ELECTRIC VEHICLES IN THE GRANITE STATE

Status & Future

NH Energy Summit | September 23, 2019
HOW DOES NEW HAMPSHIRE GET TO THE “SUMMIT”? 

How do we effectively plan, build, & manage an EV-accessible state?
HOW DOES NEW HAMPSHIRE GET TO THE "SUMMIT"?

Benefits

Partnerships, evaluation & planning, build-out, management

Education, awareness & promotion, adoption
PHASE 1: BASECAMP

Education, awareness & promotion, adoption
PHASE 1: BASECAMP: EDUCATION

• Electric vehicles: powered by a **battery** and an **electric motor**
• Plug-in hybrids: powered by **both** an electric motor & battery and a gasoline engine; can run on either system
• Also include **medium & heavy-duty** trucks & vehicles
  • School buses
  • Transit buses
BASECAMP: EDUCATION

Types of charging

• Level 1: approx. 2-5 miles of range/hour
• Level 2: approx. 25 miles of range/hour
• Level 3 (aka “DC Fast Charging”):
  • 2-7 miles of range/minute

Most EV owners have access to & charge at home; for longer drives & tourists, publicly accessible fast-charging options are crucial.
BASECAMP: AWARENESS

• **Light-duty** models available: 59+
• **Range**: varies depending on model & weather; average 225+

• **Electric School Bus** models: ≥8
• **Other medium & heavy duty** vehicles in various stages of development & use
BASECAMP: PROMOTION

• Destination Electric: highlights 43 small businesses in proximity to EV charging in Portsmouth, Dover, Nashua

• Charge Forward EV Relay: highlighted 7 NH destinations & over 10 EV models
BASECAMP: ADOPTION

• NATIONAL
  • 40% annual growth rate since 2012
  • Doubling of market share every 2 years
  • Projections estimate 18.7 million vehicles by 2030

• NEW HAMPSHIRE
  • 2% of total vehicle sales in 2018
  • 1,123 new EVs registered in 2018
  • 42% increase over the 788 vehicles registered in 2017
PHASE 2: THE HIKE

Partnerships, evaluation & planning, build-out, management
Shouldn’t planning come in Phase 1?
THE HIKE: PARTNERSHIPS

Major players:

• Utilities
• State agencies
• Regulators
• Charging station providers
• Businesses
• NGO’s
• Local Governments

Partnerships & Policies

• Drive Electric NH
• SB517 Commission
• Volkswagen Settlement ($4.6 million earmarked for EV charging infrastructure)
• Transportation Climate Initiative
• ZEV Mandate (surrounding states)
THE HIKE: EVALUATION

Existing charging

• LEVEL 2
  • Approximately 100 Level 2 charging stations

• DC FAST-CHARGING:
  • Only 10 stations (5 Tesla, 5 Universal)

Where do we need charging stations?

• KEY TRAVEL CORRIDORS
  • Include: I89, I93, I95, Route 101, Spaulding, Route 9

• WORKPLACE
THE HIKE: EVALUATION & PLANNING

SB517 Commission has supported prioritizing DC fast-charging

• DISTANCE BETWEEN STATIONS
  • Approx. every 50 miles; more frequent in mountainous terrain

• SITES NEEDED
  • According to recent report “Evaluating Electric Vehicle Infrastructure in NH”: 24
  • Other Estimates: 100+
  • **Utility Proposal:** Utilize roughly $2 million from VW Settlement & utility investments to fill gaps in travel corridors & build-out NH’s DC fast-charging network
THE HIKE: BUILD-OUT

• UTILITY PROPOSAL FOR DC FAST-CHARGING NETWORK
  • RFP Pending from OSI

• OTHER CHARGING STATIONS
  • Future grants for Level 2 charging stations in communities possible
  • Rebates for workplace & destination charging (NHEC)

• TRANSPORTATION CLIMATE INITIATIVE
  • New Hampshire has participated but not committed; could potentially create revenue for investment into clean transportation infrastructure

• ELECTRIC SCHOOL BUSES & FLEETS
  • RFP released through OSI; no responses received during initial application window
  • Can’t forget about other types of vehicles
THE HIKE: MANAGEMENT & MOMENTUM

Considerations for intersection with the energy industry:

• How do we facilitate smart utility investments in make-ready infrastructure?
• How do we support a competitive marketplace?
• How do we incorporate smart charging technology into grid modernization?
• Are there opportunities to incorporate on-site demand response & energy storage?
• How should demand charges be structured so as not to disincentive site hosts?
• How can we promote time-of-use rates & off-peak charging?
• Should NH offer rebates for charging stations & EVs?
PHASE 3: THE SUMMIT

Benefits to New Hampshire from electric vehicles
THE SUMMIT: ECONOMIC BENEFITS

• FOR THE EV OWNER:
  • Generally costs less to fuel than gasoline-powered vehicles
  • Lower maintenance costs

• FOR THE CHARGING STATION HOST:
  • Benefit to offer to employees, tenants, or visitors

• FOR THE STATE:
  • Maintains NH’s place as the premiere New England destination for tourists with EVs
  • New vehicles for automobile dealers to showcase
  • Local construction & project management jobs
  • Lower emissions from the transportation sector
  • Desirable place to live

• FOR UTILITIES:
  • Demand response, energy storage, & off-peak charging
  • Increased electrification has the potential to lower overall rates