

Realization of a Water Electrolysis System with Improved Efficiency and Durability and Reduced Costs

Development of Innovative Water Electrolysis Systems for Green Hydrogen Production

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Summary :

The goal is to establish water electrolysis systems with low cost, high efficiency, and high durability by fundamentally solving the problems each system faces. The research targets include the proton exchange membrane (PEM) type, a strong alkaline solution (AWE) type, and anion exchange membrane (AEM) type. The project will work on water electrolysis under conditions that cannot be achieved in existing systems, such as the near neutral pH, or direct use with seawater. The project will comprise an all-Japan team that is capable of performing the entire process from material synthesis to evaluation and practical application. This will lead to the development of new electrode catalyst materials and electrolyte/cell materials. Eventually, the project will connect the established technology to social implementation, making a significant contribution to GX.

