Real Possibilities

SAY NO TO SUBSIDIES FOR ELECTRIC VEHICLES
No Subsidies for Tesla Drivers, Vote NO on SB 77

TESTIMONY BEFORE HOUSE TRANSPORTATION & LOCAL GOVERNMENT
March 20, 2019 1:30 PM, HCR 0112
SB19-077 Electric Motor Vehicles Public Utility Services - Rep. Hansen

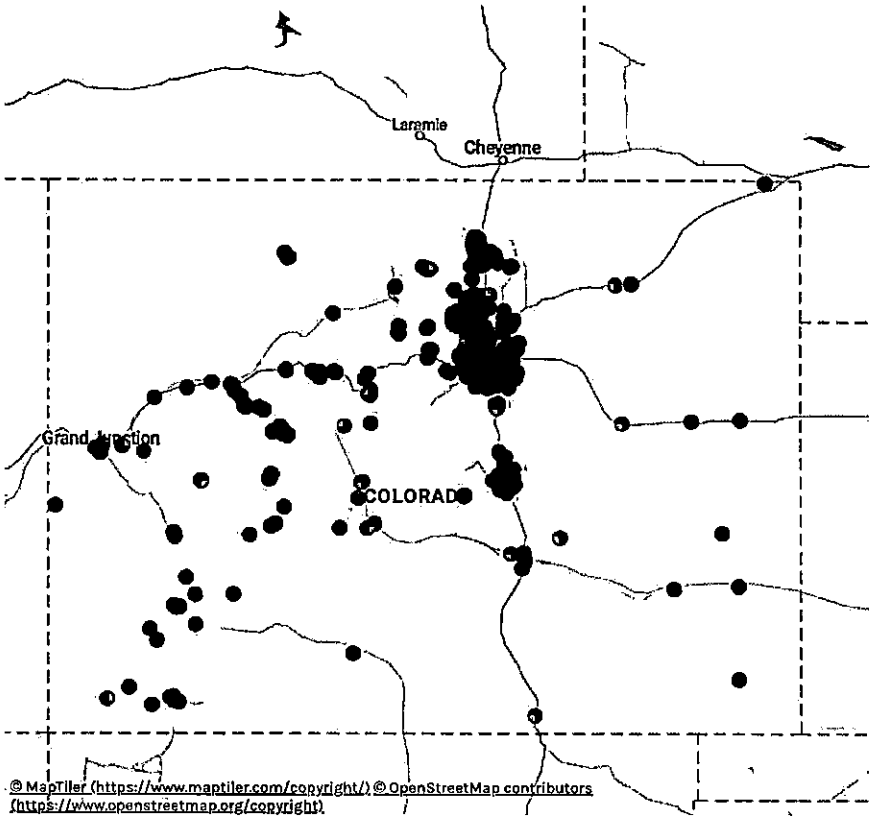
- My name is Bill Levis and I am a volunteer legislative advocate for AARP
- I also was Consumer Counsel for five years, representing residential, small business and agricultural consumers before the state Public Utilities Commission
- AARP has over 680,000 CO members, 50 and over, half of whom are under 65
- AARP is fuel neutral and supports the development of electric vehicles
- I own and drove a Honda Accord Hybrid to this hearing
- However, AARP opposes Senate Bill 77 for a number of reasons
- First, it would give Xcel and Black Hills, the two PUC-regulated electric utilities in the state, rate base protection for their electric vehicle charging stations and at a higher rate than other monopoly services to the detriment of their competitors
- No other provider of charging stations is able to get a state-authorized rate of return on its investment. Those competitors are subject to the free market
- Second, under the bill the cost for the utility charging stations would be paid by all 1.6 million Xcel and Black Hills ratepayers, the vast majority of whom are residential and only a small percentage of whom have electric vehicles
- Third, Xcel and Black Hills already have the ability to set up charging stations, although they can't get cost recovery for them through their PUC-regulated services
- Fourth, according to the Alternative Fuels Data Center in U. S. Dept of Energy, 685 public charging stations in state, up 15 from last month with 1841 outlets, up 90.
- While charging stations are concentrated along front range, they are all over the state
- And these numbers which are growing do not include charging stations that owners of electric vehicles have at their homes

- MJ Bradley Colorado Study, April 2017, and Synapse California Study relied upon by proponents didn't look at public EV charging stations
- EV growth estimates extremely optimistic
- Both assumed consumers, who charge when get home, "nudged" to charge at night
- At same time, studies note there may be need for more electric generation and distribution which costs money
- Bradley study projects savings could be almost $80/year in 2050 if charging at night
- Public charging stations mostly used during day when consumers on road
- Neither Xcel nor Black Hills serve Ft. Collins, Colorado Springs or Ft. Morgan, all of which have municipally owned electric utilities
- The two investor owned utilities serve less than 20 percent of geographic area of state
- In July 2017 study, NREL reported there were 8600 plug-in electric vehicles in Colorado, 0.17 percent of the five million light duty vehicles in the state in 2016
- While this number growing, nationally only 1.36% of light duty vehicle sales in 02-2019 EVs, down from 1.49% in January according to Argonne National Laboratory, USDOE
- NREL study relying on Colorado Energy Office moderate-growth projections says that number of EVs could grow to 300,000 or approximately 5% of vehicles in state in 2030
- AARP supports growth of EV market, including charging stations
- We just don't think it is fair to give Xcel and Black Hills an unfair leg up against charging station competitors or to charge their 1.6 million monopoly customers, the vast majority of whom don't have electric vehicles, for charging stations
- In 2014, General Assembly deregulated telecom because of some competition
- Counter-intuitive to regulate public EV charging stations, something that already subject to growing competition at the expense of monopoly ratepayers
- Therefore, AARP opposes SB19-077

Electric Vehicle Charging Station Locations

Find electric vehicle charging stations in the United States and Canada. For Canadian stations in French, see Natural Resources Canada (https://www.rncan.gc.ca/energie/transports/personnel/20488).

Public Stations Advanced Filters



Edit Filters

685
stations

1,841
charging outlets

Filters chosen:

Colorado

Electric

Access: Public

Download Results (https://d

iPhone App for U.S. stations (https://itunes.apple.com/us/app/alternative-fueling-station/id718577947)

Android App for U.S. stations (https://play.google.com/store/apps/details?id=gov.energy.afdc.stationlocator)

Developer APIs (https://developer.nrel.gov/docs/transportation/alt-fuel-stations-v1/) Embed Tool

Submit New Station About the Data

More in This Section

Infrastructure Development

More on Electricity

Electricity Basics	Benefits & Considerations	Vehicles	Laws & Incentives
(/fuels/electricity_basics.html)	(/fuels/electricity_benefits.html)	(/vehicles/electric.html)	(/fuels/laws/ELEC)

The M. J. Bradley study for Colorado was done in April 2017. It has nothing specific about public charging station which is the subject of SB 77. The study is the rationale for why EVs are good. Here are some pertinent quotes from the study: "off-peak PEV charging can provide net benefits to all utility customers by shifting PEV charging to hours when the grid is underutlized and the cost of electricity is low. ...under the High PEV scenario the average Colorado household could realize nearly $80 in annual utility bill savings in 2050." p. ii. A lot of assumptions there and a total of $80 annually in 2050.

"As of January 2016 there were about 7,600 PEVs (including battery-electric and plug-in hybrid vehicles) registered in Colorado and they comprised about 0.16 percent of the 4.8 million cars and light trucks registered in the State. In 2014 and 2015, sales of new PEVs in the state were less than one half of one percent of new vehicle sales." "Moderate PEV Scenario: Penetration of PEVs equivalent to Colorado's participation in a program similar to the 8-state ZEV Memorandum of Understanding. Compliance with this scenario would require approximately 6 percent of in-use light duty vehicles in Colorado to be ZEV by 2025." p. 1

"PEV penetration is assumed to be 8.9 percent in 2030, 14.7 percent in 2040, and 20.6 percent in 2050." p. 2. Note that the CEO EV market implementation study had the number of EVs in 2030 at 300,000 or five percent of total under its medium EV growth scenario, pp. 14-15.

"For each PEV penetration scenario this analysis calculates utility revenue, costs, and net revenue for two different PEV charging scenarios: 1) a baseline scenario in which all PEVs are plugged in and start to charge as soon as they arrive at home each day, and 2) an off-peak charging scenario in which a significant portion of PEVs that arrive home between noon and 11 PM each day delay the start of charging until after midnight." "[W]ithout a "nudge", drivers will generally plug in and start charging immediately upon arriving home after work (scenario 1), exacerbating system-wide evening peak demand." This is the key and nothing to do with public charging stations. p. 2

"In order to meet the Moderate PEV scenario, the number of PEVs registered in Colorado would need to increase from approximately 7,600 today to 349,000 by 2025. Assuming the same annual increase in percent PEV penetration in later years, there would be 544,000 PEVs in the state in 2030, 1.02 million in 2040, and 1.6 million in 2050 (Moderate PEV penetration scenario)." p. 3. Note once again that CEO had the moderate EV number at 300,000 in 2030.

"Under the Moderate PEV penetration scenario, electricity used for PEV charging is projected to be 1.4 million MWh in 2030 – an increase of 2.3 percent over baseline electricity use. By 2050, electricity for PEV charging isprojected to grow to 3.9 million MWh – an increase of 5 percent over baseline electricity use." p. 5 This is most interesting because energy usage has been flat in Colorado.

"Under both scenarios 80 percent of all PEVs are assumed to charge exclusively at home and 20 percent are assumed to charge both at home and at work. Under the baseline charging scenario all Colorado drivers are assumed to plug-in their vehicles and start charging as soon as they arrive at home or at work (if applicable) each day. Under the off-peak charging scenario 65 percent of Colorado drivers who arrive at home in the afternoon and early evening are assumed to delay the start of home charging until after midnight – in response to a price signal or incentive provided by their utility." p. 6

"As shown in Figure 6, baseline PEV charging is projected to add load primarily between 8 AM and 11 PM, as people charge at work early in the day and then at home later in the day. The PEV charging peak coincides with the existing afternoon peak load period between 3 PM and 5 PM. As shown in Figure 7, off-peak charging significantly reduces the incremental PEV charging load during the afternoon peak load period, but creates a secondary peak in the early morning hours, between midnight and 3 AM." p. 7.

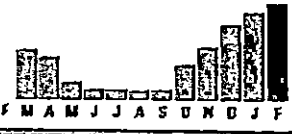
"Under the High PEV penetration scenario, baseline PEV charging would increase the total 2015 afternoon peak electric load by about 74 percent in 2050, while off-peak charging would only increase it by about 27 percent." p. 8. "[I]ncreased peak hour load increases a utility's cost of providing electricity, and may result in the need to upgrade distribution infrastructure." p. 9 Sure sounds like EVs could increase usage during peak but increases costs.

In conclusion, the M. J. Bradley study has nothing to do with public charging stations and, in any case, points out that costs could go up as well as down.

In addition, the Synapse study cited by proponents of the bill supports what we are saying. It talks about EVs in California which has both time of use and tiered electrical rates. Xcel only has two-tiered rates in place and only from June through September. Time of use is still in the testing phase. As a result, the statistics in California are not particularly relevant to Colorado. Even if they were, SB 077 is about public charging stations and not EV charging stations in homes, which are more likely to be used at night. The Synapse study admits that "[g]eneration capacity costs are associated with ensuring that enough power plants are available to meet the grid's peak demand (plus a reserve margin). Additional power plants may be needed if EVs require electricity during peak hours, and this can impose additional costs." The report also notes that transmission and distribution "costs are also heavily dependent on peak load because transmission and distribution lines are sized to handle the highest instantaneous amount of power they need to transmit. Increase electricity consumption from EVs could eventually lead to a need for new transmission lines. Utilities may also need to upgrade the distribution systems that provide electricity to end-users if the local peak demand increases."

DAILY AVERAGES	Last Year	This Year
Temperature	33° F	25° F
Electricity kWh	24.6	27.2
Electricity Cost	$2.62	$2.55

YOUR MONTHLY NATURAL GAS USAGE



DAILY AVERAGES	Last Year	This Year
Temperature	33° F	25° F
Gas Therms	9.4	11.0
Gas Cost	$5.33	$6.23

NEXT READ DATE: 03/27/19

ELECTRICITY SERVICE DETAILS

[redacted]

METER READING INFORMATION

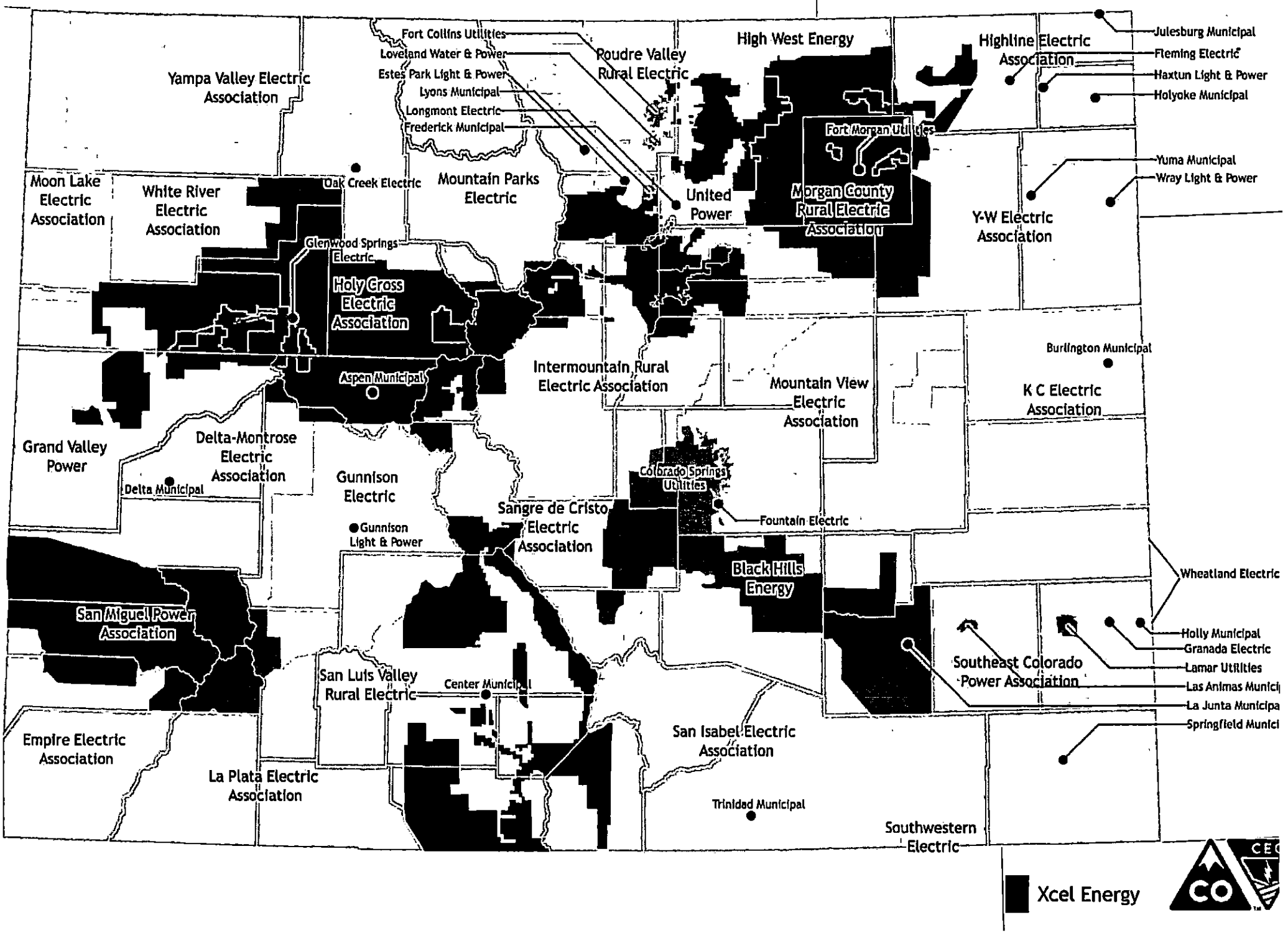
METER D2191882 — Read Dates: 01/23/19 - 02/25/19 (33 Days)

DESCRIPTION	CURRENT READING	PREVIOUS READING	USAGE
Total Energy	39973 Actual	39026 Actual	897 kWh

ELECTRICITY CHARGES — RATE: R Residential General

DESCRIPTION	USAGE UNITS	RATE	CHARGE
Service & Facility			$5.41
Non-Summer	897 kWh	$0.054610	$48.99
Trans Cost Adj	897 kWh	$0.002030	$1.82
Elec Commodity Adj	897 kWh	$0.035830	$32.14
Demand Side Mgmt Cost	897 kWh	$0.001590	$1.43
Purch Cap Cost Adj	897 kWh	$0.004010	$3.60
CACJA	897 kWh	$0.003010	$2.70
Renew. Energy Std Adj			$1.83
GRSA			-$2.30 CR
Subtotal			$95.57
Franchise Fee		3.00%	$2.87
Total			$98.54

Currently are five surcharges on the Xcel electric bill, some of which are already there to promote cleaner air. The average monthly residential usage is about 650 kWhs a month or 7800 annually. If the surcharge for EV charging is between 0.6 and 1¢ a kWh, it is going to cost residential consumers between $50 and $75 annually.


Fort Collins Utilities
Loveland Water & Power
Estes Park Light & Power
Lyons Municipal
Longmont Electric
Frederick Municipal
Poudre Valley Rural Electric
High West Energy
Highline Electric Association
Julesburg Municipal
Fleming Electric
Haxtun Light & Power
Holyoke Municipal
Yampa Valley Electric Association
Fort Morgan Utilities
Yuma Municipal
Wray Light & Power
Moon Lake Electric Association
White River Electric Association
Oak Creek Electric
Mountain Parks Electric
United Power
Morgan County Rural Electric Association
Y-W Electric Association
Glenwood Springs Electric
Holy Cross Electric Association
Burlington Municipal
Intermountain Rural Electric Association
Aspen Municipal
Mountain View Electric Association
K C Electric Association
Grand Valley Power
Delta-Montrose Electric Association
Delta Municipal
Gunnison Electric
Colorado Springs Utilities
Fountain Electric
Gunnison Light & Power
Sangre de Cristo Electric Association
Black Hills Energy
Wheatland Electric
San Miguel Power Association
Holly Municipal
Granada Electric
Lamar Utilities
Las Animas Municipal
La Junta Municipal
Springfield Municipal
Southeast Colorado Power Association
San Luis Valley Rural Electric
Center Municipal
San Isabel Electric Association
Empire Electric Association
La Plata Electric Association
Trinidad Municipal
Southwestern Electric
Xcel Energy