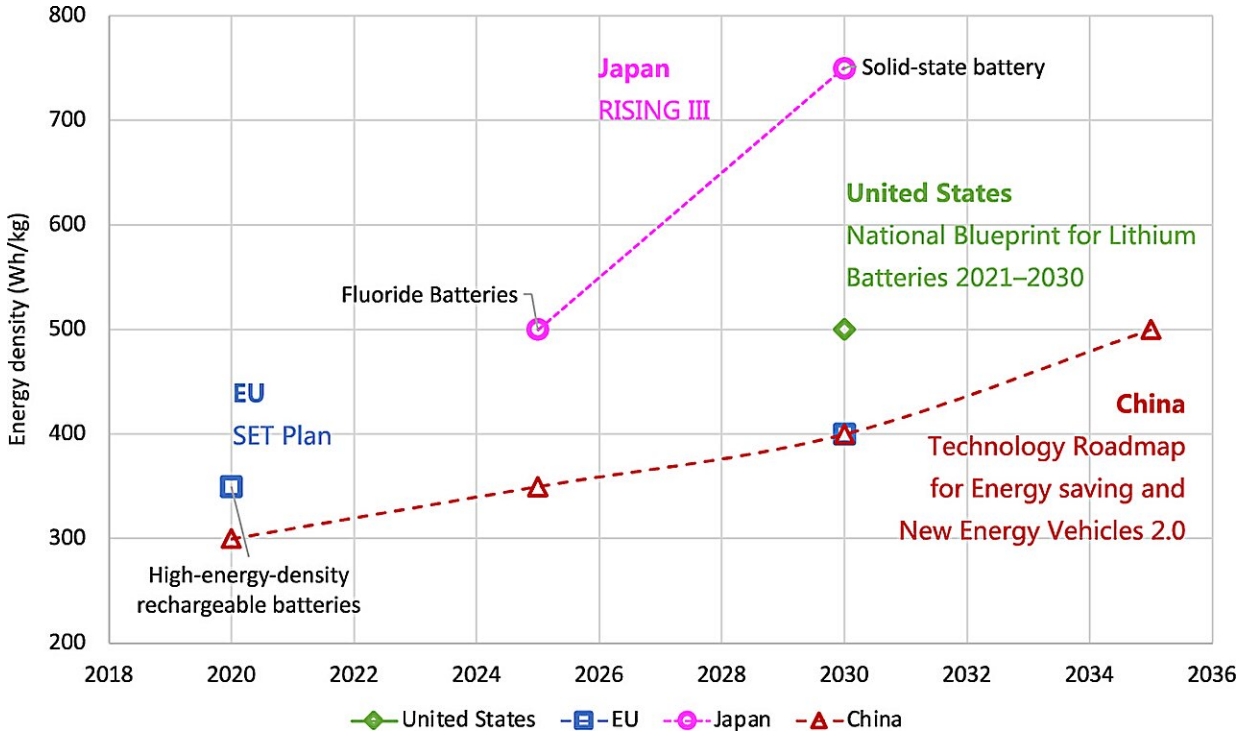
# Green wheels: New study maps the road to eco-friendly driving

May 28 2024




Comparison of energy densities of different batteries for automotive applications. Credit: *Automotive Innovation* (2024). DOI: 10.1007/s42154-023-00246-z

As climate change intensifies, the transportation sector is under significant pressure to minimize its carbon footprint. Pivotal in this transformation are new energy vehicles, including battery electric, plug-

in hybrid, and fuel cell vehicles. Yet, the journey towards broad adoption of these technologies is riddled with technological, economic, and policy hurdles.

In the journal *Automotive Innovation*

, researchers from the University of Science and Technology Beijing present a study that outlines development strategies and organizational models poised to guide the global road transport sector toward carbon neutrality. The study, published on April 15, 2024, introduces a framework designed to deepen understanding and enhance the impact of new energy vehicles (NEVs) in curbing global carbon emissions.

The research rigorously assesses national strategies utilized by China, the European Union, the United States, and Japan, highlighting the diversity and intricacies of the transition to NEVs. While all regions are committed to reducing transportation emissions, their approaches differ markedly.

China prioritizes large-scale market incentives and infrastructural development; the EU melds NEV expansion into wider environmental policies; the U.S. focuses on fostering

technological innovation and engaging the private sector; and Japan robustly invests in hydrogen fuel technology.

The study emphasizes the need for bespoke policy frameworks that take into account regional economic conditions, technological capabilities, and societal factors. It advocates for a balanced strategy that enhances both supply, through innovations and manufacturing incentives, and demand, through consumer subsidies and public awareness initiatives, to effectively stimulate the NEV market and establish sustainable transportation systems globally.

Dr. Xu Hao, the study's lead author, comments, "This research not only charts viable paths to carbon neutrality but also underscores the vital role of government policies and international collaboration in boosting NEV adoption. It's crucial for stakeholders worldwide to synchronize their efforts and innovate together."

This research offers a blueprint for policymakers, industry leaders, and researchers to grasp the dynamics of the NEV market and its influence on carbon emissions. By implementing the strategies outlined, nations can expedite their shift to a sustainable transportation system, significantly aiding global climate objectives.

**More information:** Xu Hao et al, Toward Carbon Neutral Road Transport: Development Strategies and New R&D Organizational Paradigms, *Automotive Innovation* (2024). DOI: 10.1007/s42154-023-00246-z

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