

How to promote the use of New batteries?

To promote the use of NEVs, multiple values of battery recycling in terms of economic benefits and environmental protection are considered. Establishing a management system for the full life cycle of NEV batteries should be promoted. Fig. 9. Bubble chart showing annual trends for the top 20 journals in publications. 3.5.

Does subjective preference affect the recycling strategy of new energy vehicle batteries?

The study shows that: (1) In addition to the establishment of effective external norms, the subjective preference of decision makers can also positively affect the recycling strategy of new energy vehicle batteries.

Why do new energy vehicle retailers choose negative synergy?

When the pessimism of the new energy vehicle retailer is deeper, the more the new energy vehicle retailer does not trust the effectiveness of the new energy vehicle manufacturer's battery recycling, and the new energy vehicle retailer will choose more negative synergy out of the pursuit of their own interests.

Is the new energy battery recycling strategy optimal?

As finite rational individuals [24], the strategy choice of each participant in the new energy battery recycling process is not always theoretically optimal, and the new energy battery recycling strategy is also influenced by the carbon sentiment of manufacturers, retailers, and other participants.

Do emotions affect the evolution of the new energy vehicle battery recycling system?

Emotions, an irrational factor, can significantly change the stability of the evolution of the new energy vehicle battery recycling system by influencing the behavioral decisions of decision makers, and heterogeneous emotions have different effects on the evolution of the system.

What is the development trajectory of power batteries?

With the rate of adoption of new energy vehicles, the manufacturing industry of power batteries is swiftly entering a rapid development trajectory. The current construction of new energy vehicles encompasses a variety of different types of batteries.

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Battery recycling is an important aspect of the sustainable development of NEVs. In this study, we conducted

an in-depth analysis of the current status of research on NEV battery recycling from a new perspective ...

She envisions a mixture of ion batteries and "flow batteries", which store energy in liquid tanks. She also sees an important role for hydrogen in energy production and storage.

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Ningde era released a new product, Shenxing super-rechargeable battery, which is the world's first 4C super-rechargeable battery that uses lithium iron phosphate ...

Modern battery technology offers a number of advantages over earlier models, including increased specific energy and energy density (more energy stored per unit of volume or weight), increased lifetime, and improved safety . By installing battery energy storage system, renewable energy can be used more effectively because it is a backup power ...

In general, energy density is a crucial aspect of battery development, and scientists are continuously designing new methods and technologies to boost the energy density storage of the current batteries. This will make it possible to develop batteries that are smaller, resilient, and more versatile. This study intends to educate academics on cutting-edge methods and ...

Empirically, we investigate the developmental process of the new energy vehicle battery (NEVB) industry in China. China has the highest production volume of NEVB worldwide since 2015, and currently dominates the global production capacity, accounting for 77% in 2020 (SandP Global Market Intelligence, 2021).

The negative impact of used batteries of new energy vehicles on the environment has attracted global attention, and how to effectively deal with used batteries of new energy vehicles has become a hot issue. This paper combines the rank-dependent expected utility with the evolutionary game theory, constructs an evolutionary game model based on ...

Emerging technologies such as solid-state batteries, lithium-sulfur batteries, and flow batteries hold potential for greater storage capacities than lithium-ion batteries. Recent developments in battery energy density and cost reductions ...

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This is highlighted clearly in the new Batteries Regulation as well, where the European Commission has set

ambitious targets for the recycling efficiency and for the amount of recycled materials in new batteries. Now is the time to put enough resources for the development of recycling processes, and to educate people to work in this field. When ...

To improve the recovery rate of power batteries and analyze the economic and environmental benefits of recycling, this paper introduced the SOR theory and the TPB and constructed the system dynamics model of power battery recycling for new-energy vehicles. Through dynamic simulation, the following main conclusions were obtained.

With the yearly increasing market penetration of new-energy vehicles in China, the retirement of power batteries has gradually become a scale, and most of the waste batteries have entered informal recycling channels, which has induced a series of environmental problems. Considering this issue, we introduced the system dynamics (SD), stimulus organism response ...

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