

SMaRT Center Weekly Digest

August 12, 2022

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News

[US DOE launches US\\$675 million critical minerals R&D program, calls for public input on direction](#)

The US Department of Energy is looking for public input into how US\$675 million of funding for R&D into Critical Materials should be best directed. Funded by the Biden's administration's Bipartisan Infrastructure Law, the program will address "vulnerabilities in the domestic critical materials supply chain", which the DOE said was both a threat to clean energy industry's financials and the wider energy transition. On 9 August, the DOE issued a Request for Information (RFI) on how to develop its Critical Materials Research, Development, Demonstration and Commercialization Program, for which the US\$675 million of funding was made available through that legislation.

[Miners face supply chain overhaul to meet U.S. EV credit deadline](#)

Miners will struggle to expand operations in the United States in record time to meet a deadline for sourcing key minerals domestically or from select countries as set out by a bill likely to be passed on Friday, companies and industry watchers said. "Considering it takes seven years to build a mine and refining plant but only 24 months to build a battery plant, the best part of this decade is needed to establish an entirely new industry in the United States," said Simon Moores, chief executive of Benchmark Mineral Intelligence.

Column of the Week

[Analysis: U.S. renewables investors see Senate bill sparking gold rush](#)

For the first time, investors seeking to pour cash into U.S. clean energy projects can count on at least a decade of generous federal subsidies, offering them long-sought confidence in the staying power of the world's third biggest renewables market...

Select Articles

[Comparison of processing routes for recovery of rare earth elements from discarded fluorescent lamp phosphors](#)

This study investigates two phosphor samples with three processing routes to extract rare earth elements (REE). Acid leaching in 2 M HCl, 80 °C, 1 h yielded higher REE extraction in the compact fluorescent lamp (CFL) feed (82% Eu), with varying rare earth (RE) purity (77–97%) compared to

fluorescent tubelight (TL) feed (69% Eu, 98–95% purity). The acid baking route was preferred for CFL phosphor with 91% REE (43 % Tb) extraction and 98% purity. TL phosphor was better for Tb extraction.

[Adsorption of rare earth elements on organic matter in coal](#)

In this study, the adsorption behaviors of REY on organic matter in coal was investigated by leaching tests using REY solution and ultra–low ash coal samples. Both leaching tests and molecular simulation calculations revealed that REY has a strong adsorption affinity for organic matter in

[Efficient and sustainable electro-sorption of rare earth by laser-induced graphene film](#)

In this study, a laser-induced graphene (LIG) film was used as an electrode to study the recovery of La, Nd and Ce by electro-sorption. The conductivity and pH value were affected by the applied current, voltage and RE initial concentration. The investigation shows that a LIG film, used as an electrode, can promote the recovery of La, Nd, and Ce ions from an aqueous solution by an electro-sorption technique.

Funding Opportunities

[DE-FOA-0002794: Request for Information on the Department of Energy’s Critical Materials Research, Development, Demonstration, and Commercialization Application Program](#)

Funding entity: Department of Energy (DOE)
Office of Fossil Energy and Carbon Management (FECM)

Description: This is a Request for Information (RFI) issued by the U.S. Department of Energy’s (DOE) on behalf of the Office of Fossil Energy and Carbon Management (FECM) and the Office of Energy Efficiency and Renewable Energy (EERE). This RFI seeks public input to help inform DOE’s implementation of DOE’s critical minerals and materials (CMM) research, development, and demonstration (RD&D) activities, including expanded activities funded by the Infrastructure Investment and Jobs Act, commonly known as the Bipartisan Infrastructure Law (BIL)¹ into an integrated Critical Materials Research, Development, Demonstration, and Commercialization Application (RDD&CA) Program. Specifically, the intent of this RFI is to obtain public input regarding the research priorities, managing mechanisms, and partnering opportunities for a Critical Materials RDD&CA Program, expanded by section 41003(c) and supported by section 41003(d) of the BIL² and authorized respectively by sections 7002(g) and 7002(h) of the Energy Act of 2020. Specifically, this RFI seeks input on:

- Critical Materials RDD&CA Program to integrate:
 - DOE annual appropriations for critical minerals and materials, including Fiscal Year (FY) 2022 directed appropriations³ and FY2023 requested appropriations⁴

- BIL 41003(c): Critical Material Innovation, Efficiency, and Alternatives – Priorities & Implementation Strategy
- BIL 41003(d): Critical Material Supply Chain Research Facility – Priorities & Implementation Strategy
- Community Benefits: Job Quality and Equity including (a) community and labor engagement, (b) quality jobs, (c) diversity, equity, inclusion, and accessibility, and (d) Justice40 Initiative.5
- Market Adoption, Scale up, and Industry/Sector Sustainability