Basics of EVs

SONJA MEINTSMA, RECHARGE SOUTH CENTRAL
Electric is the Future
ReCharge South Central

Goal: To increase adoption of electric vehicles across Colorado...

- Going electric in Colorado
- Buying an electric car
- Working with dealers
- Finding chargers
- Getting an EV Charger installed in your workplace or housing

Call or email me!
sonja@denvermetrocleancities.org
### Key Takeaways:

- Switching to an electric car is easy
- Simple to maintain
- Affordable
- Fun to drive
- Healthy for you
- Good for the environment
Zoom Meeting Reminders

Ask Questions!

This webcast will be recorded
Use your video – we’d love to see you!

Use Chat – it will be monitored by our staff

Keep yourself muted except to speak
Where are you tuning in from?
Basics of EVs Workshop

Overview

Electric Cars 101
EVs in Colorado
Benefits & Drawbacks
EV Charging
Financial Incentives
Your Questions
Types of Electric Vehicles

**Hybrid**
No plug

**Range**
Features a dual engine, the primary (combustion) and an electric motor. The battery recharges when the vehicle reduces speed.

**Plug-in hybrid**
Refuel it and plug it in

**Range**
Combines a combustion engine and an electric motor which is primarily used. The battery charges when the vehicle reduces speed or directly when plugged in.

**100% electric**
Zero emissions

**Range**
Exclusively electric drive and all its power and range comes from its high capacity rechargeable battery.
BEV Models Available in Colorado

13 BEV MODELS AVAILABLE
AFFORDABLE: $30,000
LUXURY: $70,000
RANGE: 84-322 MILES
AWD OPTIONS
# BEV Models Available in Colorado

<table>
<thead>
<tr>
<th>Class</th>
<th>Make/Model</th>
<th>Starting Price*</th>
<th>Range in Miles</th>
<th>Seats</th>
<th>AWD?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>Mini Cooper SE</td>
<td>$29,900</td>
<td>110</td>
<td>4</td>
<td>Front only</td>
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<tr>
<td>Car</td>
<td>Nissan Leaf S / S Plus</td>
<td>$31,600/$38,200</td>
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<td>170</td>
<td>5</td>
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<tr>
<td>Car</td>
<td>Fiat 500e</td>
<td>$33,460</td>
<td>84</td>
<td>4</td>
<td>Front only</td>
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<tr>
<td>SUV/CV</td>
<td>Volvo XC40 ReCharge</td>
<td>$33,700</td>
<td>208</td>
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<td>AWD</td>
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<tr>
<td>Car</td>
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<td>Front only</td>
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<tr>
<td>SUV/CV</td>
<td>Hyundai Kona</td>
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<td>Front only</td>
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<tr>
<td>Car</td>
<td>Telsa 3</td>
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<tr>
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<tr>
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<td>4</td>
<td>Rear Only</td>
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<tr>
<td>SUV/CV</td>
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<td>$49,990</td>
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<td>SUV/CV</td>
<td>Audi e-Tron</td>
<td>$65,900</td>
<td>222</td>
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<td>AWD</td>
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<tr>
<td>SUV/CV</td>
<td>Jaguar i-Pace</td>
<td>$69,850</td>
<td>234</td>
<td>5</td>
<td>AWD</td>
</tr>
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</table>
EVs on the Road in Colorado

30,256 as of September 1, 2020

Goal: 940,000 by 2030
ELECTRIC TRUCKS ARE COMING!

Source: https://www.caranddriver.com/news/a29890843/full-electric-pickup-trucks/
Ford 150 All-Electric
Tune in for a Demo of a Tesla Model S and a Live Q&A Session!

Saturday, October 3rd at 9-10:30 am MT
Why Electric Vehicles?

- CLEAN ALTERNATIVE
- COST SAVINGS
- DOMESTIC ENERGY INDEPENDENCE
- FUN FACTOR
Benefits of EVs

- SAVE TIME
- SAVE MONEY
- PROTECT YOUR HEALTH
Unique Qualities of EVs

- Instant peak torque
- Regenerative braking
- Dual motor AWD options
- Battery pack at bottom
Instant Torque
Regenerative Braking
Driving EVs in Winter

Extreme cold can limit range
Technology is improving
Charger Types

**Level 1 (120v AC)**
- 2-5 miles charge per hour
- Slow charging, sufficient for overnight charging
- *No cost*

**Level 2 (240v AC)**
- 10-40 miles charge per hour
- Quicker charging, ideal for workplace and retail locations
- Requires 240 Volt outlet or hardwired charger
- $500 – $2,000

**Level 3 (DC fast charging, 480V DC)**
- Between 150 and 500+ mph
- Fastest charging option available, typically offered in commercial public settings
- $30,000 - $50,000+
# Charging 101

## HOW DOES EV CHARGING WORK?

<table>
<thead>
<tr>
<th>Type</th>
<th>Level 1</th>
<th>Level 2</th>
<th>DC Fast Charging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range Added</td>
<td>5 miles per hour</td>
<td>25 miles per hour</td>
<td>90 miles in 30 minutes</td>
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<tr>
<td>Power</td>
<td>120 volts</td>
<td>240 volts</td>
<td>480 volts</td>
</tr>
<tr>
<td>Cost*</td>
<td>$0.21 per hour</td>
<td>$0.73 per hour</td>
<td>$10 per 30 minutes</td>
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<tr>
<td>Location</td>
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<td>🏡</td>
<td>🏡 🏢 🛍️</td>
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</tbody>
</table>

*all costs are approximate; Level 1 and 2 cost based on CO state average of $0.11 per kWh; DC Fast Charging based on $0.40 per kWh
How Far Do You Drive Every Day?
Colorado Public Charging Stations

953 Stations
2,715 Outlets
2,371 Level 2 Ports
344 DCFC Ports

Source: PlugShare
Colorado State Incentives

$4,000 credit received with state income tax refund - may be applied at purchase with some manufacturers

$2,000 for 2-year min. leases

Decreases in Jan, 2021 to $2,500/$1,500

Rolls over into next tax year
Federal Incentives

Up to $7,500 tax credit

Will not roll over into next tax year

Lease credit goes to leasing company – may lower lease cost

Residential L2 charger credit for $1,000 expires Dec. 31, 2020

Phase out begins when 200,000 sold

- Phased Out
- Tesla
- GM (Chevy, Cadillac)

Check fueleconomy.gov for list of vehicles and applicable credit amounts
Utility Rebates for EVs and EV Chargers

Black Hills Energy
Colorado Springs Utilities
Intermountain Rural Electric Association
K.C. Electric Association

Mountain View Electric Association

Sangre de Cristo Electric Association
Tune in for Demos of Tesla Models 3 & S, Nissan LEAF, and Chevy Bolt!

Saturday, October 3rd at 9:00-10:30 am MT | Live Q&A Session!
THANK YOU FOR YOUR ATTENTION!

JOIN US NOW FOR THE REVEAL OF OUR NEXT EV ADVENTURE: EV SCAVENGER HUNT!

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