

Pursuing new technologies for the Earth's benefit and the Company's future

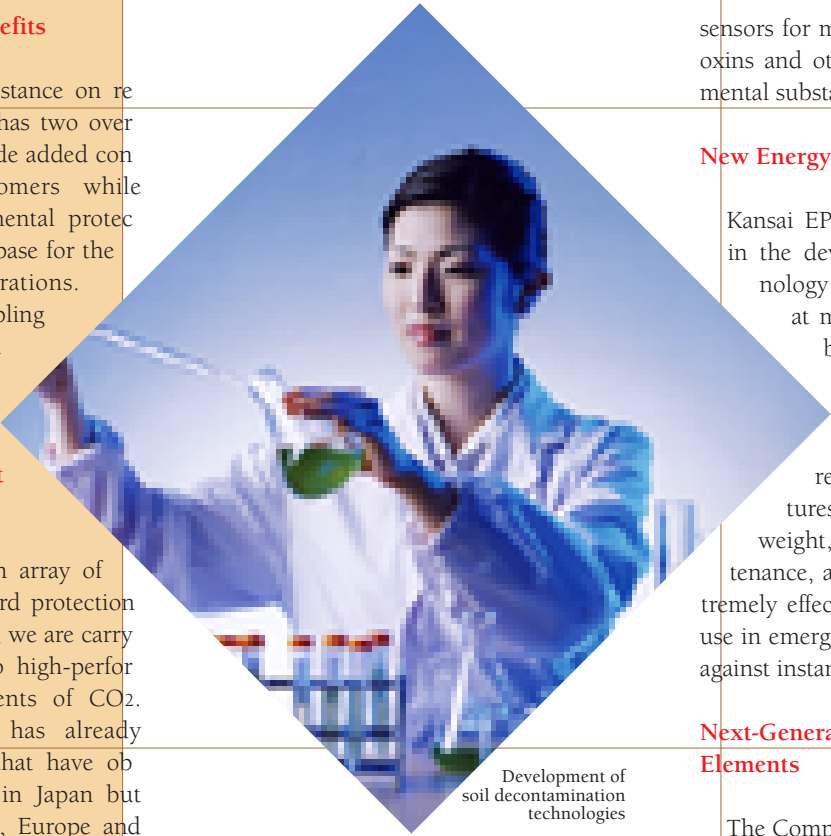
Goals Set on Mutual Benefits

Kansai EP's aggressive stance on research and development has two overriding objectives: to provide added convenience to our customers while contributing to environmental protection, and to forge a solid base for the Company's future operations. Here we introduce a sampling of some of our recent initiatives and achieve ments in R&D.

Technologies to Protect our Earthly Habitat

In conjunction with an array of initiatives all geared toward protection of the global environment, we are carrying forward research into high-performance chemical absorbents of CO₂. Our research program has already yielded tangible results that have obtained patents not only in Japan but also in the United States, Europe and Asia, and our technology has been adopted in a urea production plant in Malaysia. We are also engaged in research into technologies to regenerate tropical rain forests, in order to revitalize the natural environment and expand CO₂ absorption zones.

Another R&D focus related to environmental protection is the development of soil decontamination technologies employing biotechnologies. We are currently conducting research into soil remediation technologies and into bio



Development of soil decontamination technologies

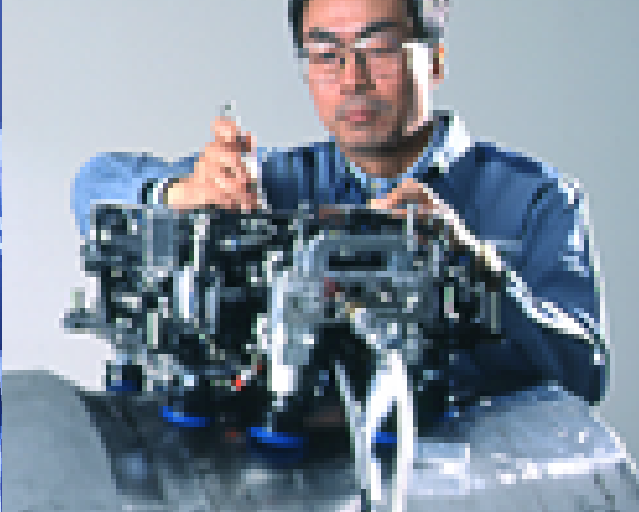
sensors for measuring heavy metals, dioxins and other environmentally detrimental substances.

New Energy Storage Technology

Kansai EP is making rapid progress in the development of a new technology for storing energy, targeted at making a significant contribution to load leveling. The redox-flow battery is capable of storing electrical energy for subsequent retrieval as needed. It features a simple structure, light weight, small size and easy maintenance, and it is expected to be extremely effective as a power source for use in emergencies or for compensation against instantaneous voltage dips.

Next-Generation Semiconductor Elements

The Company is conducting basic research into silicon carbide (SiC) diodes, next-generation power semiconductor elements that are expected to enable substantial reductions in power loss. Our research is aimed at applying SiC diodes to the power industry. Unlike conventional silicon elements that cause more power losses and are easily broken under high voltages, SiC diodes are revolutionary in their ability to curb power losses. They also offer outstanding advantages by enabling cooling devices of smaller size.

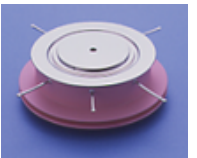


Basic research into SOFC materials

Kansai EP undertakes a timely program of R&D focused on breakthroughs to enhance the environment and drive growth toward tomorrow.

High-Efficiency Fuel Cells

Solid oxide fuel cells (SOFC) are garnering wide attention today as new power supplies offering excellent generation efficiency, stability and environmental friendliness. They are expected to be adopted as alternative power supplies in applications ranging from small-scale home generators to large-scale power systems. At Kansai EP, we are engaged in research into low-temperature SOFCs in a quest to realize cells of low cost, light weight and compact size.



SiC diode module testing