

## SoC Jump / Drop Analysis

This report measures the rate of SoC change normalised by time ( $\Delta \text{SOC} / \Delta t$ ). Positive values represent upward jumps (charging), negative values represent SoC drops (discharging).

Buckets include:

- <-10, -10 to -5, -5 to -2, -2 to -1, -1 to 1, 1 to 2, 2 to 5, 5 to 10, >10

For each bucket, we compute:

- Count of occurrences
- Percentage share within each mode

Fleet-Level SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
<-10	459.0	0.01	116837.0	0.67
-10 to -5	8.0	0.0	40394.0	0.23
-5 to -2	0.0	0.0	3056.0	0.02
-2 to -1	0.0	0.0	564.0	0.0
-1 to 1	3168402.0	96.23	17326028.0	98.88
1 to 2	366.0	0.01	44.0	0.0
2 to 5	338.0	0.01	517.0	0.0
5 to 10	41286.0	1.25	7959.0	0.05
>10	81551.0	2.48	26242.0	0.15

Vehicle 11 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	1.0	0.0	88790.0	0.82
-10 to -5	0.0	0.0	3933.0	0.36
-5 to -2	0.0	0.0	244.0	0.02
-2 to -1	0.0	0.0	44.0	0.0
-1 to 1	194790.0	95.08	1064082.0	98.52
1 to 2	23.0	0.01	5.0	0.0
2 to 5	14.0	0.01	34.0	0.0
5 to 10	4052.0	1.98	805.0	0.07
> 10	5991.0	2.92	2068.0	0.19

Vehicle 12 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	1.0	0.0	7042.0	0.64
-10 to -5	0.0	0.0	1733.0	0.16
-5 to -2	0.0	0.0	119.0	0.01
-2 to -1	0.0	0.0	38.0	0.0
-1 to 1	183509.0	96.54	1091643.0	99.01
1 to 2	23.0	0.01	5.0	0.0
2 to 5	4.0	0.0	28.0	0.0
5 to 10	1807.0	0.95	335.0	0.03
> 10	4743.0	2.5	1598.0	0.14

Vehicle 13 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	1.0	0.0	8745.0	0.83
-10 to -5	0.0	0.0	4142.0	0.39
-5 to -2	0.0	0.0	268.0	0.03
-2 to -1	0.0	0.0	44.0	0.0
-1 to 1	193269.0	95.16	1039321.0	98.48
1 to 2	39.0	0.02	5.0	0.0
2 to 5	31.0	0.02	46.0	0.0
5 to 10	3857.0	1.9	838.0	0.08
> 10	5893.0	2.9	1982.0	0.19

Vehicle 14 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	1.0	0.0	8916.0	0.86
-10 to -5	0.0	0.0	4050.0	0.39
-5 to -2	0.0	0.0	280.0	0.03
-2 to -1	0.0	0.0	64.0	0.01
-1 to 1	211839.0	94.9	1023842.0	98.52
1 to 2	54.0	0.02	2.0	0.0
2 to 5	26.0	0.01	36.0	0.0
5 to 10	4574.0	2.05	541.0	0.05
> 10	6741.0	3.02	1451.0	0.14

Vehicle 15 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	3.0	0.0	8871.0	0.82
-10 to -5	0.0	0.0	4016.0	0.37
-5 to -2	0.0	0.0	251.0	0.02
-2 to -1	0.0	0.0	56.0	0.01
-1 to 1	194107.0	95.06	1063596.0	98.5
1 to 2	30.0	0.01	4.0	0.0
2 to 5	23.0	0.01	35.0	0.0
5 to 10	4083.0	2.0	850.0	0.08
> 10	5949.0	2.91	2090.0	0.19

Vehicle 16 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	1.0	0.0	9180.0	0.8
-10 to -5	0.0	0.0	2294.0	0.2
-5 to -2	0.0	0.0	334.0	0.03
-2 to -1	0.0	0.0	37.0	0.0
-1 to 1	216794.0	95.79	1139906.0	98.77
1 to 2	25.0	0.01	4.0	0.0
2 to 5	17.0	0.01	44.0	0.0
5 to 10	1992.0	0.88	459.0	0.04
> 10	7498.0	3.31	1877.0	0.16

Vehicle 18 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	2.0	0.0	1799.0	0.55
-10 to -5	2.0	0.0	477.0	0.15
-5 to -2	0.0	0.0	76.0	0.02
-2 to -1	0.0	0.0	6.0	0.0
-1 to 1	55932.0	96.3	321717.0	99.12
1 to 2	3.0	0.01	0.0	0.0
2 to 5	4.0	0.01	9.0	0.0
5 to 10	479.0	0.82	89.0	0.03
> 10	1662.0	2.86	384.0	0.12

Vehicle 19 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	0.0	0.0	1724.0	0.64
-10 to -5	1.0	0.0	450.0	0.17
-5 to -2	0.0	0.0	52.0	0.02
-2 to -1	0.0	0.0	11.0	0.0
-1 to 1	48090.0	95.98	266602.0	99.0
1 to 2	6.0	0.01	1.0	0.0
2 to 5	4.0	0.01	3.0	0.0
5 to 10	439.0	0.88	85.0	0.03
> 10	1565.0	3.12	354.0	0.13

Vehicle 20 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	74.0	0.05	3446.0	0.52
-10 to -5	0.0	0.0	784.0	0.12
-5 to -2	0.0	0.0	60.0	0.01
-2 to -1	0.0	0.0	9.0	0.0
-1 to 1	152052.0	97.91	660140.0	99.2
1 to 2	9.0	0.01	1.0	0.0
2 to 5	14.0	0.01	12.0	0.0
5 to 10	850.0	0.55	142.0	0.02
> 10	2305.0	1.48	855.0	0.13

Vehicle 25 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	96.0	0.07	3036.0	0.46
-10 to -5	0.0	0.0	606.0	0.09
-5 to -2	0.0	0.0	33.0	0.0
-2 to -1	0.0	0.0	7.0	0.0
-1 to 1	132359.0	97.96	660118.0	99.3
1 to 2	8.0	0.01	0.0	0.0
2 to 5	12.0	0.01	5.0	0.0
5 to 10	733.0	0.54	124.0	0.02
> 10	1909.0	1.41	826.0	0.12

Vehicle 27 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	19.0	0.01	6282.0	0.65
-10 to -5	2.0	0.0	1498.0	0.15
-5 to -2	0.0	0.0	105.0	0.01
-2 to -1	0.0	0.0	10.0	0.0
-1 to 1	178179.0	96.8	956894.0	99.0
1 to 2	7.0	0.0	2.0	0.0
2 to 5	14.0	0.01	21.0	0.0
5 to 10	1854.0	1.01	297.0	0.03
> 10	3998.0	2.17	1451.0	0.15

Vehicle 28 — SoC Jumps/Drops (Count + %)				
<b>Jump Bucket</b>	<b>Charge Count</b>	<b>Charge %</b>	<b>Discharge Count</b>	<b>Discharge %</b>
< -10	37.0	0.04	3525.0	0.45
-10 to -5	0.0	0.0	867.0	0.11
-5 to -2	0.0	0.0	55.0	0.01
-2 to -1	0.0	0.0	9.0	0.0
-1 to 1	98112.0	97.0	781539.0	99.3
1 to 2	11.0	0.01	0.0	0.0
2 to 5	12.0	0.01	10.0	0.0
5 to 10	972.0	0.96	149.0	0.02
> 10	2001.0	1.98	915.0	0.12

Vehicle 29 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	7.0	0.01	3418.0	0.49
-10 to -5	0.0	0.0	724.0	0.1
-5 to -2	0.0	0.0	45.0	0.01
-2 to -1	0.0	0.0	4.0	0.0
-1 to 1	108671.0	97.4	686145.0	99.27
1 to 2	7.0	0.01	1.0	0.0
2 to 5	8.0	0.01	6.0	0.0
5 to 10	718.0	0.64	138.0	0.02
> 10	2157.0	1.93	734.0	0.11

Vehicle 3 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	2.0	0.0	8164.0	0.62
-10 to -5	1.0	0.0	2273.0	0.17
-5 to -2	0.0	0.0	277.0	0.02
-2 to -1	0.0	0.0	40.0	0.0
-1 to 1	172950.0	95.36	1294019.0	99.0
1 to 2	22.0	0.01	2.0	0.0
2 to 5	14.0	0.01	57.0	0.0
5 to 10	2233.0	1.23	501.0	0.04
> 10	6152.0	3.39	1723.0	0.13

Vehicle 30 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	18.0	0.06	325.0	0.16
-10 to -5	0.0	0.0	0.0	0.0
-5 to -2	0.0	0.0	2.0	0.0
-2 to -1	0.0	0.0	0.0	0.0
-1 to 1	27966.0	98.86	201244.0	99.79
1 to 2	1.0	0.0	0.0	0.0
2 to 5	0.0	0.0	0.0	0.0
5 to 10	0.0	0.0	0.0	0.0
> 10	303.0	1.07	99.0	0.05

Vehicle 31 — SoC Jumps/Drops (Count + %)				
<b>Jump Bucket</b>	<b>Charge Count</b>	<b>Charge %</b>	<b>Discharge Count</b>	<b>Discharge %</b>
< -10	78.0	0.08	3292.0	0.52
-10 to -5	0.0	0.0	684.0	0.11
-5 to -2	0.0	0.0	40.0	0.01
-2 to -1	0.0	0.0	4.0	0.0
-1 to 1	96463.0	97.02	625119.0	99.2
1 to 2	8.0	0.01	0.0	0.0
2 to 5	16.0	0.02	13.0	0.0
5 to 10	723.0	0.73	116.0	0.02
> 10	2137.0	2.15	875.0	0.14

Vehicle 32 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	42.0	0.04	967.0	0.47
-10 to -5	0.0	0.0	13.0	0.01
-5 to -2	0.0	0.0	6.0	0.0
-2 to -1	0.0	0.0	2.0	0.0
-1 to 1	93269.0	99.11	202527.0	99.4
1 to 2	1.0	0.0	0.0	0.0
2 to 5	1.0	0.0	2.0	0.0
5 to 10	1.0	0.0	5.0	0.0
> 10	793.0	0.84	226.0	0.11

Vehicle 33 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	41.0	0.03	3278.0	0.44
-10 to -5	0.0	0.0	885.0	0.12
-5 to -2	0.0	0.0	54.0	0.01
-2 to -1	0.0	0.0	7.0	0.0
-1 to 1	123339.0	97.59	735678.0	99.3
1 to 2	5.0	0.0	0.0	0.0
2 to 5	8.0	0.01	9.0	0.0
5 to 10	713.0	0.56	177.0	0.02
> 10	2274.0	1.8	801.0	0.11

Vehicle 42 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	15.0	0.01	806.0	0.37
-10 to -5	0.0	0.0	17.0	0.01
-5 to -2	0.0	0.0	9.0	0.0
-2 to -1	0.0	0.0	6.0	0.0
-1 to 1	105494.0	99.33	215553.0	99.54
1 to 2	2.0	0.0	0.0	0.0
2 to 5	0.0	0.0	1.0	0.0
5 to 10	3.0	0.0	0.0	0.0
> 10	691.0	0.65	161.0	0.07

Vehicle 46 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	20.0	0.11	296.0	0.18
-10 to -5	0.0	0.0	0.0	0.0
-5 to -2	0.0	0.0	0.0	0.0
-2 to -1	0.0	0.0	1.0	0.0
-1 to 1	18294.0	98.24	166909.0	99.78
1 to 2	1.0	0.01	0.0	0.0
2 to 5	0.0	0.0	0.0	0.0
5 to 10	0.0	0.0	0.0	0.0
> 10	306.0	1.64	76.0	0.05

Vehicle 6 — SoC Jumps/Drops (Count + %)				
<b>Jump Bucket</b>	<b>Charge Count</b>	<b>Charge %</b>	<b>Discharge Count</b>	<b>Discharge %</b>
< -10	0.0	0.0	7323.0	0.72
-10 to -5	1.0	0.0	3185.0	0.31
-5 to -2	0.0	0.0	225.0	0.02
-2 to -1	0.0	0.0	42.0	0.0
-1 to 1	174022.0	95.64	998833.0	98.7
1 to 2	21.0	0.01	3.0	0.0
2 to 5	32.0	0.02	39.0	0.0
5 to 10	3281.0	1.8	611.0	0.06
> 10	4594.0	2.52	1742.0	0.17

Vehicle 7 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	0.0	0.0	9152.0	0.81
-10 to -5	0.0	0.0	3808.0	0.34
-5 to -2	0.0	0.0	269.0	0.02
-2 to -1	0.0	0.0	79.0	0.01
-1 to 1	205528.0	95.25	1107213.0	98.55
1 to 2	36.0	0.02	7.0	0.0
2 to 5	54.0	0.03	48.0	0.0
5 to 10	4011.0	1.86	871.0	0.08
> 10	6138.0	2.84	2071.0	0.18

Vehicle 9 — SoC Jumps/Drops (Count + %)				
Jump Bucket	Charge Count	Charge %	Discharge Count	Discharge %
< -10	0.0	0.0	8371.0	0.81
-10 to -5	1.0	0.0	3955.0	0.38
-5 to -2	0.0	0.0	252.0	0.02
-2 to -1	0.0	0.0	44.0	0.0
-1 to 1	183374.0	94.97	1023388.0	98.52
1 to 2	24.0	0.01	2.0	0.0
2 to 5	30.0	0.02	59.0	0.01
5 to 10	3911.0	2.03	826.0	0.08
> 10	5751.0	2.98	1883.0	0.18