Cooperation between the United States and Japan
on Effective Use of Critical Materials
—Ames Lab and NEDO Conclude MOU for Cooperation—

NEDO concluded a memorandum of understanding (MOU) with the U.S. Department of Energy’s Ames Laboratory on September 9. The two organizations will reinforce ongoing cooperation between the United States and Japan in the field of critical materials and also promote research activities related to effective use of critical materials, such as substitution, reduction and recycling, with a central focus on elements important to industry, such as dysprosium, terbium, europium, neodymium and yttrium.

Ames Laboratory is a world-class research center that specializes in materials science. It has a long history of technological innovation related to critical materials, including substitution, effective use, recycling and processing.

The conclusion of the MOU is the first international undertaking of the Critical Materials Institute (CMI), which was established in January 2013. Led by Ames Laboratory, CMI is the DOE’s latest Energy Innovation Hub. It was first announced by President Obama in a March 2011 speech outlining his plan for America’s energy security. CMI has been awarded US$120 million in funding over five years and brings together researchers from three DOE national laboratories, seven universities and seven private sector companies.

1. Overview

Development of new technologies for substitution, recycling, reuse and more efficient use of critical materials has become essential in recent years. Hybrid car motors, high performance wind turbine magnets, information processing devices and many other state-of-the-art products require such materials, and there are worldwide concerns regarding supply risk. In order to address these issues, Ames Laboratory and NEDO concluded an MOU to cooperate following discussions at the Third JP-US-EU Trilateral Conference on Critical Materials held in Brussels during May 2013.
Ames Laboratory was established in 1947 and is a DOE national laboratory. It is operated by Iowa State University and has about 450 researchers and staff and an operating budget of US$44 million dollars. Ames Laboratory performs various studies related to material science, applied mathematics and computer science in connection with critical materials, chemistry, biology and environmental science. Subjects associated with critical materials include not only substitution research on magnets, phosphors and catalysts using critical materials but also diversification of ore mining and recycling technology as well as manufacturing and processing of critical materials. Dr. Dan Shechtman of Ames Laboratory was a Nobel Prize winner in 2011.

CMI was established in January 2013 and is one of five Energy Innovation Hubs established by DOE. Led by Ames Laboratory, CMI brings together researchers from three DOE national laboratories, seven universities and seven private sector companies. Its budget for 2013 is about US$20 million.

The research areas of Ames Laboratory and CMI in the field of critical materials are very similar to those that NEDO is promoting in its projects in the same field. The common areas of research pave the way for reinforced and sustained cooperation in the field of critical materials such as rare-earth metals, thereby further strengthening the pivotal bilateral relationship of the United States and Japan.

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[Reference]
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https://www.ameslab.gov/node/8063