

Model Trim Year	Musty horse LR 6 2024	Golf TDI 2010	T&C anuthee's van 2002	Model Y LR LR 7 2021	VW Atlas 2018	VW Tiguan 2018	Model X P100D, 6 2018	Model Y LR LR 7 2024	Model Y SR SR 7 2024	Explorer 2018	Volvo XC90 T6 Momentum 2017	Model X E100D, 6 2018
Total CO2 (tons)	5.7	14.6	28.2	5.3	22.9	18.1	6.2	5.2	6.2	24	21	6.2
Miles	0	126,000	80,000	85,000	117,000	75,501	69,000			112,126	80,590	26,062
purchase price	\$ 35,000	\$ 5,000	\$ 3,000	\$ 26,500	\$ 16,000	\$ 16,795	\$ 34,900	\$ 48,440	\$ 40,930	\$ 17,940	\$ 20,500	\$ 22,300
sell the Golf/Leaf	\$ (6,700)		\$ (6,700)	\$ (6,700)	\$ (6,700)	\$ (6,700)	\$ (6,700)	\$ (6,700)	\$ (5,000)	\$ (6,700)	\$ (6,700)	\$ (6,000)
destination fee/order fee	\$ 1,390						\$ 550	\$ 1,390	\$ 1,390		\$ 699	\$ 699
Delivery			\$ 400								\$ 699	\$ 800
Tax, title registration	\$ 1,804	\$ -	\$ 500	\$ 700	\$ 1,000	\$ 1,000	\$ 1,500	\$ 1,500	\$ 1,400	\$ 1,000	\$ 1,804	\$ 1,500
tax credit	\$ (7,500)	\$ -		\$ (4,000)	\$ -	\$ -	\$ -	\$ (7,500)	\$ (7,500)	\$ -	\$ -	\$ -
Options												
roof rack	\$ -			\$ -			\$ -	\$ 400	\$ -		\$ -	\$ -
hitch cargo box	\$ -			\$ -			\$ -	\$ -	\$ -		\$ -	\$ -
roof cargo box	\$ -			\$ -			\$ -	\$ -	\$ -		\$ -	\$ -
bed cap	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
financing	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
total vehicle cost	\$ 23,994		\$ (2,800)	\$ 16,500	\$ 10,300	\$ 11,095	\$ 30,250	\$ 37,530	\$ 21,230	\$ 12,240	\$ 16,303	\$ 20,299
mileage total	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000	48000
years in service	8	8	8	8	8	8	8	8	8	8	8	8
days in service	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
Range	289	500	320	239	350	350	249	245	172	350	350	249
miles per day (avg)	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
daily excess range	263.8	475.0	295.0	213.7	325.0	325.0	224.2	220.1	147.0	325.0	325.0	224.2
Miles per year	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
cost of gas gallon	\$ -	\$ 4.100	\$ 3.354	\$ -	\$ 3.350	\$ 3.350	\$ -	\$ -	\$ -	\$ 3.350	\$ 3.350	\$ -
Charging												
\$/kWh home	\$ 0.10			\$ 0.10			\$ 0.10	\$ 0.10	\$ 0.10			\$ 0.10
\$/kWh DC fast	\$ 0.37			\$ 0.37			\$ 0.37	\$ 0.37	\$ 0.37			\$ 0.37
% DC fast	18%			32%			29%	30%	51%			29%
DC charge power kW	250			250			250	250	250			250
Time 10-80% on DC (minutes)	27			27			30	27	27			30
L2 charge power kW	7.70			7.70			7.70	7.70	7.70			7.70
Time to full charge on L2 (hours)	12.86			9.84			12.21	10.04	7.05			12.21
cost of kWh	\$ 0.15			\$ 0.19			\$ 0.18	\$ 0.18	\$ 0.24			\$ 0.18
Efficiency												
MPG		37	17		21	26.5				20	22.5	
MPG City		32	15		18	23				16	20	
MPG Hwy		42	21		24	30				24	25	
Efficiency Wh/mi Summer	300			275			330	275	275			330
Efficiency Wh/mi Winter	400			375			440	370	370			440
mi/kWh Summer	3.33			3.64			3.03	3.64	3.64			3.03
mi/kWh Winter	2.50			2.67			2.27	2.70	2.70			2.27
mi/kWh (avg whole year)	2.92			3.15			2.65	3.17	3.17			2.65
Cost per mile fuel (of avg)	\$ 0.050	\$ 0.11	\$ 0.20	\$ 0.059	\$ 0.16	\$ 0.13	\$ 0.067	\$ 0.057	\$ 0.075	\$ 0.17	\$ 0.15	\$ 0.067
Range												
Pack capacity kWh	100			78.1			100	78.1	54.8			100
useable capacity percentage	99%			97%			94%	99%	99%			94%
useable kWh	99.0			75.8			94.0	77.3	54.3			94.0
achievable range avg (mi.)	289			239			249	245	172			249
achievable range summer (mi.)	330			275			285	281	197			285
achievable range winter (mi.)	248			202			214	209	147			214
Max required (350mi.) vs achievable %	83%			68%			71%	70%	49%			71%
Annual fuel cost	\$ 303	\$ 665	\$ 1,184	\$ 354	\$ 957	\$ 758	\$ 402	\$ 343	\$ 449	\$ 1,005	\$ 893	\$ 402
Dumb fee/year	\$ 180	\$ -	\$ -	\$ 180	\$ -	\$ -	\$ 180	\$ 180	\$ 180	\$ -	\$ -	\$ 180
registration/tax	\$ 603	\$ 111	\$ 76	\$ 603	\$ 292	\$ 302	\$ 500	\$ 823	\$ 700	\$ 323	\$ 369	\$ 500
Annual maintenance cost	\$ 932	\$ 1,000	\$ 1,000	\$ 932	\$ 1,964	\$ 1,864	\$ 932	\$ 932	\$ 932	\$ 1,864	\$ 1,864	\$ 932
Annual insurance premium	\$ 1,400	\$ 494	\$ 400	\$ 1,200	\$ 1,000	\$ 1,000	\$ 1,363	\$ 1,275	\$ 1,171	\$ 1,971	\$ 3,200	\$ 2,000
Annual fuel, maint, ins, reg.	\$ 1,434	\$ 2,270	\$ 2,160	\$ 2,389	\$ 3,213	\$ 2,925	\$ 1,697	\$ 1,873	\$ 3,852	\$ 4,163	\$ 4,522	\$ 2,334
Total cost over X years	\$ 35,645	\$ 18,157	\$ 14,478	\$ 35,790	\$ 36,005	\$ 34,493	\$ 44,007	\$ 52,690	\$ 62,238	\$ 45,543	\$ 52,482	\$ 49,152
Age at sale (years)	8	22	32	11	14	14	14	8	8	14	15	14
Miles at sale	48,000	174,000	128,000	133,000	165,000	123,501	117,000	48,000	48,000	160,126	128,590	74,062
resale end of use	\$22,000	\$2,500	\$500	\$10,000	\$8,000	\$6,000	\$12,000	\$20,000	\$30,698	\$ 5,920	\$ 6,765	\$19,000
Cost compared to running the golf	\$ (2,012)		\$ (1,679)	\$ 10,133	\$ 12,348	\$ 12,837	\$ 16,351	\$ 17,033	\$ 15,864	\$ 23,966	\$ 30,060	\$ 14,496
Expense	\$ 13,645	\$ 15,657	\$ 13,978	\$ 25,790	\$ 28,005	\$ 28,493	\$ 32,007	\$ 32,690	\$ 21,521	\$ 39,623	\$ 45,717	\$ 29,635
Expense (w/o resale)	\$ 35,645	\$ 18,157	\$ 14,478	\$ 35,790	\$ 36,005	\$ 34,493	\$ 44,007	\$ 52,690	\$ 62,218	\$ 45,543	\$ 52,482	\$ 49,152
Total cost per mile	\$ 0.2843	\$ 0.3262	\$ 0.2912	\$ 0.5373	\$ 0.5834	\$ 0.5936	\$ 0.6668	\$ 0.6810	\$ 0.6667	\$ 0.8255	\$ 0.9524	\$ 0.6282
Warranty												
Basic Warranty Years	4	0	0	1	0	0	1	4	4	0	0	1
Basic Warranty Mileage	50000	0	0	50000	0	0	10000	50000	50000	0	0	10000
Powertrain Years	8	0	0	5	0	0	2	8	8	0	0	2
Powertrain Mileage	-	0	0	120000	0	0	-	120000	120000	0	0	-
Tow Capacity	5000	1000	3350	3500	8000	8000	5000	3500	3500	8000	5000	5000
tongue weight	500	200	400	350	800	800	500	350	350	800	500	500
Cargo volume, cu. ft.												
Trunk	15	15	33	12.8	20.6	12	15	12.8	12.8	18.2	15.8	15
frunk	6.5	0	0	4.1	0	0	6.5	4.1	4.1	0	0	6.5
Interior with 3rd row seats folded	37.1	0	83.3	26.6	55.5	33	37.1	26.6	26.6	47.9	41.8	37.1
Interior with all rows folded	85	46	143.8	67.9	96.8	65.3	85	67.9	67.9	87.8	85.7	85
Floor space in passenger	12	5	12	5	7	5	12	5	5	7	10	12
roof rack		14					14	14	14			14
hitch cargo box	0		0	12	12	12	12	12	12			12
total cargo volume	103.5	65	155.8	89	115.8	96.3	115.5	103	103	94.8	95.7	115.5
utilized volume	80.6	26.5	144.8	68.3	105.7	69.2	92.0	68.3	68.3	83.3	77.7	92.0
utilization %	78%	41%	93%	77%	91%	72%	80%	66%	66%	88%	81%	80%
% of required volume	304%	100%	100%	258%	100%	100%	347%	258%	258%	100%	293%	247%
Room for dogs with 4 occupants	52	15	116	39	76	45	52	39	39	66	58	52
cargo with 4 occupants & dogs	12	19	12	5	7	19	12	19	19	25	26	12
Room for dogs with 6/7 occupants	15	0	33	13	21	12	15	13	13	18	16	15
cargo with 6/7 occupants & dogs	19	0	12	9	7	19	19	23	23	7	10	19
Max cargo with 4 occupants, no dog	59	15	116	44	76	45	59	70	70	66	58	59
Max cargo with 6 occupants, no dog	22	0	33	17	21	12	22	43	43	18	16	22
Cargo mass, lbs.												
vehicle curb weight lbs.	4363	3120		4398	4663	3940	5248	4398	4454	4901	4781	5248
GVWR lbs.	5712	4300		5712	5930	5159	6250	5712	5302	6160	6151	6250
Total cargo mass capacity lbs.	1349	1180		1314	1267	1219	1002	1314	1148	1259	1370	1002
CO2												
total gallons	0	1297	2824	0	2286	1811	0	0	0	2400	2133	0
total kWh	16457	0	0	15231	0	0	18102.9	15144	15144	0	0	18102.9
lbs. per gallon	20	22.5	20	20	20	20	20	20	20	20	20	20
lbs. per kWh	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Total CO2 (tons)	6	15	28	5	23	18	6	5	5	24	21	6

fed from max required (350mi) vs. achievable, row 53

<changing these has a big impact

8800

3667

(1,000)

7125877676

*with roof box

*with roof box

Model	Mystery horse	Golf TDI	T&C	Model Y LR	VW Atlas	VW Tiguan	Model X	Model Y LR	Model Y SR	Explorer	Volvo XC90	Model X					
Trim	LR 6	2010	anuthee's van	LR 7	2018	2018	P100D, 6	LR 7	SR 7	2018	T6 Momentum	P100D, 6					
Year	2024	2010	2002	2021	2018	2018	2018	2024	2024	2018	2017	2018					
Total CO2 (tons)	5.7	14.6	28.2	5.3	22.9	18.1	6.2	5.2	6.2	24	21	6.2					
carbon tax cost	\$389.15	\$1,000.32	\$1,935.25	\$360.15	\$1,566.63	\$1,241.48	\$428.07	\$358.10	\$358.10	\$1,644.96	\$1,462.19	\$428.07					
Hypothetical \$52/ton+6%/yer																	
Carbon tax	\$ 389	\$ 1,000	\$ 1,935	\$ 360	\$ 1,567	\$ 1,241	\$ 428	\$ 358	\$ 358	\$ 1,645	\$ 1,462	\$ 428				carbon tax escalator	
Total cost over 10 years w/ carbon tax	\$ 36,034	\$ 19,157	\$ 16,413	\$ 36,150	\$ 37,572	\$ 35,735	\$ 44,435	\$ 53,048	\$ 62,522	\$ 47,188	\$ 53,944	\$ 49,580				year	rate
Cost compared to running the golf w/	\$ 19,377		\$ (244)	\$ 19,493	\$ 20,915	\$ 19,078	\$ 27,778	\$ 36,391	\$ 45,564	\$ 28,886	\$ 35,825	\$ 32,495				1	52
Expense w/ carbon tax	\$ 14,034	\$ 16,657	\$ 15,913	\$ 26,150	\$ 29,572	\$ 29,735	\$ 32,435	\$ 33,048	\$ 34,829	\$ 41,268	\$ 47,179	\$ 40,580				2	55.1
																3	58.4
																4	61.9
																5	65.6
																6	69.6
																7	73.8
																8	78.2
																9	82.9
																10	87.9

MX Compare	2016 90D	car 2
model	90D	
miles	91252	
autopilot	Highway autopilot	
Premium connectivity	included	
Air suspension	standard	
Audio system	premium	
Autopilot Computer	1.0 Computer	
CCS Adapter support	Not installed	
cold weather package	Steer wiper	
Garage door opener	Homelink4	
Infotainment processor	NVIDIA Tegra	
lifetime Wh/mi		