



SB 517 Electric Vehicle Charging Station Infrastructure Commission

NH Legislative Office Building Room 307
Concord, NH
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Electric Vehicles & NHEC

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NEW HAMPSHIRE ELECTRIC CO-OP (NHEC)

NHEC Background



- ▶ NHEC is one of 900 electric cooperatives around the US
- ▶ NHEC is the only electric cooperative in New Hampshire
- ▶ NHEC is a Distribution Cooperative
- ▶ NHEC has 83,000 meters in 9 out of 10 New Hampshire counties
- ▶ NHEC is the second largest utility in New Hampshire
- ▶ NHEC is only partially regulated by the NHPUC
- ▶ NHEC is governed by it's Board of Directors (members/owners)
- ▶ NHEC is a not for profit corporation
- ▶ NHEC's purpose is to serve our members

NHEC EV Commercial Charger Efforts

- ▶ In 2013 NHEC piloted an EV Level 2 Charger incentive to targeted commercial hospitality members
 - ▶ NHEC preapproved installations and provided 50% of the installed cost up to \$2500
 - ▶ The pilot resulted in 7chargers in six geographically dispersed towns
 - ▶ Meredith, Plymouth, Woodstock, Lincoln, North Conway and Glen
- ▶ In 2017 the EV charger incentive became a standard commercial incentive program at NHEC.
- ▶ 2018 Incentive remains 50% of installed cost up to \$2500 per charger with two chargers allowed at each member per year

NHEC BEV & PHEV Incentives



- ▶ In July 2017 NHEC started a pilot program to offer incentives to our members to buy or lease plug in electric vehicles registered at the same NHEC location as the electric account.
- ▶ NHEC Members receive the following incentive;
 - ▶ BEV - Battery only electric vehicle \$1000
 - ▶ PHEV - Plug in hybrid electric vehicle \$600
 - ▶ Plug in electric motorcycle \$300
- ▶ Over 40 incentives were provided in the last six months of 2017
- ▶ NHEC made the BEV and PHEV incentives part of our standard programs for 2018.

Which EV is Right for me?

Electric cars are becoming more mainstream, you're not alone in wondering whether an electric car is right for you. As the technology supporting electric cars (EVs) and batteries continue to improve, so does the mileage range and the EV charging network. If you were reluctant to consider an EV because of range concerns, some manufacturers are making cars in the 200+ mile range on a single charge. EV charging networks are evolving so consumers can map their destinations by charging locations.

You might qualify for a rebate

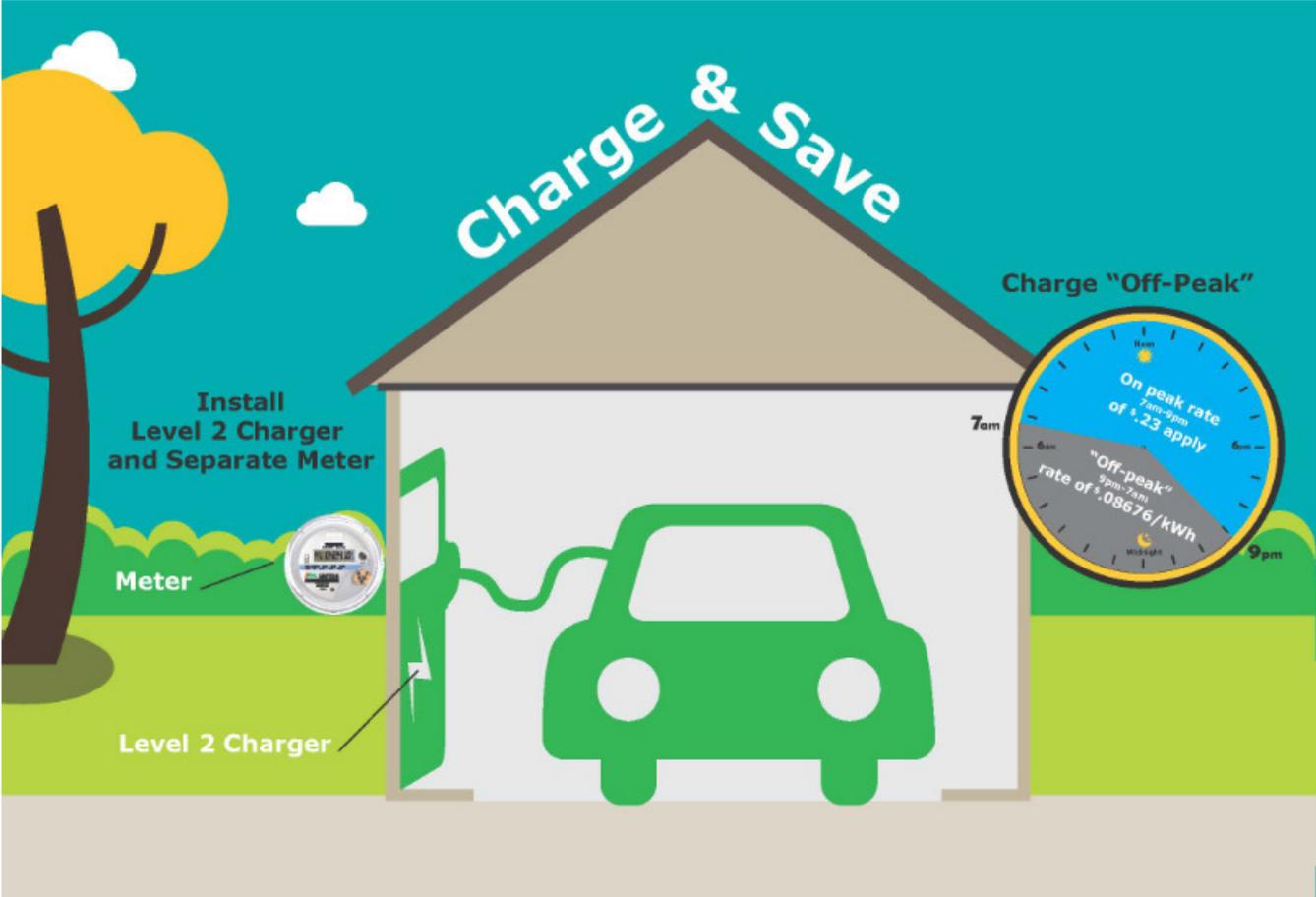
Electric Vehicle Options	Fuel Economy	Emissions	Fueling Flexibility	Rebates
<p>Hybrid Electric Vehicles (HEVs) HEVs are powered by conventional or alternative fuels as well as electrical energy stored in battery. They do not plug-in to charge.</p>	<p>Better than similar conventional vehicles - HEVs use 20%-40% less fossil fuel than conventional vehicles</p>	<p>Lower emissions than similar conventional vehicles - Emissions vary by vehicle and type of hybrid power system</p>	<p>Requires gasoline or alternative fuel - HEVs improve fuel economy, still dependent upon fluctuations in fuel prices</p> 	<p>No tax credit or NHEC rebates are available</p>
<p>Plug-In Hybrid Electric Vehicles (PHEVs) PHEVs are powered by conventional or alternative fuels and electrical energy stored in a battery that powers the electric motor. PHEVs are plugged into an electric power source to charge the battery, in addition to using regenerative braking and the internal combustion engine or other propulsion source</p>	<p>Better than similar HEVs and conventional vehicles - PHEVs use 40%-60% less fossil fuel than conventional vehicles</p>	<p>Lower emissions than HEVs and similar conventional vehicles - PHEVs are sometimes driven on electricity, so emissions are projected to be lower than HEVs</p>	<p>Charge at home or public stations, or use fuel as needed- Less expensive to run than HEV or conventional vehicle</p>  	<p>\$600 NHEC Rebate Tax Credits and incentives may be available</p>
<p>Battery Electric Vehicles (BEVs) A battery stores the electrical energy that powers the motor. EV batteries are charged by plugging the vehicle into an electric power source</p>	<p>No gasoline or other fuels. Fuel economy of EVs are expressed in cost per mile. EVs have better cost per mile than conventional vehicles.</p>	<p>Zero Emissions - BEVs run purely on electricity, therefore emissions do not come from the tailpipe</p>	<p>Charge at home or public charging stations - EVs only run on electricity. A typical electric vehicle costs \$.02 to \$.04 per mile to operate.</p> 	<p>\$1000 NHEC Rebate Tax Credits and incentives may be available</p>

NHEC Residential EV Charger Incentive

- ▶ IN the spring of 2018 NHEC offered a residential EV charger (EVSE) incentive.
 - ▶ Program requires the member to have a separate sub meter that bills the EV charging on the EV Time-Of-Use rate.
 - ▶ Program provides a \$300 incentive towards the installation of a home Level 2 charger
- ▶ NHEC does not control the charging;
 - ▶ Off peak is 9 Pm to 7 AM M-F non holiday. Rate is 8.676 cents per kWh
 - ▶ On peak usage is billed at 23.0 cents per kWh

Charge and Save!

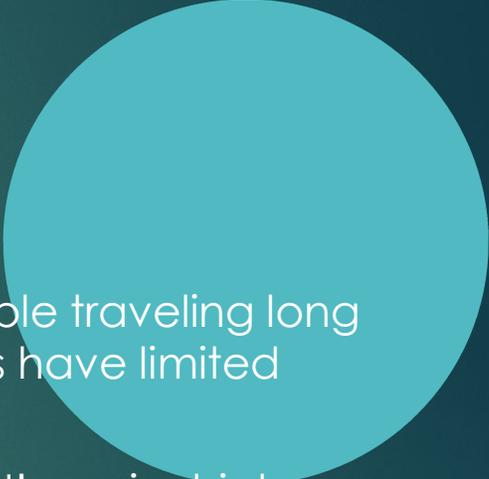
NHEC offers options for charging your electric vehicle (EV) at home. Our off-peak rate program provides you with flexibility and a great way to save. NHEC offers a \$300 rebate to install a level 2 charger at your home. A special meter will be installed to allow you to take full advantage of our off-peak EV rate. A new era has begun in your own garage! You'll save money when you charge your plug-in electric vehicle between the hours of 9pm-7am. You'll wake up charged and ready.



NH and ZEV States

- ▶ The states around NH are Zero Emission Vehicle (ZEV) states which requires the vehicle dealers to sell minimum amounts of ZEV vehicles. This encourages the car dealers to be more supportive of EV's and to more aggressively sell BEV's and PHEV's.
- ▶ The states surrounding NH and Canada are aggressively supporting and/or building their EV Charging infrastructure.
- ▶ This increases the number of BEV and PHEV vehicles traveling to and through NH
- ▶ Increasing the number of charging locations in NH, particularly HVDC, will encourage and retain a strong tourism segment of drivers

NHEC, NH Geography and EV Charging

- ▶ NH is about 190 miles long and 70 miles wide.
 - ▶ At our last meeting we learned that EV charging is done;
 - ▶ First at home
 - ▶ Second at Work
 - ▶ Third at Public or Destination Chargers.
 - ▶ “Public or Destination” charging will be used by tourists, people traveling long distances in the state or people whose apartments or homes have limited charging infrastructure.
 - ▶ Initially five or ten strategically placed HVDC chargers on NH’s major highway corridors would enhance NH’s EV charging infrastructure dramatically and make traveling with EV’s in NH much more competitive with our surrounding states.
 - ▶ EV Charging does not have to be free but it does have to be fairly priced
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NHEC and Highway Corridors



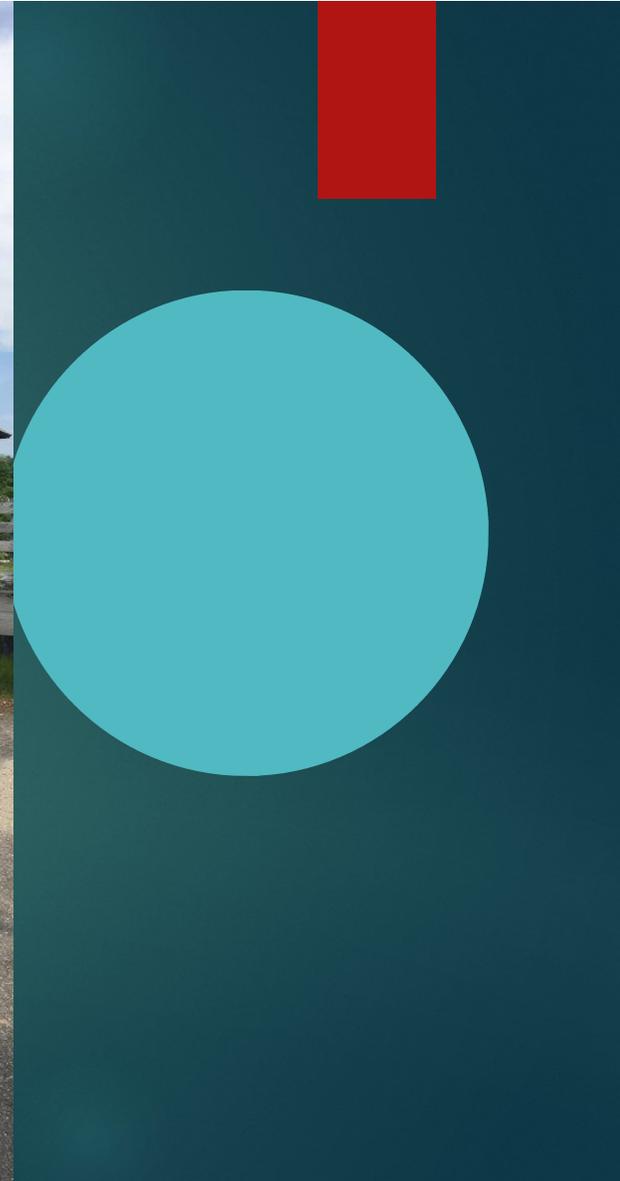
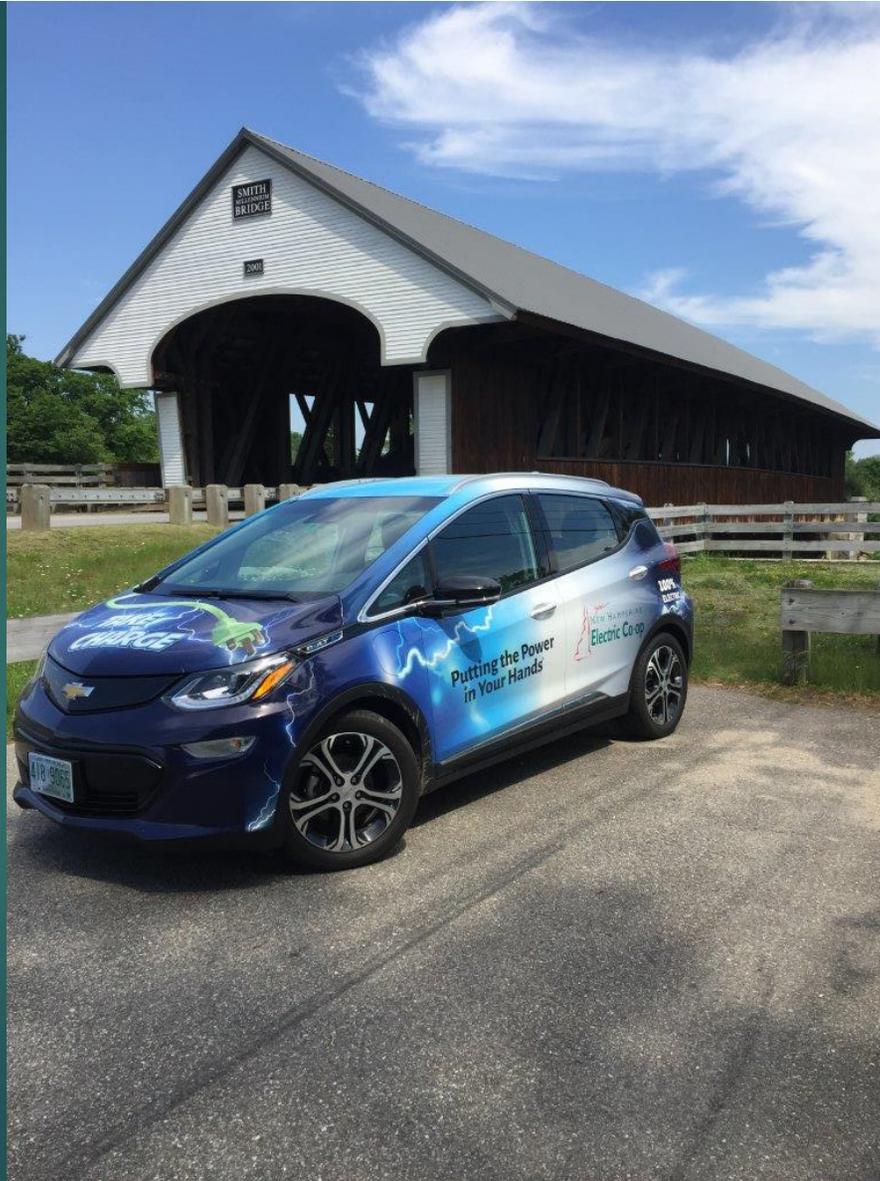
- ▶ NHEC serves the following highway corridors;
 - ▶ Interstate 93 Highway from exit 25 through Lincoln NH
 - ▶ NH Route 16 from North Conway through Jackson
 - ▶ NH Route 25 from most of Orford through Moultonborough
 - ▶ NH Route 11 from Alton to New Durham
 - ▶ Various parts on many other NH Routes
- ▶ NHEC Serves the following major tourism centers;
 - ▶ North Conway, Lincoln, Jackson, Waterville Valley, Meredith, Alton, Center Harbor, Moultonborough, Bartlett, Plymouth, North Woodstock, Holderness, Campton, Glen, Tuffonboro, Melvin Village and many of the surrounding towns.

NHEC and Tesla

- ▶ Tesla wanted a HVDC (Level 3) Supercharger Station in the Lincoln area
- ▶ NHEC worked with Tesla to facilitate the installation of 6 HVDC chargers
- ▶ This work was done using NHEC's ROI Process
- ▶ **3. Return on Investment Analysis (ROI)**
 - ▶ a. If a commercial service is expected to exceed 50 KW, we may perform a Return on Investment analysis to determine the amount of a ROI Cooperative Allowance; reflecting our expected return on investment from the structure to be built.
 - ▶ b. An ROI requires a contract with NHEC, and the availability of the business owner or corporate executive to approve and sign both the NHEC Load Data Sheet and the NHEC ROI Agreement.
 - ▶ c. With an ROI, the Member will always pay 20% of the estimated construction cost.
 - ▶ d. If the ROI payback period is determined to be 24 months or less, no deposit will be required.
 - ▶ e. For ROI payback periods longer than 24 months, a deposit will be required.
- ▶ NHEC and Tesla are working on another location in our service territory.
- ▶ This same process could be used with other developers in the NHEC service area installing HVDC/Level 3 chargers

NHEC EVSE Philosophy

- ▶ NHEC believes electric vehicle usage will continue to increase, we intend to be proactive in promoting their adoption and we will actively support the infrastructure needed to serve them.
- ▶ NHEC plans to continue our residential and commercial Level 2 incentive programs into 2019 and beyond as demand dictates.
- ▶ NHEC will work to make sure new EVSE installations are on the DOE AFUDC website, Plugshare, ChargePoint and other new websites that may be developed
- ▶ NHEC would like to work with the State of NH on a plan to develop and install EVSE signage on the major highway corridors.
- ▶ NHEC will work with the Towns, State of NH and HVDC charger developers as we have with Tesla in our service area to promote the installation of these chargers.
- ▶ Combining VW Settlement funds with the NHEC ROI Process can dramatically lower Level 3 charger installation costs



Questions?



Thank you!

