SB 517 Electric Vehicle Charging Station Infrastructure Commission

NH Legislative Office Building Room 203
Concord, NH
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NHEC Role Developing EVSE Chargers in NH

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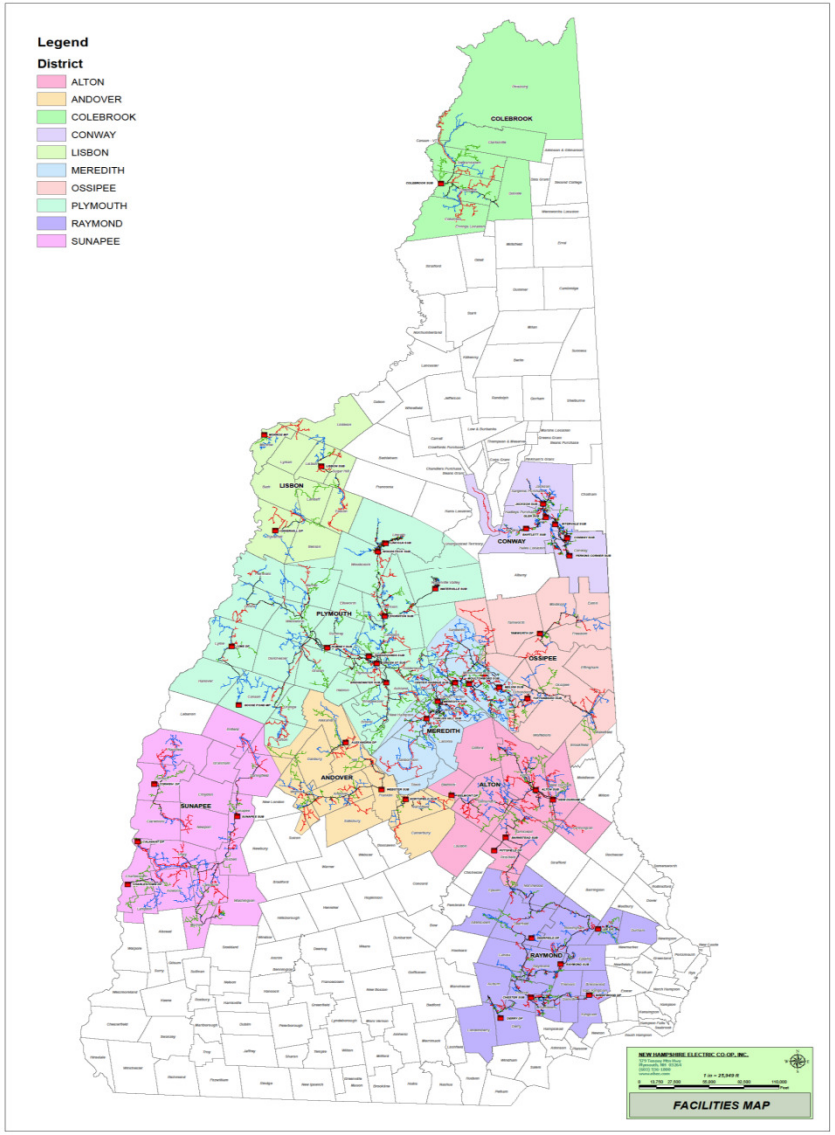
NHEC Background

- 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 electric 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


Legend
District
ALTON
ANDOVER
COLEBROOK
CONWAY
LISBON
MEREDITH
OSSIPEE
PLYMOUTH
RAYMOND
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LISBON
CONWAY
PLYMOUTH
OSSIPEE
MEREDITH
ANDOVER
ALTON
SUNAPEE
RAYMOND
NEW HAMPSHIRE ELECTRIC CO-OP, INC.
FACILITIES MAP

NHEC Role in BEV, PHEV & EVSE Development

- NHEC IS ALREADY DOING IT !!!!!
- Worked with Tesla on 6 HVDC Chargers in Lincoln (Others in the works)
- 11 Commercial Locations with 16 Level 2 Chargers
- 19 Residential EVSE locations added with 21 Level 2 Charges on TOU Rate (last part of 2018)
- 56 - BEV Cars
- 58 PHEV Cars
- 1 BEV Motorcycle

NHEC Role in ESVE Development

- NHEC's Beneficial Electrification plan anticipates increased electric vehicle adoption in NH and we will be a part of helping grow EV use
- NHEC has been piloting and promoting the development of ESVE infrastructure for more than five years already!
- NHEC has been offering incentives for EV and EVSE purchases and installations for several years with funds from our Social and Environmental Responsibility Budget (Funds in addition to the SBC Funded Four Utility NH Saves Core Programs)
- NHEC has been organizing, promoting and advertising EV and EVSE's incentives and events for several years- NDEW Event – Common Man , MWVCC EV Alley, EV Cruise Night -104 Dinner, Green Energy Times

Barriers to Utility EVSE Investment

- Depending on location infrastructure cost can be very high and current EVSE Charger electric use is relatively low
- Operating EVSE charging stations is not a core competency of most utilities, as usual there are Pro's and Con's.

NHEC Efforts Reducing Barriers to EVSE Installations

- NHEC is providing incentives for both Commercial and Residential Level 2 EVSE Chargers
- Projects with chargers exceeding 50 KW are reviewed with an ROI Analysis
- When NHEC is making System Improvements typically for load growth if EVSE improvements are needed we work with the member to provide the infrastructure usually at no additional cost
- NHEC Expanded our TOU (Time of Use) Rate to encourage residential EV growth with a rate that promotes “off peak” electric usage

NHEC Legislative Changes

- NHEC would like to see legislative changes made to the RSA's so that the NH Department of Motor Vehicles will provide electric vehicle registration data by address, town or zip code on at least an annual basis to help electric utilities better understand EV load growth on their systems. Registration data confidentiality will need to be maintained as a component of this legislation.

The Slides Below are Examples of NHEC's Efforts to Promote EV's, EVSE and HVDC

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 7 chargers 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.
- 2019 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 who buy or lease plug in electric vehicles registered at the NHEC electric account address.
- NHEC Members receive the following incentive;
  - BEV - Battery only electric vehicle $1000
  - PHEV - Plug in hybrid electric vehicle $600
  - Plug in electric motorcycle $300
- To date over 115 incentives have been provided to members
- 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

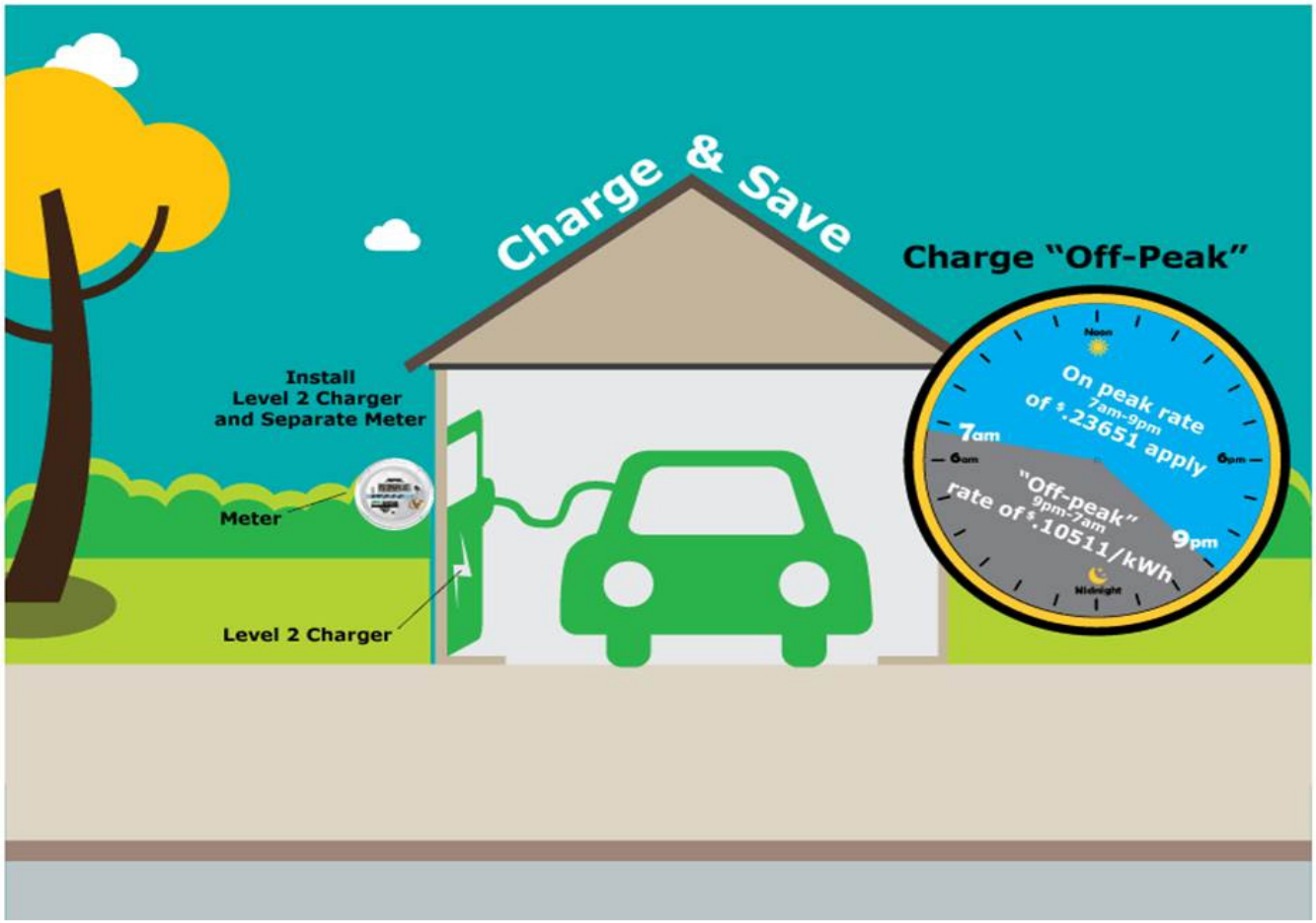
Electric Vehicle Options	Fuel Economy	Emissions	Fueling Flexibility	Rebates
Hybrid Electric Vehicles (HEVs) HEVs are powered by conventional or alternative fuels as well as electrical energy stored in battery. They do not plug-in to charge.	Better than similar conventional vehicles - HEVs use 20%-40%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

NHEC Residential EV Charger Incentive

- In 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 10.511 cents per kWh
  - On peak usage is billed at 23.651 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.



NHEC, NH Geography and EV Charging

- NH is about 190 miles long and 70 miles wide.
- Previously 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

NHEC and Highway Corridors

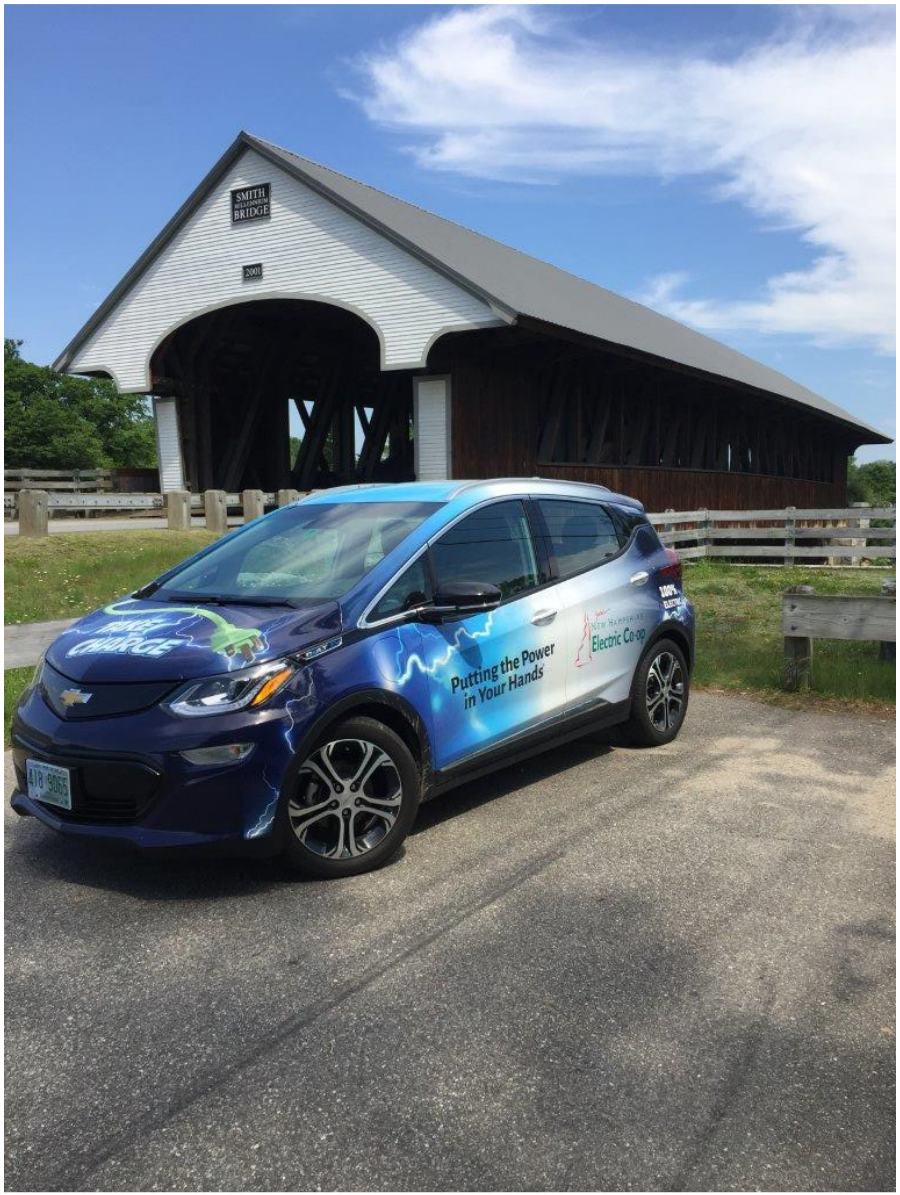
- NHEC serves the following highway corridors;
  - Interstate 93 Highway from exit 25 though Lincoln NH
  - NH Route 16 from North Conway through Jackson
  - NH Route 25 from most of Orford through Moultonborough
  - NH Route 11from Alton to New Durham
  - Various parts on many other NH Routes
- NHEC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


SMITH
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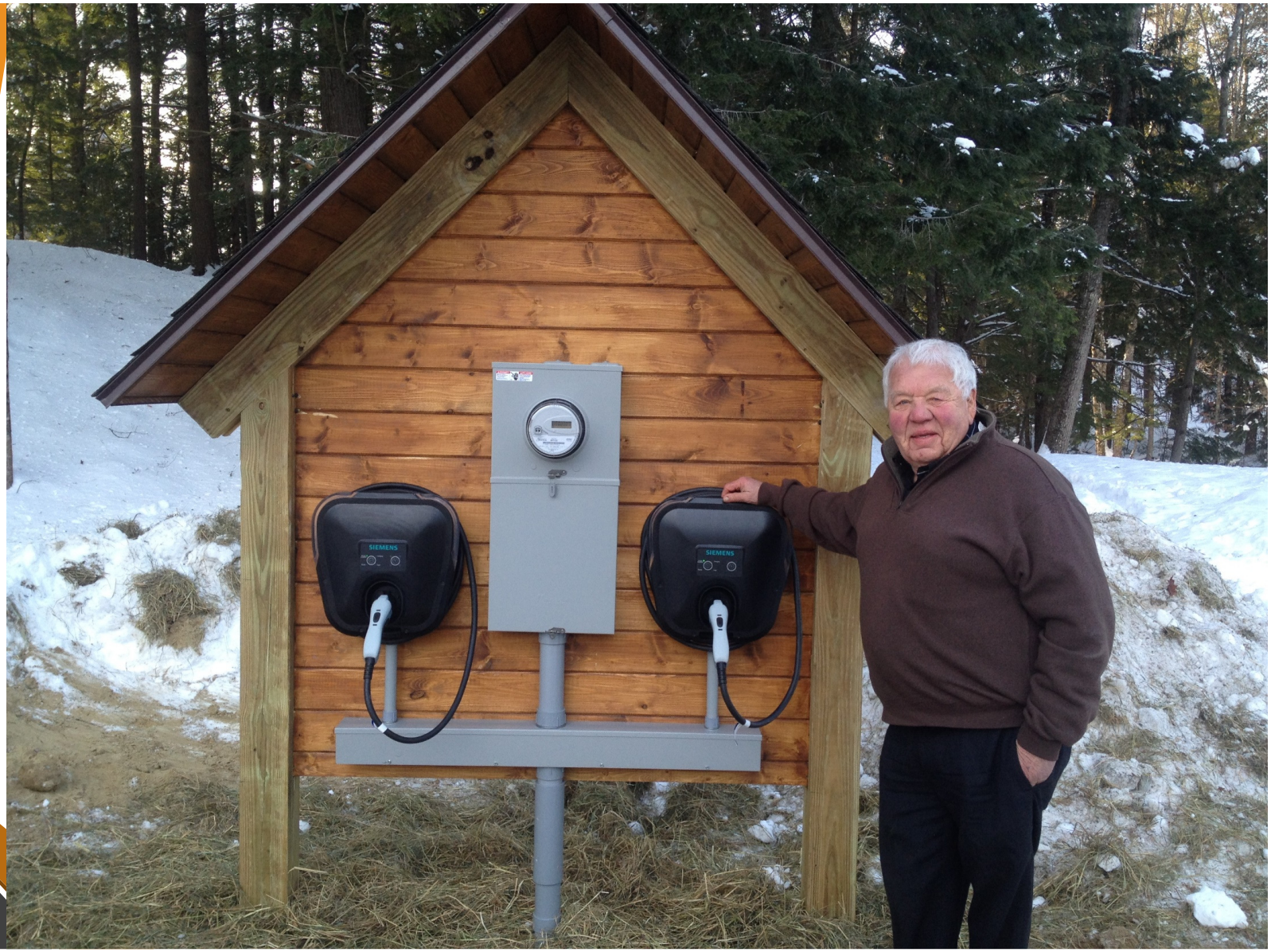
Putting the Power
in Your Hands
Electric Co-op


SIEMENS
SIEMENS


the common man INN & Spa
Electric Car Port
EV Charger Procedures at The Common Man Inn & Spa
Plymouth, NH
EV Charger:
• Complimentary to Guest of The Common Man Inn & Spa & Foster's Boiler Room Restaurant
• Documentation of the EV Chargers usage is required to aid in our research of this pilot program which has been made possible by The Common Man Inn & Spa, Foster's Boiler Room Restaurant and NH Electric Co-Op; a member owned electric company
• Use of the EV Charger is on a first come first served basis
• Please register at the front desk
If you are here and no one is at the front desk, please email your vehicle make/model, town, state and approximate time of use to : info@thecmaninn.com
• We would appreciate hearing from you about your experience using the charging station
Thank You!
Think Green and Do Good!
The Staff at The Common Man Inn & Spa
SIEMENS


WOODSTOCK STATION


ELECTRIC
VEHICLE
PARKING
ONLY WHILE
CHARGING

Questions?

Thank you!