附件四、技術說明表

鋰離子電池新型回收技術

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市場及需求:

本技術係關於一種鋰離子電池之新型回收技術，與傳統電池技術相比，鋰離子電池充電速度更快、使用更持久，並且具有更高的功率密度，能以輕巧的體積提供更長效的電池續航力。本技術可回收製備鋰離子電池金屬材料，可經過特殊製程可有效回收金屬極片。

技術摘要(含成果):

本技術係一種鋰離子電池金屬材料料之回收技術，可有效減少廢金屬之產生，有助於鋰電池成本下降。

優勢:

本技術可回收鋰離子電池之金屬材料，透過本新型技術可有效減少鋰電池廢金屬產生，及減少對環境之污染。

競爭產品:

與本技術競爭產品為傳統廢鋰離子回收方法。因既往製備技術無法完全回收鋰離子電池之金屬，故產生大量廢金屬，使鋰電池發展受到限制。

專利現況:

(1)本技術將申請中華民國專利。
(2)本技術團隊教授具有研究陶瓷材料二十年以上經驗。
(3)本研究團隊具有十年以上研究螢光材料經驗。
(4)本技術團隊教授為本校特聘教授，並獲得多次國科會傑出研究獎。

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New recycling technology for lithium-ion batteries

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Market Needs:

The technology is related to develop a new recycling technology for the lithium-ion batteries which are suitable for long-term stable use of electric vehicles. Compared to traditional battery technology, lithium-ion batteries can be charge faster, long-term use, and higher power density, and provide longer-lasting battery life in a lightweight package. This technology recycles the metal materials in lithium-ion battery using a new technology to increase the recycling efficiency. Therefore, the spent lithium-ion batteries can be fully reused.

Our Technology:

The present technology is related to a new kind of technology to recycle metal materials in the lithium-ion batteries. This type of lithium-ion batteries can be used in the large capacity batteries and the energy storage system.

Strength:

This technology uses new methods to recover metal materials in the lithium-ion batteries with high capacity. This technology can reduce wasted metals in the batteries.

Competing Products:

The previous process can not fully recover the metal materials in the lithium-ion batteries. Therefore, the complete recycling of spent lithium-ion batteries is limited.

Intellectual Properties:

(1) This technology will be filed as a patent in our country.

(2) The professor in the research team has studied ceramic materials for more than twenty years.

(3) The research team has studied phosphors materials for more than ten years.

(4) The professor in the research team is a distinguished professor at NTU, and has obtained many rewards from NSC.

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