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Press Release

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Start of Operation of Verification Facility aimed at Commercial Production of Solid Electrolytes for Next-generation Batteries

Idemitsu Kosan Co.,Ltd. (Head office: Chiyoda-ku, Tokyo; Representative Director, President and Chief Executive Officer: Shunichi Kito; hereinafter “Idemitsu”) is pleased to announce that it has built and started operation of verification facility at Chiba Complex, one of its main complexes, for commercial production of solid electrolytes for All-Solid Lithium Ion Rechargeable Batteries,*1 which show promise as next-generation batteries. There is a demand for early practical use of All-Solid Lithium Ion Rechargeable Batteries for applications such as EVs, leading to growing needs in recent years for solid electrolytes, the key material for such batteries. With the goal of early commercialization, the facility will be used to proceed with verification of solid electrolyte mass-production processes.



Exterior of the building of verification facility for commercial production

Recent years have seen countries around the world setting strict environmental regulations and targets for the realization of a decarbonized society, driving the rapid growth of markets for products such as EVs and stationary batteries. Amid such circumstances, development aimed at

practical use of All-Solid Lithium Ion Rechargeable Batteries is being promoted to realize a next-generation battery that will provide the key to the spread of EVs by contributing to benefits such as increased cruising range, reduced charging time and greater safety, with expectations that the range of use of such batteries will also be expanded to various kinds of applications other than EVs.

Against this background, Idemitsu is developing a solid electrolyte, the key material for All-Solid Lithium Ion Rechargeable Batteries. Idemitsu has established a method for manufacturing high-purity lithium sulfide developed in its petrochemical business, and holds many patents for sulfide solid electrolytes that use lithium sulfide as their raw material. With the aim of putting into practical use technologies that have been amassed over the years and establishing integrated production from raw materials and a stable supply system, Idemitsu has built and started operation of verification facility for the commercial production of solid electrolytes. The next step will be to proceed with verification of the process for mass-production of solid electrolytes and make further improvements in performance, etc., to promote early commercialization.

Moreover, in the Revision of Medium-term Management Plan announced in May 2021, with its corporate vision for 2030 as “Your Reliable Partner for Brighter Future,” Idemitsu has set a “CNX^{*2} Center” concept to transform existing manufacturing bases such as refineries and complexes into new low carbon and resource circulation energy hubs. Idemitsu is aiming to build the CNX Center model by 2030 and will promote studies into the effective use of refineries and complexes as bases for the manufacture of solid electrolytes.

*1 All-Solid Lithium Ion Rechargeable Battery:

A type of lithium ion battery in which solid electrolytes perform ionic conduction between the positive and negative electrodes.

*2 CNX: Carbon Neutral Transformation