

4. Activities

The activities of the CRIEPI in FY 2012 are outlined below.

1 Human Resources

The CRIEPI employs 825 people as of 31st March, 2013. 726 people are employed in research fields while 99 people are involved in clerical work. Fig. 1 shows the breakdown of researchers working in diverse fields. 380 people working at the CRIEPI have a Ph.D. Of these, 75% and 10% have an engineering and science background respectively.

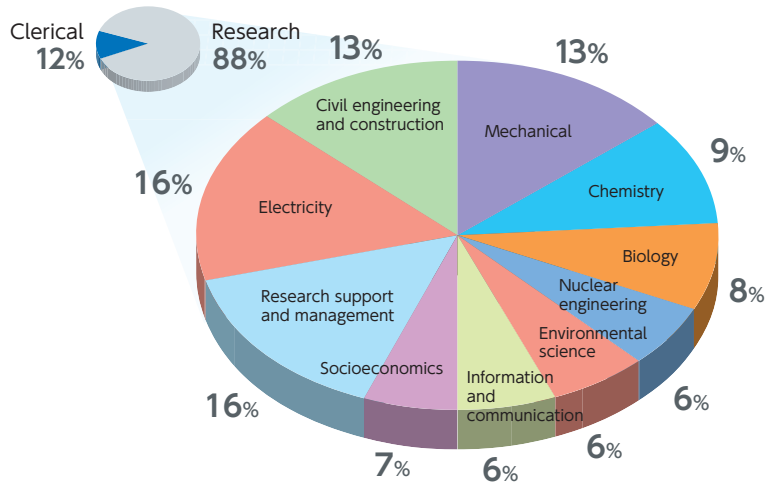


Fig. 1: Staff breakdown

2 Research Reports

A total of 429 CRIEPI research reports were produced in FY 2012. Of these, 271 were research reports and 158 were reports on funded research by electric power companies, the central government and others. Fig. 2 shows the breakdown of reports by subject field. The titles of the research reports, etc. which are publicly accessible are listed in Appendix (1). The body text of these research reports and corresponding leaflets*¹ can be downloaded from the CRIEPI's website.

*¹The timing of leaflet publication may differ from the publication timing of the corresponding report.

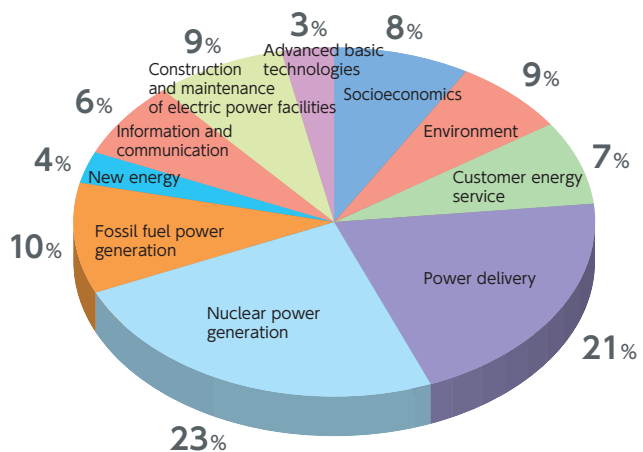


Fig. 2: Breakdown of reports by subject field

3 Presentation of Research Papers

A total of 1,559 research papers were presented in bulletins of academic societies and academic journals and at academic conferences. Of these, 383 papers were peer reviewed. Fig. 3 shows the breakdown of research papers by subject field. The titles of these papers are contained in the research paper database under "Research Results/Reports, etc." on the CRIEPI's website.

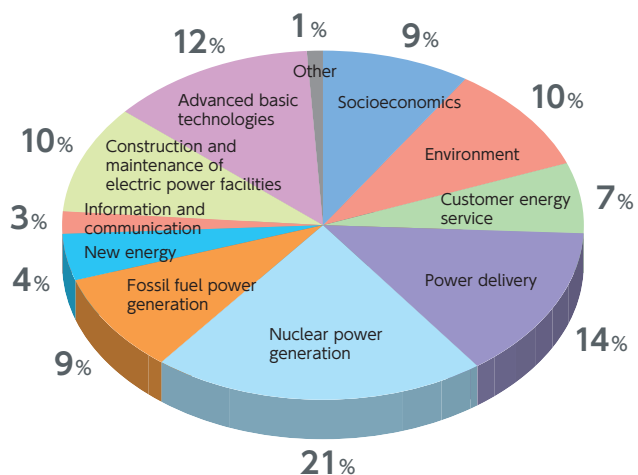


Fig. 3: Breakdown of research papers by subject field

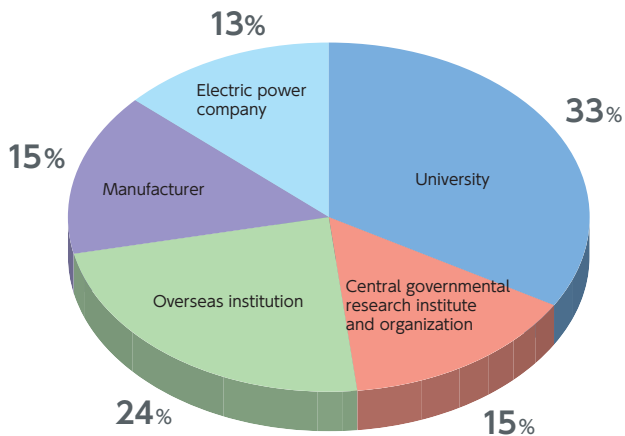


Fig. 4: Classification of research partners

4 Research Cooperation / Interchanges

4-1 Joint Research

A total of 196 joint research projects were conducted in FY 2012. As shown in Fig. 4, universities and central governmental research institutes, etc. accounted for 33% and 15% of the research partners respectively.

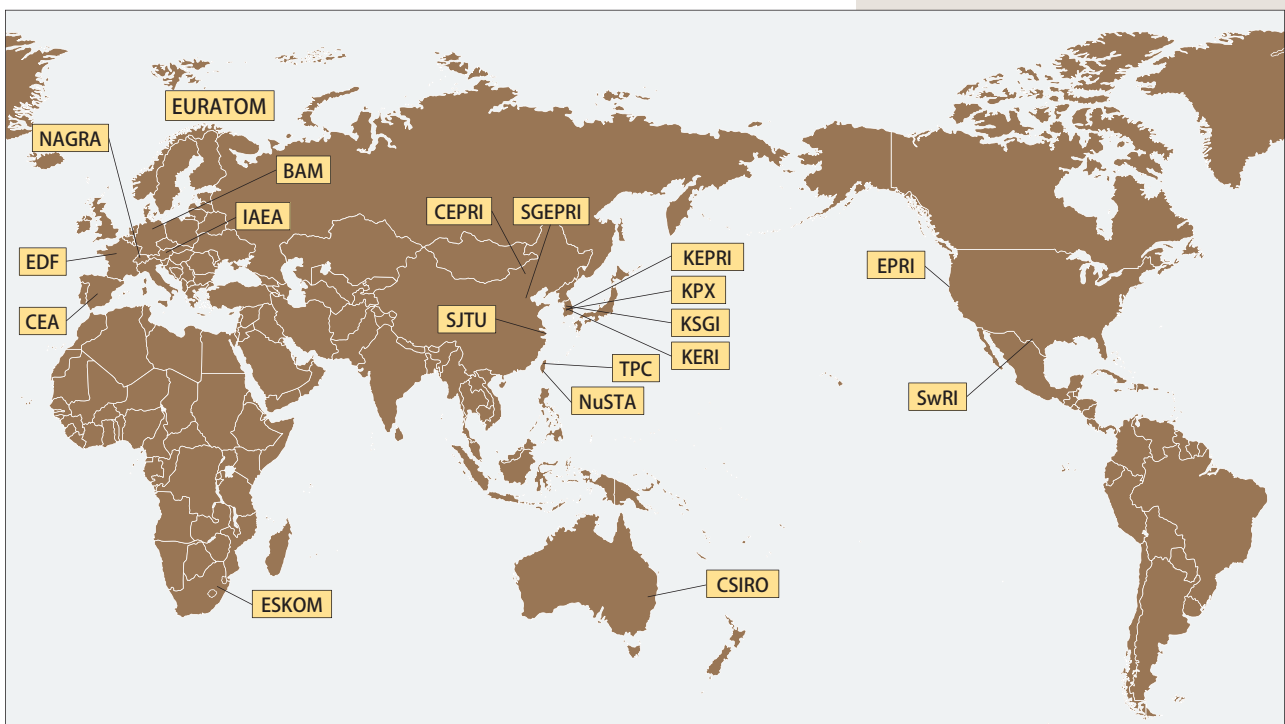


Fig. 5: Main partners for research cooperation

The European Atomic Energy Community (EURATOM) is based in Europe.

4-2 Main International Cooperation/ Interchange Schemes

The CRIEPI has been moving ahead with joint research, information exchange and human interaction with a number of research institutes overseas. Fig. 5 shows the main overseas institutes with which the CRIEPI has concluded an international agreement for cooperation. Table 1 (p.98) lists the main partners of the CRIEPI for international cooperation / interchange.

4. Record of Activities The following is a summary

Table 1 Main International Cooperation/Interchange Partners

Main Partners for Research Cooperation	
Asia	
Korea Electric Power Research Institute (KEPRI)	Nuclear Science and Technology Association of Taiwan (NuSTA)
Korea Electrotechnology Research Institute (KERI)	China Electric Power Research Institute (CEPRI)
Korea Power Exchange (KPX)	State Grid Electric Power Research Institute (SGEPRI), China
Korea Smart Grid Institute (KSGI)	Shanghai Jiao Tong University (SJTU), China
Taiwan Power Company (TPC)	
USA	
Electric Power Research Institute (EPRI)	Southwest Research Institute (SwRI)
Europe	
European Atomic Energy Community (EURATOM), EU	Électricité de France (EDF)
National Cooperative for the Disposal of Radioactive Waste (NAGRA), Switzerland	Federal Institute for Materials Research and Testing (BAM), Germany
French Atomic Energy Commission (CEA)	International Atomic Energy Agency (IAEA)
Oceania	
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia	
Africa	
ESKOM, South Africa	

Main Partners for Joint Research in Progress	
Asia	
Taiwan Power Research Institute (TPRI)	Korea Institute of Nuclear Security (KINS)
Korea Atomic Energy Research Institute (KAERI)	Korea University
North America	
Electric Power Research Institute (EPRI)	United States Nuclear Regulatory Commission (USNRC)
Idaho National Laboratory (INL)	National Institute of Standards and Technology (NIST)
National Center for Atmospheric Research (NCAR)	Nuclear Waste Management Organization (NWMO), Canada
New Mexico Institute of Mining and Technology (NMT)	Atomic Energy of Canada Limited (AECL)
United States Department of Energy (DOE)	
Europe	
French Atomic Energy Commission (CEA)	European Atomic Energy Community (EAEC/EURATOM), EU
Électricité de France (EDF)	Institute for Transuranium Elements (ITU), Germany
National Agency for Radioactive Waste Management (ANDRA), France	Forschungszentrum Karlsruhe GmbH (FZK/INE), Germany
Institute de Radioprotection et de Sûreté Nucléaire (IRSN), France	Gesellschaft für Nuklear-Service mbH (GNS), Germany
Swedish Nuclear Fuel and Waste Management Company (SKB)	Gesellschaft für Anlagen – und Reaktorsicherheit mbH (GRS), Germany
Studsvik Nuclear, Sweden	Federal Institute for Materials Research and Testing (BAM), Germany
The Von Karman Institute for Fluid Dynamics (VKI), Belgium	Forschungszentrum Dresden-Rossendorf (HZDR), Germany
Studeicentrum voor Kernenergie - Centre d'étude de l'Energie Nucléaire (SCK · CEN), Belgium	Federal Ministry of Economics and Technology (BMWi), Germany
National Cooperative for the Disposal of Radioactive Waste (NAGRA), Switzerland	Leibniz Institute for Solid state and Materials Research (IFW), Dresden, Germany
VTT Technical Research Centre of Finland	Friedrich Schiller University Jena, Germany
POSIVA, Finland	Polytechnic University of Turin, Italy
Radioactive Waste Repository Authority (RAWRA), the Czech Republic	National Research Council, Italy
Comenius University in Bratislava, Slovakia	University of Twente, Netherlands
International Atomic Energy Agency (IAEA), Austria	Nuclear Research and Consultancy Group (NRG), Netherlands
Organization for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA)	Institute for Energy Technology (IFE), Norway
Oceania	
Curtin University, Australia	
Other (involvement of institutes from multiple countries)	
Mont Terri Consortium	Halden Reactor Project

Participation in International Organizations	
Union of the Electricity Industry (EURELECTRIC)	International Electric Research Exchange (IERE)
Association of Electricity Supply Industry of East Asia and the Western Pacific (AESIEAP)	Electromagnetic Transients Program - Development Coordination Group (EMTP-DCG) Committee
World Nuclear Association (WNA)	

of the activities that the CRIEPI was engaged in FY 2012.

5 Forums, Seminars and Other Events

The following forums, seminar and open laboratory were organized in FY2012.

- CRIEPI Forum 2012 (special version-<part II>)
What should we do the preparation of the electric power facility for an earthquake and a tsunami?
May 11th, 2012, IINO Hall, Tokyo
- Open Laboratory
May 20th, 2012, Akagi Testing Center
October 13th, 2012, Komae Area
October 13th, 2012, Abiko Area
October 20th, 2012, Yokosuka Area

6 Industrial Property Rights

129 patents were registered and 119 patent applications were made in FY 2012. 20 patents or know-how*2 were newly licensed in FY 2012.

7 Software

The CRIEPI has its own software registration system for the management of copyright. A registered software may be licensed to electric companies, other profit-making enterprises and

universities in response to their request. The number of new software registrations and the number of new licenses awarded were 67 and 357 (1077 copies) respectively.

8 Other

The CRIEPI or its executives and regular employees wrote or edited 8 major books in FY 2012 while executives and regular employees received external awards on 45 occasions (total of 65 persons). The "CRIEPI's World Wide Information Service" (<http://criepi.denken.or.jp/>) is a free and publicly accessible service that has been running since FY 1995. Although the above sites are offered in Japanese, the CRIEPI also offers an English language site with wealth of information. (<http://criepi.denken.or.jp/en/index.html>)

They provide access to the summaries of a number of non-confidential research documents and annual research reports, as well as publications such as the "CRIEPI News" (<http://criepi.denken.or.jp/research/news>) which is a series of leaflets that uses plain language, photographs, and illustrations to introduce the research findings of the CRIEPI in a way that is easy for the general public to understand.

*2 This figure is based on the number of actually licensed intellectual property rights and know-how.