People s republic of china battery recycling

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In January 2018, Chongqing Changan, BYD, Yinlong New Energy, and other 16 vehicle and battery companies signed a strategic partnership agreement on the recycling and utilization of power lithium-ion batteries of new energy vehicles with China Tower Company, which is a major power battery recycler in China.

A research team from the Qinghai Institute of Salt Lakes under the Chinese Academy of Sciences has invented a new way to recover more than 90 percent of lithium from decommissioned lithium-ion batteries, the main type of power battery used.

As the electric vehicle (EV) market surges worldwide, battery recycling and circular economy initiatives have become essential to the global green transition. China, already a dominant player in EV battery production, is now expanding its reach into the battery recycling sector, aiming to build a closed-loop supply chain.

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The recycling and secondary utilisation of retired vehicle batteries have become the hot spot in China’s NEV industry development. The category of NEV means ‘new energy vehicle’. It includes purely battery-electric, hybrid electric and plug-in hybrid as well as hydrogen fuel cell vehicles - all of which utilise a number of different battery sizes and types.

The Ministry of Industry and Information Technology (MIIT) charged with industrial planning across the People’s Republic, says that its new directives on battery reuse and recycling will ensure greater environmental protection, improve resource utilisation and ensure the healthy development of the NEV industry. This not only makes sense for geopolitical and environmental reasons but also because battery reuse and recycling is big business.

What has also sprouted up across China is a sea of unofficial, smaller recycling businesses. For companies bringing batteries to their final recycling, small recyclers are often cheaper than the officially allowed

recycling businesses. However, these workshop battery recycling businesses do not necessarily recover all of the precious resources, e.g.: cobalt and nickel, and often improperly dispose of precious - and environmentally dangerous - materials.

Currently, estimates sourced in Chinese media report that only around 30 - 40% of battery materials are being recycled. The nascent industries are plagued by several growing pains, such as a lack of standard battery technology, patchy battery recycling technology and lagging reuse processes, making each recycling process different and costly.

At the same time, existing technology in China can theoretically recover around 80% of the components of different battery types, which means that the currently low rates of recovery, lie more in the standardisation of systems and regulations and pathways than immature technology, although, as is the case with private-public partnerships in other countries, improving recycling technology is also a large focus of Chinese government directives.

Although the regulation of the battery reuse and recycling industries began in earnest with the first regulations in 2018, it has only been throughout the second half of 2021, that Beijing has issued directives that fully address all aspects of the circular economy around NEV batteries.

The most significant shift started in the middle of 2021 when Beijing issued the country’s 14th Five-Year Plan (2021-25), primarily focused on electric transport industries in all aspects from energy and raw materials, to manufacture to reuse and recycling in a circular economy development plan. This lays out the goal of building a more complete battery recycling system by 2025. Over the ensuing six months until the latest directives just last month, the Chinese government has set out guidelines for the desired transformation.

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Web: https://www.hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346