

Kirkwood Meadows Public Utility District

Planning Committee

REGULAR MEETING AGENDA

NOTICE IS HEREBY GIVEN that the Planning Committee of the Kirkwood Meadows Public Utility District has called a Regular Meeting of the Committee to be held on **Friday, May 7, 2021 at 2:00 P.M.** via video/teleconference on Zoom at: <https://us02web.zoom.us/j/84547660109>

IMPORTANT NOTICE REGARDING COVID-19 AND TELECONFERENCED MEETINGS:

Based on mandates by the Governor and the Alpine County Health Officer to shelter in place and the guidance from the CDC, to minimize the spread of coronavirus, please note the following changes to the District's ordinary meeting procedures:

- The District offices are not open to the public at this time.
- The meeting will be conducted via video and teleconference.
- All members of the public seeking to observe and/or to address the Committee may participate in the meeting telephonically or online, as described below.

HOW TO PARTICIPATE / OBSERVE THE MEETING:

Telephone: Call Zoom at (669) 900-6833 and enter Meeting ID# **845 4766 0109** followed by the pound (#) key.

Computer: Follow this link to join the meeting automatically:
<https://us02web.zoom.us/j/84547660109>

Mobile: Open the Zoom mobile app on a smartphone and enter Meeting ID# **845 4766 0109**

ACCESSIBILITY INFORMATION:

Committee meetings are accessible to people with disabilities and others who need assistance. Individuals who need special assistance or a disability-related modification or accommodation (including auxiliary aids or services) to observe and/or participate in this meeting and access meeting-related materials should contact Jessica Gillies, Clerk of the Board, at least 48-hours before the meeting at (209) 258-4444 or jgillies@kmpud.com Advanced notification will enable the District to swiftly resolve such requests and ensure accessibility.

The Agenda for this Regular Meeting is:

- 1) **General Manager FY 2021/2022 Goals & Objectives.** Discussion & possible action. **Pg.3**
- 2) **Requirement for Implementing Public Benefits and Energy Efficiency Programs.** Discussion & possible action.
- 3) **Energy Efficiency Initiatives.** Discussion.
- 4) **EV Charging.** Discussion. **Pgs. 4-12**
- 5) **Clean Energy Procurement: RECs vs Renewables.** Discussion & possible action.
- 6) **Fossil Fuel Shifting & District Reduction of Carbon Footprint.** Discussion.
- 7) **Future Topics**
- 8) Next Meeting/Staff Recommendation: Friday, June 11, 2021 2:00 PM.

The Kirkwood Meadows Public Utility District is an equal opportunity provider and employer.

In compliance with the Americans with Disabilities Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, please contact the District at (209) 258-4444, by email to jjillies@kmpud.com. Requests must be made as early as possible, and at least two business days before the meeting.

**Kirkwood Meadows Public Utility District
General Manager Objectives
Fiscal Year 2021-2022**

Planning*

1. Revise Propane and Wastewater District design and construction standards by June 2022.
- 2.
- 3.
- 4.
- 5.

STAFF REPORT

ELECTRIC VEHICLE CHARGING

Requested Action:

None. Provided for informational purposes only.

Background:

In 2016 and 2017, the District discussed EV charging in Kirkwood at length. The discussion centered on determining the appropriate entity to own and operate EV chargers. Three possibilities were explored: KMPUD, Vail, and a private firm (such as Tesla).

District staff was directed to investigate District-owned locations that may be suitable for the installation of a dual-port charging station, perform a cost analysis to install and operate the station, and determine if there were any liability or staffing concerns related to EV charging on District property. The results of this 2016 analysis are attached. Two District-owned locations were considered, the Powerhouse and the Community Services Building (CSB) near the flagpole. Both were subsequently found to be less than desirable due to security concerns at the Powerhouse and impacts to emergency vehicle access at the CSB. Subsequent legislation passed to ensure physical security of electric assets would prevent the installation of public charging stations at the Powerhouse. Discussion about District-owned EV chargers was suspended due to imminent installation plans by other entities.

In late 2016 Vail installed 6 Tesla chargers and 2 universal chargers in the VIP lot. These were installed on an existing electric service owned by Vail. Feedback from Vail's parking manager in 2017 indicated that the chargers were a huge hit and are used quite often. Snow removal was reported to be challenging.

In 2017, Tesla initiated discussion with KMPUD about the installation of a fast charger on HW 88 near the Service Center. The discussion was limited due to available power and land ownership issues at that location. In 2020, an alternate location was identified near Sun Meadows, and Tesla submitted a deposit to begin system analysis and initial planning.

Prepared By:

Brandi Benson

Cost Analysis to Install a Dual-Port Pedestal Mount Charging Station

Summary of Average Fuel Costs

	Electric				Gas Equivalent			Comparison	
	kWh/100 Miles	Range (miles)	kWh for full charge	Cost/charge (@\$0.67/kWh)	Estimated Equivalent MPG (gas)*	Equivalent gallons for full charge	Equivalent Cost/charge gas**	\$ Price Difference (gas-electricity)	\$/kWh Break Even (gas=electricity)
Electric-Only	35	173	61	\$40.70	31	6.5	\$25.77	-\$14.93	\$0.42
Plug-In Hybrid	46	24	10	\$6.66	33	0.7	\$2.87	-\$3.78	\$0.28
All	39	114	41	\$27.24	32	4.2	\$16.91	-\$10.33	\$0.41

*Estimate Equivalent for All-Electric Vehicles from Average Fuel Economy per class, including plug-in hybrids (EPA MY 2016 Fuel Economy Guide); actual MPG used for Plug-in Hybrids

**Equivalent cost of gas calculated @ KW Gas Station price (\$3.99/gal)

Summary of Average Charging Station Costs

Average Annual Costs		Average Installation Costs	
Snow Removal	\$2,584	Dual Pedestal Mounted Charger	\$6,100
Charging Software/Payment Support	\$496	Installation Costs	\$1,500
Total	\$3,080	Total	\$7,600

Summary of Estimated Revenue

Assuming 41kWh/charge (Average) and \$0.13/kWh marginal power cost

@ \$0.41/kWh		@ \$0.67/kWh	
kWh/charge	41	kWh/charge	41
Gross profit per charge @\$0.41/kWh	\$11.48	Gross profit per charge @\$0.67/kWh	\$22.14
Charges/year to cover annual cost	268	Charges/year to cover annual cost	139
Charges/month to cover annual cost	22	Charges/month to cover annual cost	12
Charges/year to cover annual cost + 5-year payback for Installation Costs	401	Charges/year to cover annual cost + 5-year payback for Installation Costs	208
Charges/month to cover annual cost + 5-year payback for Installation Costs	33	Charges/month to cover annual cost + 5-year payback for Installation Costs	17

ELECTRIC ONLY

Manufacturer	Model	kWh/100 Miles	Range (miles)	kWh for full charge	Charge Time (hrs@240)	Cost/charge (@\$0.67/kWh)	Estimated Equivalent MPG (gas)*	Equivalent gallons for full charge	Equivalent cost of gas @ KW Gas Station (\$3.99/gal)	Price Difference (gas-electricity @0.67/kWh)	Cost/charge (@\$0.42/kWh)
Smart	fortwo electric drive convertible	36	68	24.5	6	\$ 16.40	25	2.8	\$ 11.07	\$ (5.33)	\$ 10.28
Smart	fortwo electric drive coupe	36	68	24.5	6	\$ 16.40	25	2.8	\$ 11.07	\$ (5.33)	\$ 10.28
Fiat	500e	33	84	27.7	4	\$ 18.57	25	3.4	\$ 13.68	\$ (4.89)	\$ 11.64
BMW	i3 BEV	30	81	24.3	4	\$ 16.28	52	1.6	\$ 6.28	\$ (10.01)	\$ 10.21
Chevrolet	Spark EV	31	82	25.4	7	\$ 17.03	52	1.6	\$ 6.35	\$ (10.68)	\$ 10.68
MITSUBISHI	i-MiEV	34	62	21.1	7	\$ 14.12	52	1.2	\$ 4.80	\$ (9.32)	\$ 8.85
Ford	Focus Electric	34	76	25.8	3.6	\$ 17.31	46	1.7	\$ 6.66	\$ (10.65)	\$ 10.85
Volkswagen	e-Golf	32	83	26.6	7	\$ 17.80	46	1.8	\$ 7.28	\$ (10.52)	\$ 11.16
MERCEDES-BE	B250e	41	87	35.7	3.5	\$ 23.90	36	2.4	\$ 9.64	\$ (14.26)	\$ 14.98
Nissan	Leaf 24-hour battery pack	33	84	27.7	5	\$ 18.57	36	2.3	\$ 9.31	\$ (9.26)	\$ 11.64
Nissan	Leaf 30-hour battery pack	33	107	35.3	6	\$ 23.66	27	4.0	\$ 15.81	\$ (7.85)	\$ 14.83
TESLA	Model S (70 kW-hr battery pack) [37233]	37	234	86.6	3.8	\$ 58.01	27	8.7	\$ 34.58	\$ (23.43)	\$ 36.36
TESLA	Model S (75 kW-hr battery pack) [37421]	34	249	84.7	4.8	\$ 56.72	27	9.2	\$ 36.80	\$ (19.93)	\$ 35.56
TESLA	Model S (85 kW-hr battery pack) [37234]	37	265	98.1	4.8	\$ 65.69	27	9.8	\$ 39.16	\$ (26.53)	\$ 41.18
TESLA	Model S (90 kW-hr battery pack) [37235]	37	265	98.1	4.8	\$ 65.69	27	9.8	\$ 39.16	\$ (26.53)	\$ 41.18
TESLA	Model S AWD - 70D [37238]	33	240	79.2	4.8	\$ 53.06	27	8.9	\$ 35.47	\$ (17.60)	\$ 33.26
TESLA	Model S AWD - 75D [37422]	32	259	82.9	4.8	\$ 55.53	27	9.6	\$ 38.27	\$ (17.26)	\$ 34.81
TESLA	Model S AWD - 85D [37239]	32	270	86.4	4.8	\$ 57.89	27	10.0	\$ 39.90	\$ (17.99)	\$ 36.29
TESLA	Model S AWD - 90D [37240]	32	294	94.1	4.8	\$ 63.03	27	10.9	\$ 43.45	\$ (19.59)	\$ 39.51
TESLA	Model S AWD - P85D [37241]	35	253	88.6	4.8	\$ 59.33	27	9.4	\$ 37.39	\$ (21.94)	\$ 37.19
TESLA	Model S AWD - P90D [37242]	34	270	91.8	4.8	\$ 61.51	27	10.0	\$ 39.90	\$ (21.61)	\$ 38.56
Kia	Soul Electric	37	93	34.4	4	\$ 23.05	28	3.3	\$ 13.25	\$ (9.80)	\$ 14.45
BYD	e6	47	187	87.9	5	\$ 58.89	26	7.3	\$ 29.26	\$ (29.63)	\$ 36.91
TESLA	Model X AWD - 75D [37423]	35	238	83.3	4.8	\$ 55.81	21	11.3	\$ 45.22	\$ (10.59)	\$ 34.99
TESLA	Model X AWD - 90D [36979]	36	257	92.5	4.8	\$ 61.99	21	12.2	\$ 48.83	\$ (13.16)	\$ 38.86
TESLA	Model X AWD - P90D [36980]	37	250	92.5	4.8	\$ 61.98	21	11.9	\$ 47.50	\$ (14.48)	\$ 38.85
									Average	\$ (14.93)	

*Average Fuel Economy per class, including plug-in hybrids (EPA MY 2016 Fuel Economy Guide)

PLUG-IN HYBRID

Manufacturer	Model	kWh/100 Miles	Range (miles)	kWh for full charge	Charge Time (hrs@240)	Cost/charge (@\$0.67/kWh)	MPG gas (combined)	Equivalent gallons for full charge	Equivalent cost of fuel @ KW Gas Station (\$3.99/gal)	Price Difference (gas-electricity @0.67/kWh)	Cost/charge (@\$0.28/kWh)	Price Difference (gas-electricity @0.28/kWh)
BMW	i3 REX	29	72	20.9	4	\$ 13.99	37	1.9	\$ 7.76	\$ (6.23)	\$ 5.85	\$ 1.92
BMW	i8	43	15	6.5	2	\$ 4.32	29	0.5	\$ 2.06	\$ (2.26)	\$ 1.81	\$ 0.26
Cadillac	ELR	39	40	15.6	5	\$ 10.45	33	1.2	\$ 4.84	\$ (5.62)	\$ 4.37	\$ 0.47
Cadillac	ELR Sport	43	36	15.5	5	\$ 10.37	33	1.1	\$ 4.35	\$ (6.02)	\$ 4.33	\$ 0.02
Audi	A3 e-tron	40	16	6.4	2.5	\$ 4.29	37	0.4	\$ 1.73	\$ (2.56)	\$ 1.79	\$ (0.07)
Audi	A3 e-tron ultra	38	17	6.5	2.5	\$ 4.33	41	0.4	\$ 1.65	\$ (2.67)	\$ 1.81	\$ (0.15)
BMW	330e	47	14	6.6	2	\$ 4.41	36	0.4	\$ 1.55	\$ (2.86)	\$ 1.84	\$ (0.29)
Chevrolet	Volt	31	53	16.4	4.5	\$ 11.01	42	1.3	\$ 5.04	\$ (5.97)	\$ 4.60	\$ 0.43
Ford	C-MAX	37	20	7.4	2.5	\$ 4.96	36	0.6	\$ 2.22	\$ (2.74)	\$ 2.07	\$ 0.14
Ford	Fusion Hybrid	37	20	7.4	2.5	\$ 4.96	36	0.6	\$ 2.22	\$ (2.74)	\$ 2.07	\$ 0.14
Hyundai	Sonata Hybrid	34	27	9.2	2.7	\$ 6.15	41	0.7	\$ 2.63	\$ (3.52)	\$ 2.57	\$ 0.06
MERCEDES-BE	S550e	59	14	8.3	2.8	\$ 5.53	30	0.5	\$ 1.86	\$ (3.67)	\$ 2.31	\$ (0.45)
Porsche	Panamera S E-Hybrid	51	16	8.2	3	\$ 5.47	29	0.6	\$ 2.20	\$ (3.27)	\$ 2.28	\$ (0.08)
BMW	X5 xDrive40e	59	14	8.3	3	\$ 5.53	25	0.6	\$ 2.23	\$ (3.30)	\$ 2.31	\$ (0.08)
MERCEDES-BE	GLE550e 4matic	68	12	8.2	1.9	\$ 5.47	23	0.5	\$ 2.08	\$ (3.39)	\$ 2.28	\$ (0.20)
Porsche	Cayenne S e-Hybrid	69	14	9.7	3	\$ 6.47	24	0.6	\$ 2.33	\$ (4.14)	\$ 2.70	\$ (0.38)
Volvo	XC90 AWD PHEV	58	14	8.1	3	\$ 5.44	27	0.5	\$ 2.07	\$ (3.37)	\$ 2.27	\$ (0.20)
Average										\$ (3.78)	\$	\$ 0.09

ALL EV'S

Manufacturer	Model	kWh/100 Miles (combined)	Range (miles)	kWh for full charge	Charge Time (hrs@240)	Cost/charge (@\$0.67/kWh)	MPG (gas combined)*	Equivalent gallons for full charge	Equivalent cost of gas @ KW Gas Station (\$3.99/gal)	Price Difference (gas-electricity @0.67/kWh)	Cost/charge (@\$0.41/kWh)	Price Difference (gas-electricity @0.41/kWh)
Smart	fortwo electric drive convertible	36	68	24.5	6	\$ 16.40	25	2.8	\$ 11.07	\$ (5.33)	\$ 10.04	\$ 1.04
Smart	fortwo electric drive coupe	36	68	24.5	6	\$ 16.40	25	2.8	\$ 11.07	\$ (5.33)	\$ 10.04	\$ 1.04
Fiat	500e	33	84	27.7	4	\$ 18.57	25	3.4	\$ 13.68	\$ (4.89)	\$ 11.37	\$ 2.31
BMW	i3 BEV	30	81	24.3	4	\$ 16.28	52	1.6	\$ 6.28	\$ (10.01)	\$ 9.96	\$ (3.69)
Chevrolet	Spark EV	31	82	25.4	7	\$ 17.03	52	1.6	\$ 6.35	\$ (10.68)	\$ 10.42	\$ (4.07)
MITSUBISHI	i-MiEV	34	62	21.1	7	\$ 14.12	52	1.2	\$ 4.80	\$ (9.32)	\$ 8.64	\$ (3.84)
Ford	Focus Electric	34	76	25.8	3.6	\$ 17.31	46	1.7	\$ 6.66	\$ (10.65)	\$ 10.59	\$ (3.93)
Volkswagen	e-Golf	32	83	26.6	7	\$ 17.80	46	1.8	\$ 7.28	\$ (10.52)	\$ 10.89	\$ (3.61)
MERCEDES-BE	B250e	41	87	35.7	3.5	\$ 23.90	36	2.4	\$ 9.64	\$ (14.26)	\$ 14.62	\$ (4.98)
Nissan	Leaf 24-hour battery pack	33	84	27.7	5	\$ 18.57	36	2.3	\$ 9.31	\$ (9.26)	\$ 11.37	\$ (2.06)
Nissan	Leaf 30-hour battery pack	33	107	35.3	6	\$ 23.66	27	4.0	\$ 15.81	\$ (7.85)	\$ 14.48	\$ 1.34
TESLA	Model S (70 kW-hr battery pack) [37233]	37	234	86.6	3.8	\$ 58.01	27	8.7	\$ 34.58	\$ (23.43)	\$ 35.50	\$ (0.92)
TESLA	Model S (75 kW-hr battery pack) [37421]	34	249	84.7	4.8	\$ 56.72	27	9.2	\$ 36.80	\$ (19.93)	\$ 34.71	\$ 2.09
TESLA	Model S (85 kW-hr battery pack) [37234]	37	265	98.1	4.8	\$ 65.69	27	9.8	\$ 39.16	\$ (26.53)	\$ 40.20	\$ (1.04)
TESLA	Model S (90 kW-hr battery pack) [37235]	37	265	98.1	4.8	\$ 65.69	27	9.8	\$ 39.16	\$ (26.53)	\$ 40.20	\$ (1.04)
TESLA	Model S AWD - 70D [37238]	33	240	79.2	4.8	\$ 53.06	27	8.9	\$ 35.47	\$ (17.60)	\$ 32.47	\$ 2.99
TESLA	Model S AWD - 75D [37422]	32	259	82.9	4.8	\$ 55.53	27	9.6	\$ 38.27	\$ (17.26)	\$ 33.98	\$ 4.29
TESLA	Model S AWD - 85D [37239]	32	270	86.4	4.8	\$ 57.89	27	10.0	\$ 39.90	\$ (17.99)	\$ 35.42	\$ 4.48
TESLA	Model S AWD - 90D [37240]	32	294	94.1	4.8	\$ 63.03	27	10.9	\$ 43.45	\$ (19.59)	\$ 38.57	\$ 4.87
TESLA	Model S AWD - P85D [37241]	35	253	88.6	4.8	\$ 59.33	27	9.4	\$ 37.39	\$ (21.94)	\$ 36.31	\$ 1.08
TESLA	Model S AWD - P90D [37242]	34	270	91.8	4.8	\$ 61.51	27	10.0	\$ 39.90	\$ (21.61)	\$ 37.64	\$ 2.26
Kia	Soul Electric	37	93	34.4	4	\$ 23.05	28	3.3	\$ 13.25	\$ (9.80)	\$ 14.11	\$ (0.86)
BYD	e6	47	187	87.9	5	\$ 58.89	26	7.3	\$ 29.26	\$ (29.63)	\$ 36.03	\$ (6.77)
TESLA	Model X AWD - 75D [37423]	35	238	83.3	4.8	\$ 55.81	21	11.3	\$ 45.22	\$ (10.59)	\$ 34.15	\$ 11.07
TESLA	Model X AWD - 90D [36979]	36	257	92.5	4.8	\$ 61.99	21	12.2	\$ 48.83	\$ (13.16)	\$ 37.93	\$ 10.90
TESLA	Model X AWD - P90D [36980]	37	250	92.5	4.8	\$ 61.98	21	11.9	\$ 47.50	\$ (14.48)	\$ 37.93	\$ 9.58
BMW	i3 REX	29	72	20.9	4	\$ 13.99	37	1.9	\$ 7.76	\$ (6.23)	\$ 8.56	\$ (0.80)
BMW	i8	43	15	6.5	2	\$ 4.32	29	0.5	\$ 2.06	\$ (2.26)	\$ 2.64	\$ (0.58)
Cadillac	ELR	39	40	15.6	5	\$ 10.45	33	1.2	\$ 4.84	\$ (5.62)	\$ 6.40	\$ (1.56)
Cadillac	ELR Sport	43	36	15.5	5	\$ 10.37	33	1.1	\$ 4.35	\$ (6.02)	\$ 6.35	\$ (1.99)
Audi	A3 e-tron	40	16	6.4	2.5	\$ 4.29	37	0.4	\$ 1.73	\$ (2.56)	\$ 2.62	\$ (0.90)
Audi	A3 e-tron ultra	38	17	6.5	2.5	\$ 4.33	41	0.4	\$ 1.65	\$ (2.67)	\$ 2.65	\$ (0.99)
BMW	330e	47	14	6.6	2	\$ 4.41	36	0.4	\$ 1.55	\$ (2.86)	\$ 2.70	\$ (1.15)
Chevrolet	Volt	31	53	16.4	4.5	\$ 11.01	42	1.3	\$ 5.04	\$ (5.97)	\$ 6.74	\$ (1.70)
Ford	C-MAX	37	20	7.4	2.5	\$ 4.96	36	0.6	\$ 2.22	\$ (2.74)	\$ 3.03	\$ (0.82)
Ford	Fusion Hybrid	37	20	7.4	2.5	\$ 4.96	36	0.6	\$ 2.22	\$ (2.74)	\$ 3.03	\$ (0.82)
Hyundai	Sonata Hybrid	34	27	9.2	2.7	\$ 6.15	41	0.7	\$ 2.63	\$ (3.52)	\$ 3.76	\$ (1.14)
MERCEDES-BE	S550e	59	14	8.3	2.8	\$ 5.53	30	0.5	\$ 1.86	\$ (3.67)	\$ 3.39	\$ (1.52)
Porsche	Panamera S E-Hybrid	51	16	8.2	3	\$ 5.47	29	0.6	\$ 2.20	\$ (3.27)	\$ 3.35	\$ (1.14)
BMW	X5 xDrive40e	59	14	8.3	3	\$ 5.53	25	0.6	\$ 2.23	\$ (3.30)	\$ 3.39	\$ (1.15)
MERCEDES-BE	GLE550e 4matic	68	12	8.2	1.9	\$ 5.47	23	0.5	\$ 2.08	\$ (3.39)	\$ 3.35	\$ (1.26)
Porsche	Cayenne S e-Hybrid	69	14	9.7	3	\$ 6.47	24	0.6	\$ 2.33	\$ (4.14)	\$ 3.96	\$ (1.63)
Volvo	XC90 AWD PHEV	58	14	8.1	3	\$ 5.44	27	2.6	\$ 10.27	\$ 4.83	\$ 3.33	\$ (1.26)
Average										\$ (10.33)	\$ 22.16	\$ 0.05

*Estimate Equivalent for All-Electric Vehicles from Average Fuel Economy per class, including plug-in hybrids (EPA MY 2016 Fuel Economy Guide)

1. Update for the committee on liability, staffing, accounting issues.

Liability: Both Blink Network and Chargepoint have liability language in their User Agreements, below. The District may need to have the User Agreement of the preferred network reviewed by legal counsel.

Staffing: Charging stations would require both equipment and hand snow removal. An estimate for snow removal costs is included in the EV Charger Analysis. If using an established charging network, minimal additional staff time would be needed (instructions, directions, etc.) and could be provided by office staff during business hours. If after-hours charging is offered, any customer assistance would be provided via the on-call system. After hours calls would result in overtime pay for the on-call operator. Staff time, other than snow removal, has not been included in the cost analysis.

Accounting Issues: A separate meter would be needed to track usage. Additional research is needed to identify how to comply with RUS accounting requirements. If using an established charging network, the network would collect charges and issue the District a check for net revenue.

2. Discussion of recent installation of EV charger at Heavenly and any plans by Vail/Tesla to install a station at Kirkwood. Similarly, explore what/how Sorenson's has had a Tesla charger installed
EV Charging Station Memo included in packet.

3. Discussion of charger types: is there a universal type that can be used by all models?
There is a universal charger that can charge all models with a SAE J1772 connection. Tesla makes an adapter so that Teslas can be charged with a SAE J1772 connection. All other EV's in the US appear to use the SAE J1772 port. The charger installed by Tesla at Sorenson's has a SAE J1772 connection.

4. Discussion of the cost of installation for a dual port charger.
EV Charger Cost Estimate included in packet. Quotes from Blink Network and Chargepoint have been used to create an average cost.

5. Discussion of calculation what cost/kwh would be competitive with cost of gasoline. Also, discussion of minimum price per kwh needed to cover annual costs and cost of installation.
EV Charger Analysis included in packet. All data for the analysis from [EPA MY 2016 Fuel Economy Guide](#)

6. Brainstorm possible locations for chargers; what cooperation from Vail would we need.
Two District locations were considered: Powerhouse and CSB. The CSB location, near flagpole, is preferred at this point due to the following considerations:

- a. The CSB is a public building*
- b. Loop Road has access to Resort shuttle*
- c. Security concerns near KM Blue*
- d. Adequate electric panel space in Fire Bay*

7. What if any technical challenges would there be for Brandi? Question for Dave Rightley when he is here the week of July 11?
EV Charging Station Memo included in packet.

9. Next Steps

1. Determine market demand so we could produce a business plan.

Staff to develop plan to complete a customer survey to answer the following:

- *Do you own an all-electric vehicle or a plug-in hybrid vehicle?*
 - *Are you considering purchasing an all-electric vehicle or a plug-in hybrid vehicle?*
 - *Do you currently drive an all-electric vehicle or plug-in hybrid vehicle to Kirkwood?*
 - *If yes, how often do you drive an all-electric vehicle or plug-in hybrid vehicle to Kirkwood in the summer? winter?*
 - *If no, would you drive an all-electric vehicle or plug-in hybrid vehicle to Kirkwood if there was a Level 2 charger in the valley?*
 - *If you are considering purchasing an all-electric vehicle or plug-in hybrid vehicle, would you plan to drive this vehicle to Kirkwood?*
 - *If yes, would you plan to drive an all-electric vehicle or plug-in hybrid vehicle to Kirkwood in the summer? winter?*
 - *If no, would you plan to drive an all-electric vehicle or plug-in hybrid vehicle to Kirkwood if there was a Level 2 charger in the valley?*
 - *Test market sensitivity for price.*
 - *Other?*
2. Explore grant funding to help with installation costs.
 3. Prepare an RFP.
 4. Develop a business plan that looks at likely revenue and operating costs and determine our minimum price point that prevents this from needing to be subsidized.
 5. Investigate a parking fee to discourage vehicle parking after charging is complete.

CHARGEPOINT TERMS AND CONDITIONS:

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Electric Vehicle Charging Stations For Discussion at the August 11, 2016 Planning Committee meeting

- Invite Stefan Zier, Edelweiss homeowner, to Planning Committee meeting.
- Tribune article distributed at last Board meeting referenced a “DC Fast Charger, which allows an electric vehicle to reach an 80% charge in 30 minutes” which was recently installed at the Heavenly Village parking garage. This parking garage is not affiliated with Heavenly or Vail, but is owned and operated by the City of South Lake Tahoe/Fire Department/ Enforcement Services.
- Truckee Donner PUD (TDPUD) has Level 2 charging stations running on the Greenlots network. Steven Poncelet, TDPUD’s Public Information & Conservation Manager, has shared the RFP that TDPUD used to purchase their charging stations.
- The Tahoe Regional Planning Agency (TRPA) is implementing a Tahoe-Truckee PEV Readiness Plan. Per Jennifer Cannon, Senior Planner at TRPA, Kirkwood is not included in the study area. However, the District can be added to their email list and invited to any events, for planning and networking purposes.
- Sorenson’s Resort has an EV charging station. Per owner John Brissenden, as a member of various travel associations such as the California Assoc. of Bed & Breakfast, and I Love Inns, Tesla was offering free installation of charging stations to members in an effort to increase their presence in rural locations. Sorenson’s has had this in place for about one year now, and John said that it is universal for all electric vehicles, not just Tesla.

Sorenson’s is connected to Liberty Utilities via South Lake Tahoe, and offers the charging station as an amenity at no cost to the customer. Per John, he understands Kirkwood Resort is reluctant to proceed any further because they would need to give up two parking spaces in the Mountain Club garage to accommodate a charging station. They may also have concerns with liability as some vehicles have been known to catch fire.

- Dave Rightley asked where the station would be installed, and the District should confirm capacity and circuits needed.
- Alpine County Supervisor Terry Woodrow shared with staff that Bear Valley has an issue with customers parking at their charging stations and then not moving their vehicle after the charge is complete.