Maybe. If no or maybe, please explain: ________________________________

8. Can you name any plug-in hybrids or 100% EVs that you are excited about or would like to test drive?
   ______________________________________________________________________

9. If you have or get a plug in hybrid or EV, how would you expect to use it generally?
   - Primary / all-purpose
   - Second car
   - Mixed use
   - Not considering an EV

Sustainable Hudson Valley, PO Box 1982, Poughkeepsie, NY 12601   www.sustainhv.org
10. What factors are most important to you when choosing a car? Please select up to three:
   - ☐ Reliability/durability  ☐ Practicality/utility  ☐ Performance  ☐ Style
   - ☐ Fuel economy  ☐ Reputable brand/dealer  ☐ Safety features  ☐ Environmental impact

11. What matters most in making a 100% Electric Vehicle attractive to you? Please select up to three:
   - ☐ Performance/acceleration  ☐ Maintenance: no oil changes or filters to replace. No exhaust system
   - ☐ Efficiency: no energy wasted as heat  ☐ Convenience of charging at home  ☐ Environmental impact
   - ☐ Low cost lease offerings  ☐ Reduced cost per mile traveled  ☐ $7,500 Federal rebate

12. What incentives would help you consider getting an EV or plug-in hybrid? Please select up to three:
   - ☐ Tax rebates or credits for vehicle  ☐ Dealer incentives
   - ☐ Special parking or charger access at place of work or commute
   - ☐ Rebates for installing home chargers  ☐ Special electric rate

13. Does your employer or commuter hub offer any of the following services? Check all that apply:
   - ☐ Charging stations  ☐ Preferred parking for hybrid/EV owners  ☐ EV education
   - ☐ Financial incentives for EV use  ☐ Other: ________________________________

14. How would you prefer to get more information about electric vehicles? Please select up to three:
   - ☐ Seeing a variety of vehicles in a local car show  ☐ Visiting dealers
   - ☐ Community workshop or course  ☐ Online resources  ☐ Talking with current EV owners

15. Would you be willing to participate in an electric vehicle leasing program in which you would confidentially share certain data about your car use in exchange for a modest discount?
   - ☐ Yes  ☐ No  ☐ Maybe

16. In the past five years, have you bought, leased or implemented any of the following:
   - ☐ Solar panels  ☐ lighting upgrades  ☐ Heat pump water heaters
   - ☐ Heat pumps for heating/cooling  ☐ Air sealing/insulation  ☐ other: ________________________________

17. May we contact you with more EV news, events and updates on our program?  ☐ YES  ☐ NO

Name: ____________________________________________________________________________
Street Address: __________________________ City: __________________ Zip Code: __________
Email Address: ____________________________________________________________________ Phone: ____________________________
Appendix 2: Team Bios

**Seth Leitman**, a.k.a. Green Living Guy, is a prolific blogger and consumer educator with a social media reach of over a million. PR Newswire ranked his site, [www.greenlivingguy.com](http://www.greenlivingguy.com), as #2 worldwide for green living content. Editor of the **Green Guru Guide** series for Tab McGraw-Hill, Seth has a passion for electric vehicles and has test driven most of them. Before going freelance, Seth worked for the New York State Energy Research and Development Authority (NYSERDA) in marketing and managing alternative vehicle programs including the Clean Fuel Bus Program. He was also a principal in the NYPA-Th!nk Clean Commute Program in 2000, which leased over 100 EVs to metropolitan New York commuters, becoming the largest public-private partnership of its kind. Seth manages Drive Electric Hudson Valley with unstoppable enthusiasm.

**Hugo Jule-Quintanilla** is an automotive engineer turned energy outreach specialist who has educated thousands of Hudson Valley residents on energy efficiency, solar power and electric vehicles in both English and Spanish, as well as having supervised over 100 solar installations. Hugo is Outreach Coordinator for RUPCO’s NYSERDA funded Green Jobs, Green New York Program. He is a BPI Certified Building Analyst and member of the Society of Automotive Engineers, Hudson Valley PassiveHaus and other technical societies. Hugo handles charging technology and outreach events for Drive Electric.

**Elizabeth (Betta) Broad** is the Outreach Director for New Yorkers for Clean Power, a campaign to accelerate the transition to a renewable energy economy in New York State. Before that, she promoted environmental education and advocacy as Deputy Director of Earth Day New York and Program Manager of the Community Fracking Defense Project. She is a co-founder of the Energy Democracy Alliance and serves on the board of Citizens for Local Power as well as numerous appointed posts in local and county government. Betta is responsible for events and publicity for Drive Electric.

**David J. Dell, Ph.D.** has a unique, 30-year background in technology commercialization and organizational strategy, combining best practices
research, management consulting, executive leadership, and investment banking. Through publications, conference presentations and media, he has been recognized as a thought leader in sustainability, outsourcing, M&A integration, HR, corporate IT strategy, and other areas. Dr Dell is active in developing new energy investments and commercialization of technologies. In his personal practice Dr. Dell serves on the boards of growth companies and non-profit organizations including as chair of Sustainable Hudson Valley. He is a trusted personal adviser to senior business leaders. He has served companies in transition and turnarounds as interim CEO, Chief Technology Officer as well as Chief Talent Officer and been an officer and director of 2 NASD National listed companies. As an investment banker he has focused on funding, acquisitions, divestitures and joint ventures of emerging technology companies. He advises growth companies on commercialization and funding strategy, and securing funding; he helps investors properly understand risks and opportunities. David helps to guide Drive Electric’s partnership strategy and messaging.

Melissa Everett, Ph.D. is an outreach and communications strategist working at the intersection of climate action, green industry and community development. As Executive Director of Sustainable Hudson Valley since 2004, she has helped to build a movement of local innovators who are reducing their communities’ carbon footprints and building the market for clean energy industries. Her accomplishments with SHV include convening eight influential regional summits and conferences and bringing the Solarize model for community education and solar group purchasing to the Hudson Valley on a three-year funding award from NYSERDA. Melissa has taught innovative courses in leadership and community service at Rensselaer Polytechnic Institute, and in sustainability at SUNY Dutchess. She received her Ph.D. in 2006 from Erasmus University’s Centre for Environmental Management and Sustainable Development in the Netherlands and was one of the original 1,000 prominent citizens trained by The Climate Project. The author of three books and many articles, she was honored with the Bronze medal for Best Book in Foreword Magazine’s annual rankings, and as one of nine “People to Watch in 2012” by Hudson Valley Magazine. Melissa is point for SHV on Drive Electric’s administrative and financial management and communications strategy.

Appendix 3: Program Materials
Come see SETH LEITMAN “THE GREEN LIVING GUY®” AT KINGSTON NISSAN AND ALL AMERICAN FORD for a first of its kind:

ELECTRIC VEHICLES AND PLUG-IN HYBRIDS

TEST DRIVE EVENT!

140 NY-28
Kingston, NY 12401

Saturday March 4, 2017
10:00 AM - 4:00 PM

Will your next car be electric?

Come and test drive a Nissan Leaf, Ford Focus EV, Fusion Energi and C-Max Energi and Learn about vehicle options, charging stations, discounts, warranties and more!

Please visit our website at wp.sustainhv.org for more info about electric vehicles and other green events in the Hudson Valley!
WILL YOUR NEXT CAR BE ELECTRIC?
FREQUENTLY ASKED QUESTIONS

Drive Electric Hudson Valley is a 4 month consumer education and outreach pilot program to aims to help you figure out if an electric vehicle is right for you. Here are some frequently asked questions about plug-in hybrids and 100% electric vehicles (EV) With your help, we hope to make clean transportation technologies more affordable and available to everyone in the Hudson Valley.

1. What is a hybrid vehicle?
Regular hybrid vehicles have an internal combustion engine (gas or diesel) and an electric motor. Depending on the make, model and driving needs, the engine and electric motor work together or separately to provide the best combination of power or fuel efficiency. There isn’t a plug in feature with regular hybrids.

2. What is a plug in hybrid vehicle?
A plug-in hybrid (PHEV) is similar to a regular hybrid but the battery can be plugged in to recharge. They can usually go longer on electric mode alone than regular hybrids.

3. What is a 100% Electric Vehicle (EV)
A 100% Electric Vehicle uses only an electric motor and a battery pack to power the vehicle. It does not have an internal combustion engine as back up

4. How far can you go on a single charge with a plug in hybrid?
It varies depending on make and model of vehicle. Current models range from 10 to around 50 miles

5. How far can you go a single charge with a 100% Electric Vehicle?
It varies depending on make and model of vehicle. Current models range from 80 to over 300 miles

6. How do you charge an EV?
Either at home with level 1 or 2 stations or at public level 2 charging stations or DC Fast Chargers. Refer to “Charging Stations” handout for more information

7. How long does it take to fully charge an EV?
It varies depending on the size of the battery and type of charger that’s available. Tesla Superchargers and DC Fast chargers can usually do it in under an hour. It may take 4-8 hours with a level 1 or 2 charging station.

8. If I get or have a solar electric system (PV) can I use to charge an EV?
Absolutely, in fact, NYSERDA has an online tool to help you figure out if an electric vehicle is right for you and how you can get the best benefit by adding solar: https://nyserda.wattplan.com/

9. Where are charging stations located?
Refer to Chargepoint and other apps for location finder. Some apps will tell you how much energy is being put into the vehicle, distance equivalent in miles and cost per charge.

10. What are the different types of charging stations out there?
Level 1, level 2 and DC fast chargers are the most common ones. Refer to “Charging Stations” handout for full explanation, details and chargers currently available in the market today.

11. What is the actual cost of ownership?
Depends on the dealer, down payment, discounts available and structure of monthly payments. Maintenance costs will be reduce for there’s no oil changes, tune ups, fuel or air filters to be replaced. Charging cost will depend on electric rates or charging stations rates depending on dealer and municipality. See question 7 and 8 for more details
12. What is the cost to charge an EV?
It depends on the electric rate from the utility and size of battery. For example, if the electric rate is \$0.14 per kWh and the battery size is 24 kWh then \$0.14 x 24 kWh = \$3.36 cost to fully charge battery. Keep in mind some EV makers will let you charge for free at their charging stations and there are municipalities that offer free/reduced cost charging options.

13. What is the cost per mile to drive an EV?
It depends on the electric rate from the utility, size of battery and driving conditions. For example, if a car uses 34 kwh to travel 100 miles and the electric rate is \$0.14/kwh then \$0.14 x 34 kWh / 100 miles = \$0.0476 or 5 cents per mile

14. How can I get the best range out of my EV?
Become familiar with the different “Eco Modes” that your vehicle may have and with the different braking regeneration or recuperation modes that your vehicle may come equipped with.

15. Have you saved money driving your EV?
Yes, mostly gas money. Should be saving money on maintenance as well.

16. What is the best part of owning an EV?
Low cost of operation, smooth driving, low impact on the environment, ability to use new technology.

17. Are EVs for city driving only?
No. EVs can be taking anywhere as long as the trip is planned properly.

18. Are they fast?
Yes, due to full torque available from stand still they can be faster than most gas/diesel powered vehicles.

19. What happens if you run out of charge?
The vehicle will stop. Same as if you run out of gas. If your mindful of your range and travel situation this should not be a problem.

20. Does it handle different than my gas car?
No. The suspension and handling is as good as any regular car. In fact, due to the batteries low center of gravity, some drivers feel an EV handles better than regular gas powered vehicles.

21. Are EVs a primary or secondary vehicle?
Both. It depends on your commuting and lifestyle situation.

22. What kind of maintenance will I have to do on a 100% EV?
Mainly adding washer fluid and tire rotation. There’s no need to do oil changes or replace fuel or air filters because there aren’t any.

23. When do I have to replace the batteries?
It depends on manufacturer estimates. Ask your dealer about warranties during the first 100,000 and take replacement battery cost into account when pricing the car.

24. Should I buy or lease an EV?
It depends on your financial comfort, incentives available and desire to keep a vehicle for a short or long period.

25. Are there any incentives or rebates to help with purchase?
Federal and state!

26. What are the downsides of owning and driving an EV (if any)?
It may require some adjusting to the lack of noise. You need to be more vigilant of pedestrians because they may not hear you coming.

P.O. BOX 1982, POUGHKEEPSIE NY 12601 / 845-454-4444 / INFO@SUSTAINHV.ORG / WWW.SUSTAINHV.ORG
Cars

Check out the growing list of cars powered by electricity! A few years ago, you could count the number of available plug-in cars on one hand, with a couple fingers left over. Today, there are more than 20 models offered from more than a dozen different brands—in a range of sizes, styles, price points and powertrains to suit a wide range of consumers. (Okay, other models have been discontinued, failing to emerge from concepts.) But EVs are here to stay. The cars on this list all offer the sweet speedy-but-silent driving experience only available from battery-to-motor power. Which one of the following plug-in models has your name on it?

**Audi A3 E-Tron**

16 miles (electric + gasoline) | $37,900

After years of developing all kinds of plug-in prototypes, Audi put one on sale in January 2016. The A3 Sportback platform has a compelling mix of attributes—elegant lines, high-quality material and practicality. Combine that with a capable 1.4-liter turbocharged gas engine and an electric powertrain providing about 16 miles of electric driving. The result is a small snazzy and robust plug-in hybrid.

**BMW 330e**

14 miles (electric + gasoline) | $43,700

If you like the styling and road manners of a BMW 3-Series, but want to push the envelope on efficiency, then the 330e is the answer. Commutes of less than 14 miles can happen purely on electricity, with an official 72 MPGee rating. Punch the accelerator for combined power from a 2-liter turbocharged engine and 87-hp electric motor. That results in nearly as much torque as the V6 340 at a lower purchase price after federal incentives.

**BMW i3**

81 miles (pure electric) | $43,300

The stylish if slightly odd-looking BMW i3 is the lightest EV on the market. That makes it very efficient while providing a fast and fun 170-horsepower ride. The i3’s battery pack delivers more than 80 miles of range. The electric Bimmer is also available with a small gas engine that essentially doubles that distance.

**BMW i8**

25 miles (electric + gasoline) | $137,000

The i8 is BMW’s expensive sleek futuristic plug-in hybrid supercar. The car is powered in a one-two punch by a powerful 96-kilowatt (129-horsepower) electric motor driving the front wheels—and an efficient 230-horsepower 1.5-liter turbocharged three-cylinder gasoline engine motivating the rear wheels. The car has a delightful split personality: switching on command between virtuous EV silence, and a delightful Porsche-like engine note when driven as a sports machine.
APPENDIX 4: Social Media Reach

Milestones from the pilot have been captured as posts on www.Greenlivingguy.com and proliferated via social media to reach the following numbers (primarily in New York):

First Ever Drive Electric Hudson Valley Dual Dealer Event - 226k views
Press Release on EV Connect Program - 224k
Do Solar Panels and Electric Cars go Together - 64k
Drive Electric Hudson Valley Launches - 95k plus 507 Retweets

Twitter Stats

Drive Electric Hudson Valley event at BMW Hudson Valley August 12 greenlivingguy.com/ 259 retweets 249 Likes

Drive Electric Hudson Valley Links up with EV Connect to bring Chargers to Hudson Valley of... greenlivingguy.com/2017/05/30/dri... 3,952 RT 967 Likes
REFERENCES AND RESOURCES


About Sustainable Hudson Valley

Sustainable Hudson Valley is a 15-year-old regional organization that helps communities to reduce climate pollution while enhancing local livability through planning assistance and public participation campaigns, and advocates in regional policy. Our NYSERDA-funded Solarize Hudson Valley program has helped over 390 households and businesses to go solar, rolling out over 4.0 MW of solar power, hosting over 100 events and mobilizing over 1,600 volunteer hours. Since many of the same people are interested in solar power and electric vehicles, we are building Drive Electric Hudson Valley on the foundation of our extensive Solarize network.