# Annual rankings show improvements in EV public charging infrastructure but persistent gaps across the US and Europe

- *US grows public charging power by 82% while Europe grows by 115% since the 2023 Index*
- *This year's Index shows that 24 European countries, but only 3 US States and Washington, D.C. have achieved optimal ratio of EVs to public chargers*
- *New this year are insights on uptime of charge points and US metropolitan-level data*

Chicago and Berlin - To commemorate World EV Day, HERE Technologies, the leading location data and technology company, and SBD Automotive, a global automotive research firm, today published its second annual Electric Vehicle (EV) Index, which reveals notable growth in EV adoption and infrastructure development across the United States and Europe.

The findings reveal both substantial progress and ongoing challenges in the adoption and support of electric vehicles, highlighting key metrics that reflect the growth and maturity of these markets. The HERE-SBD EV Index highlights the leaders and laggards of fully battery electric vehicle (BEV) infrastructure at the US state, metropolitan, and European country level.

The Index is based on the following metrics (each ranked out of a maximum score of 25 for a total score out of 100):

1. ***How far you must drive to find a charger*** *- number of public EV chargers per road length.*
2. ***How quickly you can charge*** *- the average power capacity of public EV chargers.*
3. ***Number of BEVs on the road*** *versus internal combustion engine vehicles - BEV fleet share.*
4. ***Likelihood of finding an unoccupied charger*** *- the ratio of registered EVs to public chargers.*

Key Findings from the 2024 HERE-SBD EV Index

## *United States*

**The top overall states (+D.C.) in the HERE-SBD EV Index**

(1) Delaware (2) Washington, D.C. (tie 3) Massachusetts (tie 3) Nevada (5) Connecticut

**The bottom overall states in the HERE-SBD EV Index**

(47) Minnesota (48) Nebraska (49) Idaho (50) Arkansas (51) Alaska

Delaware surged to the top of the US ranking, moving from 15th place to 1st, driven by strong growth in high-power charging and a notable increase in EV sales. Washington, D.C. slipped one spot to 2nd, while Massachusetts moved up one spot in a tie for 3rd. Nevada jumped to tie for 3rd this year after being ranked 11th in last year's ranking. Connecticut rounded out the top 5, while sliding from 2nd last year.

**Infrastructure Growth:** The total number of public charge points in the US increased by an impressive 32% since the 2023 HERE-SBD EV Index. States such as Delaware, Tennessee, Louisiana, Texas and Indiana demonstrated the most significant improvements in their EV infrastructure.

**Regional Disparities:** Despite the overall growth in public charge points nationally, the Index reveals stark regional disparities. For example, Michigan saw a nearly 9-point drop in the Index ranking, primarily due to a decline in average charging power and a worsening ratio of chargers to battery electric vehicles (BEVs).
Major metropolitan areas like Los Angeles, New York, and San Francisco continue to lead in both AC and DC charging capacity. Regions such as Dallas/Fort Worth and Houston lag behind.

**Operational Challenges:** More than 10% of the chargers in Alaska (15.4%), West Virginia (16.0%), DC (16.8%), and Hawaii (21.4%) were reporting as out-of-order, at the time of preparing this Index. Meanwhile, the states with the most reliable networks are Kansas, Massachusetts, Maine and Nebraska, all with at least 98% of chargers operating, at the time of preparing this Index.

This figure, however, doesn't represent the entire challenge for drivers. Many more chargers have compatibility issues, usually due to the software of a charger and vehicle not communicating properly. Other chargers may work, but charge much slower than advertised, due to aging. For many operators of charging stations, proper maintenance has been challenging due to both skilled labor shortages and the costs involved during a period of scaling up operations and seeking revenue. The US Bipartisan Infrastructure Law allocates $100 million to repair and maintain these non-operational chargers, but the prioritization of these repairs remains a concern.

## *Europe*

**The top overall countries in the HERE-SBD EV Index**
(1) Denmark (2) Norway (3) Luxembourg (4) Netherlands (5) Germany

**The bottom overall countries in the HERE-SBD EV Index**
(26) Ireland (27) Poland (28) Cyprus (29) Hungary (30) Malta

**Countries with most improvement in score**: Cyprus, Denmark, Greece, Lithuania, Finland and Romania.

**Countries with most decline in score**: Hungary, Czech Republic, Portugal, Spain, Croatia and the Netherlands.

**Top Performers:** Denmark emerged as the top-ranked country in the 2024 Index, a significant leap from its 6th place position in 2023. This is attributed to the Danish government's strong support for electrification, including tax exemptions and rebates, which have propelled the country to the forefront of EV adoption.

**Mature Markets:** Norway, a longstanding leader in the EV transition, slipped from 1st to 2nd place in the Index due to a slight reduction in total available public chargers. However, Norway remains a global blueprint for EV adoption, with nearly 50% of its overall vehicle population now electrified. Germany, with the largest BEV fleet in Europe, ranks 5th in the Index, reflecting the need for greater infrastructure investment as government incentives wane and EV adoption slows.

**Surging Infrastructure Power:** Europe outpaced the US in terms of infrastructure power growth, with public charging power increasing by 115% since the 2023 HERE-SBD EV Index. This expansion is 33 percentage points more than what is observed in the US during the same period, underlining Europe's more aggressive push towards electrification.

"Despite the progress in expanding EV infrastructure, slower growth in EV adoption highlights a persistent challenge: the need for a robust and reliable public charging network. To accelerate adoption, the industry must focus on creating a high-capacity and seamless charging experience. It is essential that users are delivered timely information on the status and availability of charging stations, down to the integration of a vehicle's battery with its navigation system for more accurate on-route range predictions," said Christopher Handley, Vice President of Dynamic Spatial Data at HERE Technologies.

"Automakers, energy companies, governments and even petroleum giants are all deeply invested in developing the charging infrastructure that's essential for the future of electric mobility. This herculean effort requires seamless coordination, not just among the industry players, but also with consumers, to ensure that demand for EVs is balanced with supply of both vehicles and charging options," said Robert Fisher, Electrification and Sustainability Principal at SBD Automotive. "Government incentives and consumer education will continue to play a significant role in accelerating the transition as the market moves beyond early adopters and into the majority."

About the Index

The 2024 HERE-SBD EV Index provides a timely snapshot of the evolving landscape of electric vehicle adoption and infrastructure. As governments and industries continue to invest in

electrification, the Index serves as a dynamic tool for understanding where progress is being made and where further efforts are needed to ensure a seamless transition to an all-electric future.

The full HERE-SBD EV Index 2024 rankings, interactive visuals and maps can be found at: https://www.here.com/ev-index-2024

*Nomenclature*

Charger/charging point: one device used to concurrently exchange energy between the EV and the grid. Note that only publicly accessible chargers are included in this context.
EV: for the purposes of this index, "EV" refers only to Battery Electric Vehicles, i.e. those vehicles that have no internal combustion engine.

*Methodology*

The Index compares all federal states of the US (including Washington D.C.) and the EU-27, plus Norway, Switzerland and the UK. All EV charging location data was pulled from the HERE EV Charge Points API. Government sources include AFDC, the US Census Bureau, Eurostat, EAFO, The CIA World Factbook, the ONS, and the FHWA. Only battery electric vehicles (BEVs) are included in our index.

HERE EV Charge Points collects data from public charge points. These include free, paid, and access-restricted charging stations (for example, public, yet commercial ones found on retail parking lots). Private charge stations, such as those in residential buildings, are excluded.

Levels of information in HERE EV Charge Points include charging locations, EVSEs (Electric Vehicle Supply Equipment) and connectors. Included in the API response are addresses, hours of operation, charge station details, payment methods and availability information. Information about voltage, amps, charge modes and connector types are also supported.

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