Efficiency Maine Trust

- Runs programs to promote energy conservation for all customer groups, all energy types, in all areas of Maine
- Provides rebates, financing, technical information, registry of vendors, M&V, and reporting
- Funded by
  - Electric and natural gas utility ratepayers
  - Regional Greenhouse Gas Initiative (RGGI)
  - ISO New England grid operator (Forward Capacity Market)
  - Grants and contracts
EV Charging Equipment
MAINE’s EVSE INITIATIVE -- OVERVIEW

- Funded by the VW Environmental Mitigation Trust
  - Settlement of federal lawsuit
- Pursuant to the State of Maine’s Beneficiary Mitigation Plan
- Administered by the Efficiency Maine Trust
- Funding Level -- $3.15 million
Types of EV Chargers

<table>
<thead>
<tr>
<th>AC Level One</th>
<th>AC Level Two</th>
<th>DC Fast Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VOLTAGE</strong></td>
<td><strong>VOLTAGE</strong></td>
<td><strong>VOLTAGE</strong></td>
</tr>
<tr>
<td>120v 1-Phase AC</td>
<td>208V or 240V 1-Phase AC</td>
<td>208V or 480V 3-Phase AC</td>
</tr>
<tr>
<td><strong>AMPS</strong></td>
<td><strong>AMPS</strong></td>
<td><strong>AMPS</strong></td>
</tr>
<tr>
<td>12–16 Amps</td>
<td>12–80 Amps (Typ. 32 Amps)</td>
<td>&lt;125 Amps (Typ. 60 Amps)</td>
</tr>
<tr>
<td><strong>CHARGING LOADS</strong></td>
<td><strong>CHARGING LOADS</strong></td>
<td><strong>CHARGING LOADS</strong></td>
</tr>
<tr>
<td>1.4 to 1.9 kW</td>
<td>2.5 to 19.2 kW (Typ. 7 kW)</td>
<td>&lt;90 kW (Typ. 50 kW)</td>
</tr>
<tr>
<td><strong>CHARGE TIME FOR VEHICLE</strong></td>
<td><strong>CHARGE TIME FOR VEHICLE</strong></td>
<td><strong>CHARGE TIME FOR VEHICLE</strong></td>
</tr>
<tr>
<td>3–5 Miles of Range Per Hour</td>
<td>10–20 Miles of Range Per Hour</td>
<td>80% Charge in 20–30 Minutes</td>
</tr>
</tbody>
</table>
Maine’s Priority EV Fast-Charge Corridors

I-95 / 295
- I-95: From Kittery to Bangor
- I-295: From Portland to W. Gardiner
  
Route 1 -- From Freeport to Ellsworth

Route 2 -- From New Hampshire (Bethel) to Newport

Route 3 -- From Bangor to Bar Harbor

Route 27 -- From New Hampshire (Coburn Gore) to Boothbay Harbor

Route 201 -- From Quebec (at Jackman) to I-95

Route 302 -- From New Hampshire (Fryeburg) to I-95/295
PHASE I:

Establish the Foundation of Maine’s EV Fast-Charge Network
Existing Level 3 (DC Fast) Chargers – Gap Analysis
First Round of Level 3s

1. Kennebunk Tpke Plaza N
2. Kennebunk Tpke Plaza S
3. W. Gardiner Tpke Plaza
4. Bridgton
5. Farmington
6. Skowhegan/Bingham
7. Jackman
Benefits and Markets Served

• Establish corridors of EV travel for interstate and international travelers to overcome range anxiety for EV owners/operators
• Encourage / reassure EV tourists to embark for Maine destinations
• Encourage / reassure intrastate business and recreational EV travel to Maine destinations
Equipment Criteria for Phase I

- Min. two (2) DC Fast Charge 50kW stations and one (1) Level 2 charger per site, with “future-proofing”
  - Provide both the SAE CCS standard and CHAdeMO standard at every site
    - For Turnpike sites -- 150 kW units
    - For lower-traffic sites -- 50 kW units
  - Level 2 Equipment:
    - 208-240 volt AC charging equipment;
    - Cord connector complies with SAE J-1772 standard
- Network interoperability including multiple point-of-sale methods
- Data Capture Required (usage data recorded)
Implementation

- Contract awarded to ChargePoint, Inc. to provide:
  - Host site planning and permitting
  - Connection to the electrical service
  - EVSE equipment purchase and installation
  - Operation and maintenance for 7 years
    - Billing
    - Customer service / tech support
    - Equipment Warranty
- Break ground summer of 2019
PHASE II:

Improve Local Access and Destination Charging

With Publicly Available Level 2 Chargers
Benefits and Markets Served

Benefits:
1. Lowering energy costs for Maine drivers
2. Lowering carbon footprint of Maine drivers
3. Mitigating “Range Anxiety” for Maine EV travelers
4. Transforming the marketplace toward lower cost/lower carbon vehicles
5. Engaging Maine consumers and communities

Market Served/Intended Use:
1. Commuters / Employees
2. Local drivers at mid-point of errands/shopping
3. Business people driving to/from meetings
4. Rental car drivers
5. Tenants of multi-unit dwellings
Site Qualifications

- Available statewide
- Public access and suitability
- Proximate and convenient to significant vehicle traffic and/or destinations
- Networking requirement (TBD)
- Free charging or paid charging to be determined (TBD)
Process, Timeline and Budget

• Competitive Solicitation / Application Process
  o Likelihood of high-traffic and/or significant usage
  o Strategic value of location
  o Visibility
  o Accessibility
  o Readiness, Capacity, Sustainability of Host / Development Team

• Timeline
  o First-round RFP launch -- April, 2019
  o First-round applications due – June, 2019 (tent.)
  o Second-round RFP, if any funds leftover -- 2020

• Budget -- $300,000

• FMI – www.efficiencymaine.com
PHASE III:

Extend Maine’s EV Fast-Charge Network
Priority Stretches for Next Round of Level 3 Chargers

1. I-95 from Bangor to Augusta
2. I-95 from W. Gardiner to Portland
3. Route 1 from Ellsworth to Brunswick/Topsham

Stars indicate Level 3 Sites procured in First Round

Orange markers indicate existing Level 3 Chargers
Process, Timeline and Budget Allocation

- Competitive Solicitation
  - Distance from nearest Level 3 fast charger (DCFC)
  - “Preference criteria scoring” regarding host site (e.g., visibility, accessibility, traffic served, accommodations, importance of “fast-charger” capacity)
  - Economics (e.g., lowest Efficiency Maine Trust incentive per charging station or per kW installed, projected cost-effectiveness, etc.)

- Timeline
  - Launch RFP Summer 2019
  - Award & Contract Summer/Fall 2019

- Initial Budget Allocation
  - $1,000,000
Promoting EVs
Background

- Recent settlement with VW for $5.1 million to be used by the Department of the Attorney General for environmentally beneficial purposes, such as reduction of NOx emissions
- Result of action brought by the Office of the Attorney General for violations of Maine environmental laws and unfair trade practice laws
- Directed to Efficiency Maine to administer initiatives to promote electric vehicles in Maine and lower emissions
Objectives of the EV Initiatives

• Reduce operating costs and conserve Maine taxpayer dollars for state, county or local government;
• Reduce operating costs and improve fiscal sustainability of organizations serving elderly, special needs, or low-income Mainers;
• Complement the ongoing efforts to establish a network of EV charging infrastructure at strategic locations across the state;
• Encourage and promote car dealers stocking and marketing all-electric vehicles to Maine consumers;
• Begin to transform the marketplace for vehicles;
• Raise awareness in Maine of the potential economic and environmental impacts of EVs.
1. **Public and Non-Profit Fleets**

- Priority EV customer opportunities
  1. state and local government vehicle fleet owners and
  2. operators of non-profit organizations serving elderly, special needs, or low-income communities.

- Eligible vehicles and equipment:
  - FHWA Class 1, 2, or 3 EV
  - ancillary equipment

- Preliminary budget - $2.25 million
- Goal is 100 new EVs
2. EV Rebate Program

- Program design elements are under development / TBD, including:
  - Eligible equipment:
    - Include motorcycles and scooters?
    - New and/or used?
    - Include charging equipment?
    - Maximum list price?
  - Purchase and/or lease?
    - Minimum lease duration?
    - Minimum period of ownership (not for resale)?
  - Amount of incentive
  - Application process and required documentation
    - Proof of purchase and Maine registration
- Preliminary budget - $2.25 million
- Goal is 900 EVs added in Maine
### Oregon Standard Rebates

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>MY</th>
<th>Battery Size (kWh)</th>
<th>Rebate Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audi</td>
<td>A3 Sportback e-tron</td>
<td>2018</td>
<td>8.8</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>BMW</td>
<td>i3, i3 REx, i3s REx, i3e REx</td>
<td>2018</td>
<td>7.6</td>
<td>$1,500.00</td>
</tr>
<tr>
<td></td>
<td>330e</td>
<td>2018-2019</td>
<td>33.42</td>
<td>$2,500.00</td>
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<tr>
<td>Chevrolet</td>
<td>Bolt</td>
<td>2017-2019</td>
<td>50</td>
<td>$2,500.00</td>
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<tr>
<td></td>
<td>Volt</td>
<td>2018-2019</td>
<td>18.4</td>
<td>$2,500.00</td>
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<tr>
<td>Chrysler</td>
<td>Pacifica Hybrid</td>
<td>2018-2019</td>
<td>16</td>
<td>$2,500.00</td>
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<tr>
<td>Fiat</td>
<td>500e</td>
<td>2018-2019</td>
<td>24</td>
<td>$2,500.00</td>
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<tr>
<td>Ford</td>
<td>Focus Electric</td>
<td>2018</td>
<td>33.5</td>
<td>$2,500.00</td>
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<tr>
<td></td>
<td>Fusion Energi (including Platinum, SE, Titanium)</td>
<td>2018-2019</td>
<td>7.6</td>
<td>$1,500.00</td>
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<tr>
<td>Honda</td>
<td>Clarity Electric</td>
<td>2018-2019</td>
<td>25.5</td>
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<tr>
<td></td>
<td>Clarity Plug-In Hybrid, Touring</td>
<td>2018-2019</td>
<td>17</td>
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<tr>
<td>Hyundai</td>
<td>Ioniq Electric</td>
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<tr>
<td></td>
<td>Ioniq PHEV</td>
<td>2018-2019</td>
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<td>$1,500.00</td>
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<tr>
<td></td>
<td>Santa Fe PHEV</td>
<td>2018</td>
<td>9.8</td>
<td>$1,500.00</td>
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<tr>
<td>Kia</td>
<td>Soul EV, EV+</td>
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<td>30</td>
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<tr>
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<td>Optima PHEV</td>
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<tr>
<td></td>
<td>Niro PHEV (including LX, EX, EX Premium)</td>
<td>2018-2019</td>
<td>8.9</td>
<td>$1,500.00</td>
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<tr>
<td>Mini</td>
<td>SE Countryman A4 PHEV</td>
<td>2018-2019</td>
<td>7.6</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Mitsubishi</td>
<td>Outlander SEL PHEV, GT PHEV</td>
<td>2018-2019</td>
<td>12</td>
<td>$2,500.00</td>
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<tr>
<td>Nissan</td>
<td>Leaf</td>
<td>2018</td>
<td>40</td>
<td>$2,500.00</td>
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<tr>
<td></td>
<td>Leaf S, SV, SL</td>
<td>2019</td>
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</tr>
<tr>
<td>Subaru</td>
<td>Crosstrek Hybrid</td>
<td>2019</td>
<td>9</td>
<td>$1,500.00</td>
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<tr>
<td>Tesla</td>
<td>Model 3 MR RWD</td>
<td>2018-2019</td>
<td>50</td>
<td>$2,500.00</td>
</tr>
</tbody>
</table>

### Zero-emission Motorcycles

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>MY</th>
<th>Rebate Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alta Motors</td>
<td>Redshift EXR</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td>Energica</td>
<td>Ego</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td></td>
<td>Eva</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td>Zero</td>
<td>DS</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td></td>
<td>DSR</td>
<td>2019</td>
<td>$750.00</td>
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<tr>
<td></td>
<td>FX</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td></td>
<td>FXS</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>2019</td>
<td>$750.00</td>
</tr>
<tr>
<td></td>
<td>SR</td>
<td>2019</td>
<td>$750.00</td>
</tr>
</tbody>
</table>
Stay in touch

- Join our EV Stakeholder email list
- Share your ideas for the program designs for EV Chargers and the new initiatives to promote EVs
- Check out more information at www.efficiencymaine.com

Thank you!