Battery Disposal Subsidy

What is the subsidy policy for power battery recycling?
In 2014,the Shanghai government was the first to propose a subsidy policy for power battery recycling and stipulated a subsidy of 1,000RMBfor each set of retired power batteries recycled. In 2018,Shenzhen proposed a deposit-subsidy mechanism.

Can government subsidies help recycle end-of-life power batteries?
It is difficult for recyclers and consumers to cooperate proactively in recycling end-of-life power batteries. Thus, it is found that government subsidies to recycling companies and consumers can maximize social welfare at the lowest government cost.

Should batteries be recycled if a government subsidy is a good idea?
It was found that, with an exogenous government subsidy, the manufacturer either recycles all the batteries, or it does not recycle any batteries if the impact of the recycling scale on costs is unremarkable; otherwise, the manufacturer recycles some used batteries when the benefit from recycling is moderate.

How does a subsidy affect battery recycling?
This result is because an increased subsidy promotes the manufacturer's market price and demand and hence promotes the manufacturer's profit,which may consequently lower the manufacturer's incentive of battery recycling. Notice that the threshold decreases (increases) with k when ( ).

How does remanufacturing used power batteries affect government subsidies?
According to the above analysis and discussion,as the cost advantage of remanufacturing used power batteries increases,the intensity of government subsidies (penalties) also increases. Under the situation W,the government can increase the recycling of used products.

Can government subsidy increase the transfer price of battery manufacturer?
According to the results,?t*/?S1>0,?rv*/?S1>0,?rt*/?S1>0,the government subsidy can increase the transfer price of battery manufacturer,recycling price of vehicle manufacturer and third-party recycler. (5) Battery manufacturer-vehicle manufacturer alliance recycling model (Model MV)

Impact of changes in R2 and R4 on the evolutionary trend. (d) Impact of changes in C2 and C4 on evolutionary pathways With the other parameters assigned unchanged, let C2 = 0.05 and C4 = 0.05 for ...

Their study provided valuable insights into the environmental implications of battery usage and disposal. Chen et al., 2022, ... Furthermore, when the revenue from echelon utilization of power batteries decreases, government subsidy policies result in an increase in the PEF compared to government non-intervention. In such cases, only the GT policy can ...

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As the number of waste batteries increases, firms involved in the industry need to properly dispose them, but what party is responsible remains unclear. To reduce ...

To solve the disposal problem and environmental pollution caused by retired batteries from new-energy vehicles, many cities have formulated a series of policies and measures, such as recovery subsidy policy, environmental protection tax policy, and government regulation recovery rate policy. Scholars from various countries have also performed many ...

To well analyze and deal with the recycling problems of used power batteries in closed-loop supply chain (CLSC) consisting of a dominate manufacturer and a seller or ...

The BMWi intends to support groups of companies from at least two EU states that promote battery cell production in Germany, considering the sustainability of the raw materials and battery disposal. Mobility specialist Julia Poliscanova said: "The only way for Europe to compete with other territories is to focus on quality: we need green, safe and ethical ...

This research will explore how EV batteries are recycled, taking into account government subsidies and corporate social responsibility (CSR) investments. Government ...

As the global new energy vehicle (NEV) industry rapidly expands, the disposal and recycling of end-of-life (EOL) power batteries have become imperative. Efficient closed-loop supply chain (CLSC) management, ...

It is difficult for recyclers and consumers to cooperate proactively in recycling end-of-life power batteries. Thus, it is found that government subsidies to recycling companies and consumers...

Despite the challenges associated with lithium-ion battery disposal, there are significant opportunities to integrate these batteries into a circular economy. The circular economic model envisions a cycle where end-of-life stages connect ...

The numerical results indicate: (1) the optimal battery recycling rate locates in a closed interval from 0 to 1 given an exogenous or an endogenous government subsidy, and it decreases with the subsidy when the subsidy is not less than ...

Global environmental concerns and resource scarcity are driving the growth in sales of electric vehicles (EVs). Reusing and recycling retired batteries from EVs has significant economic value and reduces the environmental burden. Rising raw material prices have intensified competition among recyclers; in particular, recyclers without corporate social ...

The numerical results indicate: (1) the optimal battery recycling rate locates in a closed interval from 0 to 1 given an exogenous or an endogenous government subsidy, and it decreases with the subsidy when the subsidy is not less than 50% of the production cost of electric vehicle; (2) the social welfare first increases to a

maximum value and ...

We outline a framework for economical and eco-friendly power battery recycling. We identify feasible conditions and government policies for carbon neutrality. PEF are ...

As the number of waste batteries increases, firms involved in the industry need to properly dispose them, but what party is responsible remains unclear. To reduce environmental impacts, governments introduce two subsidy policies, i.e. collection subsidies, which are provided to the collecting firms, and dismantling subsidies, which are provided ...

This research will explore how EV batteries are recycled, taking into account government subsidies and corporate social responsibility (CSR) investments. Government subsidies and CSR investments can affect the price of recycled EV batteries and aim for closed supply chain decision-making (CLSC). In CLSC, the collected used batteries are ...

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