

Abstract

The activity of Japan on ROE has been evaluated as world top-level at the laboratory level, by the way, Japan is delayed in the actual large proof R&D in the sea area in the other countries more than ten years. Recently, Japan with a few resources has begun to be aimed at the innovation of the ROE development full-scale as the sixth useful area in world, so-called exclusive economic zone (EEZ). This year, the NEDO announced the technical road map toward 2030 of ROE including ocean thermal energy conversion(OTEC) and the wave power generation. Saga University has investigated on REO as only COE on REO in the whole country. Especially, OTEC has been researched as aim at the practical use for about 40 years. OTEC is a system generating electricity with temperature difference between warm sea water of the ocean surface and the cold sea water from depths 600 m to 1,000 m. The 30 kW OTEC device which Saga University has is evaluated on as the device that performance is the highest now in the world. The characteristic of OTEC is stable and multi-purpose, not only the electricity but also seawater water conversion, hydrogen production, lithium collection, the fishing ground reproduction is possible. Saga university has contributed to the development of sustainable energy and water resources that these Japanese technology is asset to the project in U.S.A., France, India, Taiwan now In this session, the current status and future prospect are presented on ROE, mainly on OTEC.