KEMPOWER

Electric Vehicle (EV) Charging activity across six Countries

2024.01 – 2025.06

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Summary

This report analyzes electric vehice (EV) charging activity in six chosen countries

Chosen countries: Finland, France, Sweden, Norway, Portugal, United Kingdom

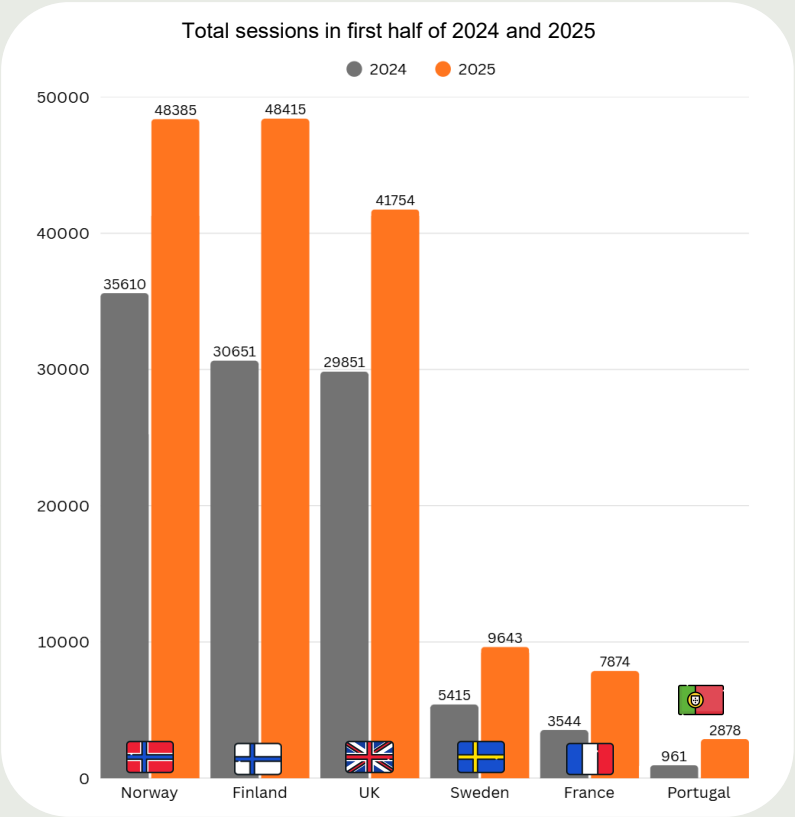
Time period: 2024 January – 2025 June.

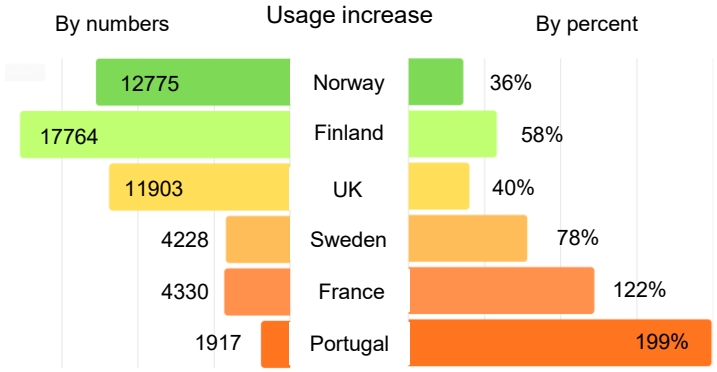
Data type: Monthly and weekly charging record collected from Dataset.

Method: Instead of using all recorded samples, the analysis counted only unique transaction IDs with matching EV model with month and weekday to get more accurate result, since some cars had multiple records.

Overview of Data

Before going into detailed numbers and results, let's take a brief look at the overall data by comparing the increase in charging sessions during the first half of each year.





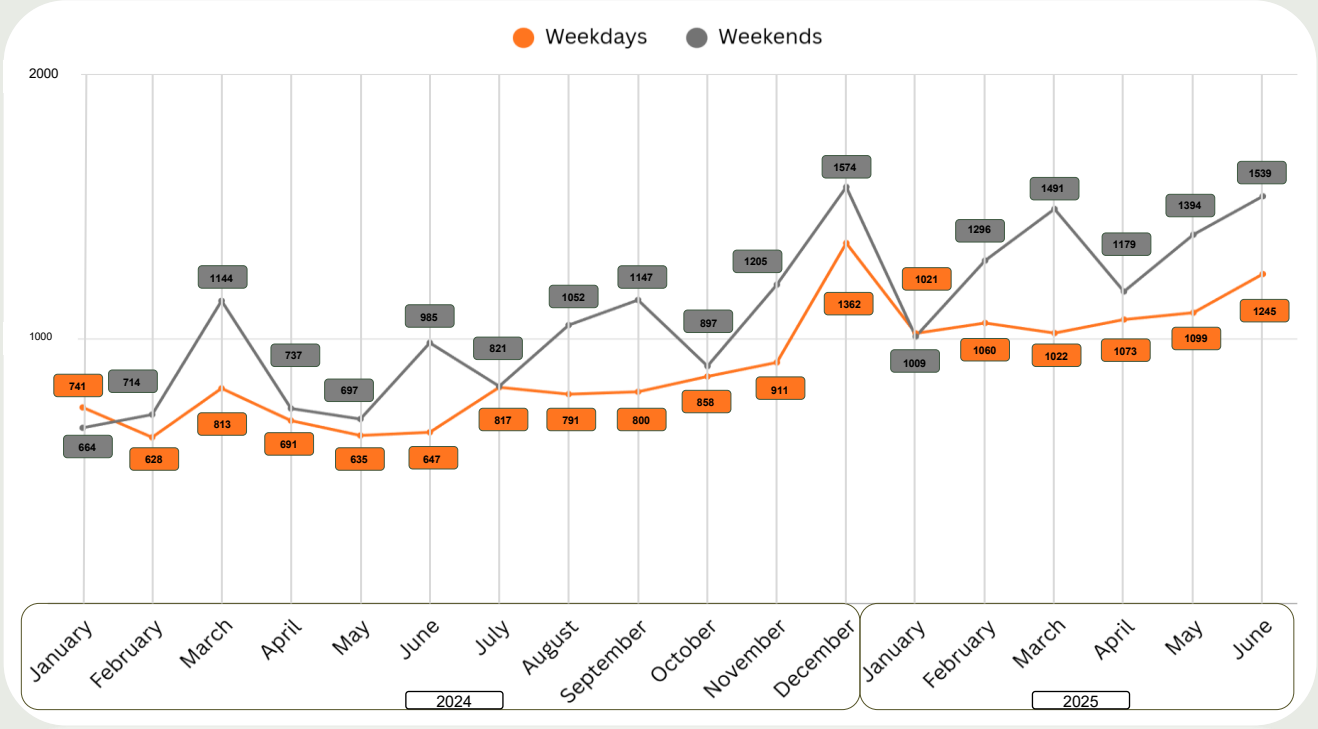
The chart shows that EV charging usage increased across all six countries

Finland, Norway and UK had the largest growth in total numbers, while Portugal and France recorded the biggest percentage increases. Norway and Sweden showed steady, moderate growth

Detailed insights

Now, let's take a closer look at the detailed breakdown of average weekday and weekend charging activity in each country. Starting with Finland

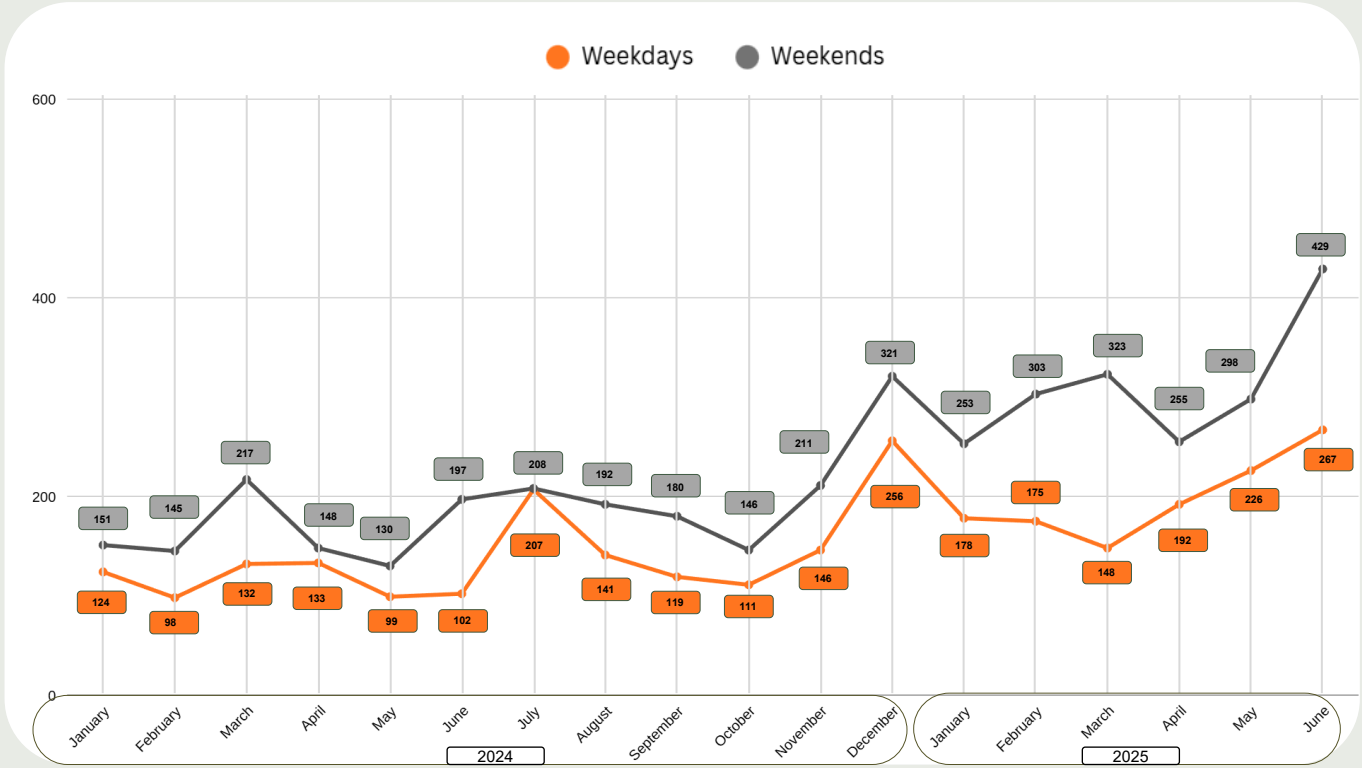
The chart compares weekday vs. weekend charging activity from January 2024 to June 2025. Overall, both weekdays and weekends show a steady upward trend, with weekends consistently having higher numbers of charges than weekdays.



Even though winter months show higher spikes, the over all number of cars charged continues to increase year over year. These winter peaks are likely influenced by holiday travel and the reduced battery performance that comes with Finland's cold temperatures, which leads to more frequent charging. While charging activity typically dips after winter, the monthly averages still remain above the previous year's levels, highlighting a steady long-term upward trend.

Detailed insights

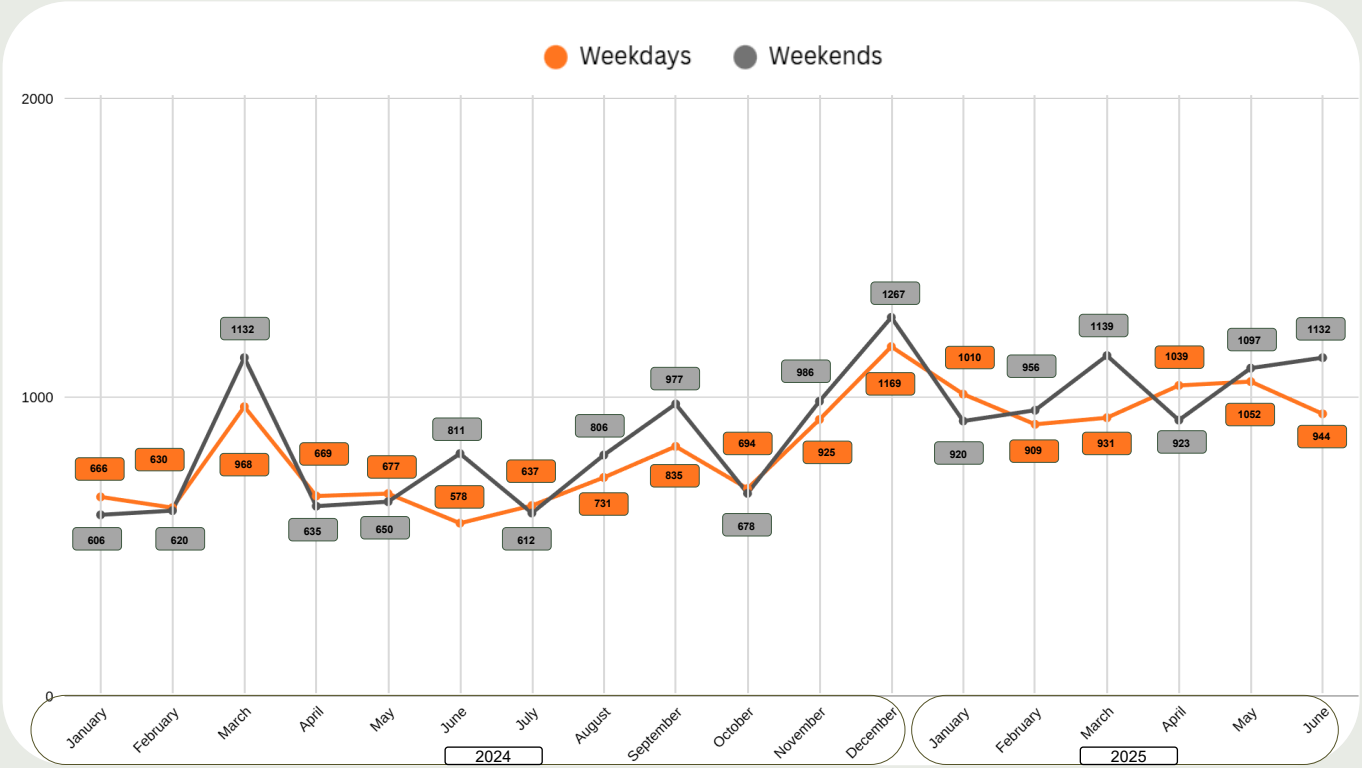
Sweden **shows a steady rise in charging activity over time, with both weekdays and weekends trending upward despite regular monthly shifts.**



A few sharper increases appear such as the strong jump in December which likely reflects higher travel levels during the holiday season and temperature affect to battery performance. Weekend charging also picks up noticeably toward late spring, suggesting increased mobility as the year progresses. Although some months dip slightly, the overall direction remains positive. By the final period, both lines sit well above their starting values

Detailed insights

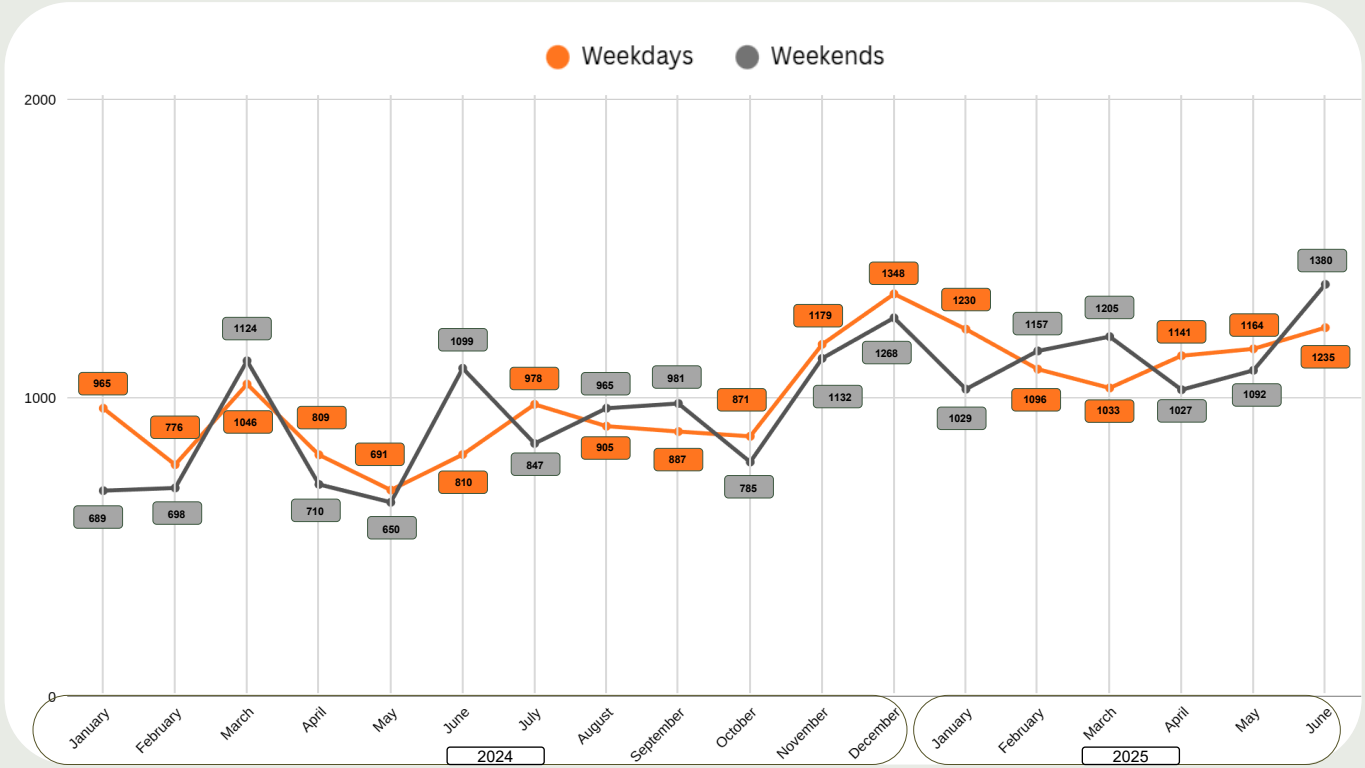
United Kingdom **shows a clear upward movement in overall charging activity, even with the month-to-month shifts.**



Certain periods, especially early spring and the end of the year, stands out with stronger increases, reflecting changes in travel routines and general EV usage across the country. Although there are moments where charging numbers ease off, the broader pattern remains positive, with most months trending higher than earlier in the timeline.

Detailed insights

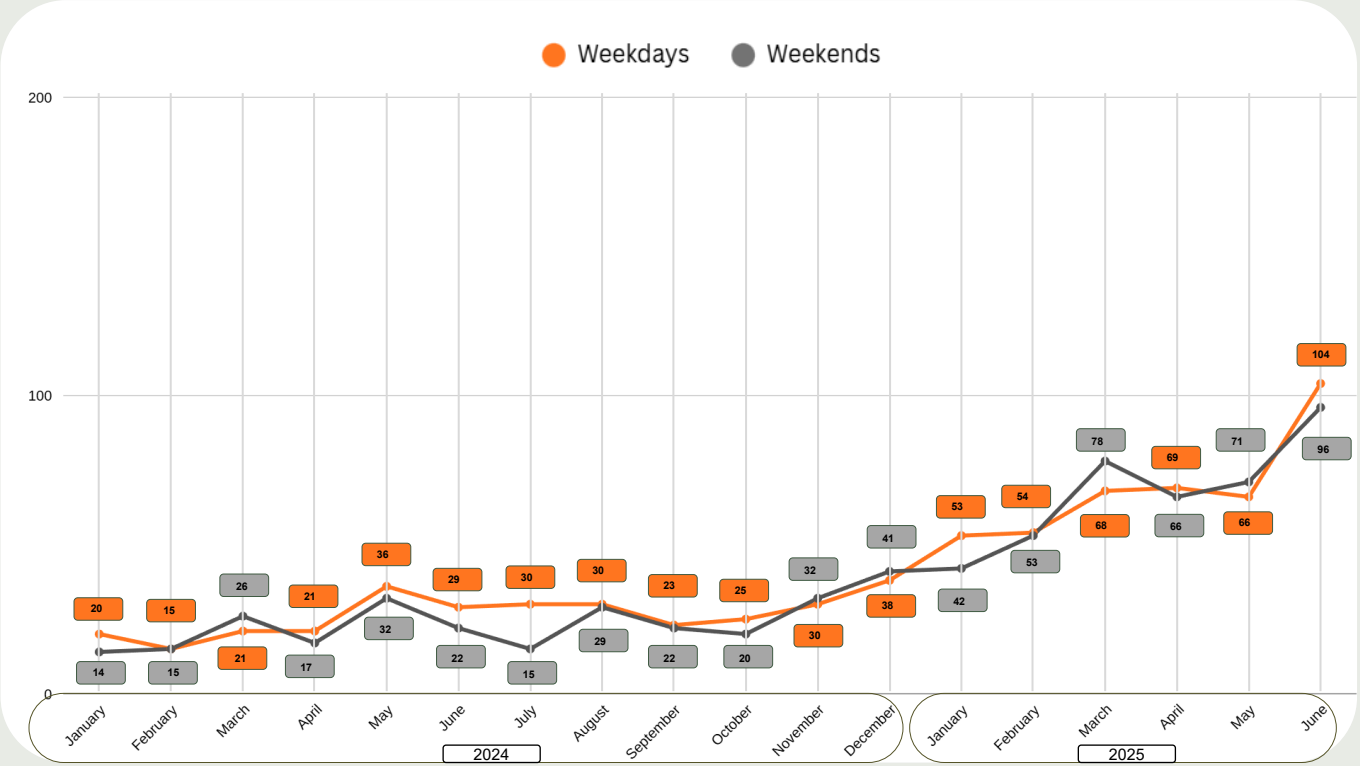
Even though certain months show noticeable peaks, the overall number of cars charged in Norway continues to increase year over year.



These rises often seen in periods like early spring and late autumn are likely influenced by travel patterns and general usage habits across the country. While charging activity does dip in some months, the monthly averages still remain above many of the previous year's levels, highlighting a steady long-term upward trend.

Detailed insights

Portugal **shows a steady build-up in charging activity, with both weekdays and weekends rising gradually over time.**

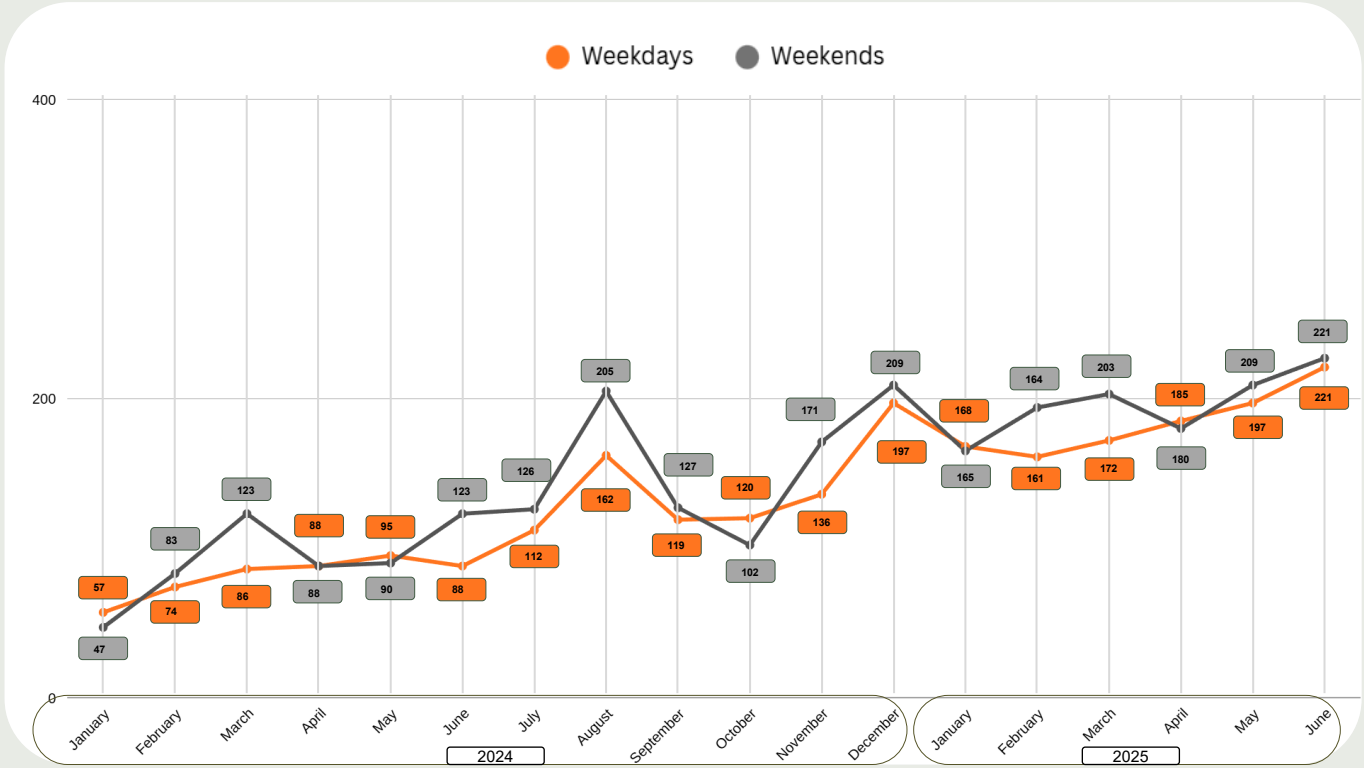


Early in the year, monthly values remain relatively modest, but they begin climbing more noticeably from late autumn onward. Small fluctuations appear along the way, but both lines follow a similar path, reinforcing a stable pattern of growth.

By the final months, charging levels are clearly higher than at the start, suggesting a consistent expansion in EV usage and demand across the country.

Detailed insights

France **shows a clear upward progression in charging activity, with both weekdays and weekends steadily climbing over time.**



Some of the stronger increases particularly during the summer may be influenced by the Olympic Games attracting additional visitors and boosting overall travel. The noticeable rise in December also aligns with France's role as a major holiday destination, when tourism and domestic travel typically peak.

Although a few months show brief dips, the broader movement continues upward, and the later values remain well above those at the start.

Overall

Here you can see the total number of sessions per month for each country.

Total																		
	2024												2025					
Country \ Month	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June
Finland	5030	4569	6353	4926	4570	5203	5727	6061	6293	6084	6965	9958	7124	7890	8089	7723	8285	9304
France	379	535	675	615	655	685	813	1220	848	802	1019	1404	1168	1191	1266	1287	1403	1559
Sweden	922	780	1093	959	756	905	1450	1087	954	845	1153	1920	1395	1479	1383	1467	1725	2194
Portugal	128	104	158	140	244	187	178	208	160	166	216	271	346	377	496	476	471	712
Norway	6449	5386	7406	5527	4809	6033	6708	6316	6381	5956	8049	9364	8417	7745	7431	7833	7993	8966
United Kingdom	4543	4390	7104	4616	4684	4514	4407	5264	6127	4825	6596	8379	6891	6457	6933	7039	7452	6982

Here you can see the month-to-month percentage change in total charging sessions for each country.

Change by percentage																		
	2024											2025						
Country \ Month	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	First half change
Finland	-9%	39%	-22%	-7%	14%	10%	6%	4%	-3%	14%	43%	-28%	11%	3%	-5%	7%	12%	58%
France	41%	26%	-9%	7%	5%	19%	50%	-30%	-5%	27%	38%	-17%	2%	6%	2%	9%	11%	122%
Sweden	-15%	40%	-12%	-21%	20%	60%	-25%	-12%	-11%	36%	67%	-27%	6%	-6%	6%	18%	27%	78%
Portugal	-19%	52%	-11%	74%	-23%	-5%	17%	-23%	4%	30%	25%	28%	9%	32%	-4%	-1%	51%	199%
Norway	-16%	38%	-25%	-13%	25%	11%	-6%	1%	-7%	35%	16%	-10%	-8%	-4%	5%	2%	12%	36%
United Kingdom	-3%	62%	-35%	1%	-4%	-2%	19%	16%	-21%	37%	27%	-18%	-6%	7%	2%	6%	-6%	40%

Although Portugal and France show the highest percentage increase in charging numbers over the selected period, other countries while having lower growth rates already have significantly larger charging volumes. This makes Finland, Norway, and the United Kingdom the strongest target markets for expansion.

Link to the GitHub repository of this project: https://github.com/Uunii/Designing-IoT-Pipeline

Thank you
for your attention