

4. Activities

The activities of the CRIEPI in FY 2013 are outlined below.

1 Human Resources

The CRIEPI employs 820 people as of 31st March, 2014. 722 people are employed in research fields while 98 people are involved in clerical work. Fig. 1 shows the breakdown of researchers working in diverse fields. 409 people working at the CRIEPI have a Ph.D. Of these, 73% and 10% have an engineering and science background respectively.

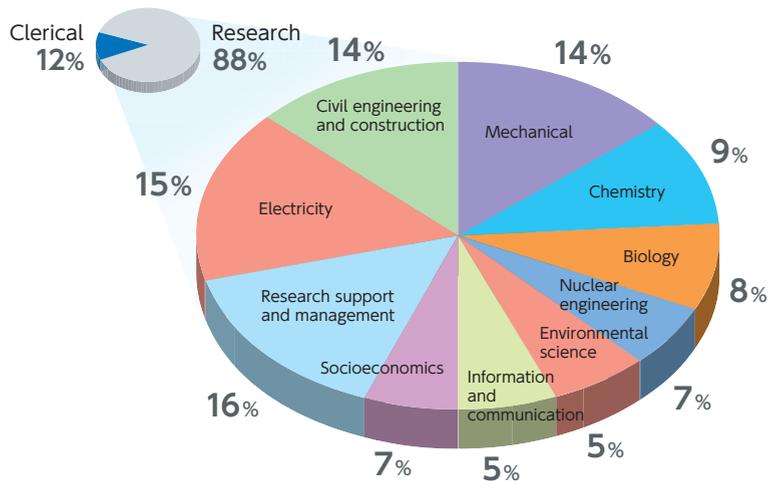


Fig. 1: Staff breakdown

2 Research Reports

A total of 436 CRIEPI research reports were produced in FY 2013. Of these, 270 were research reports and 166 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.

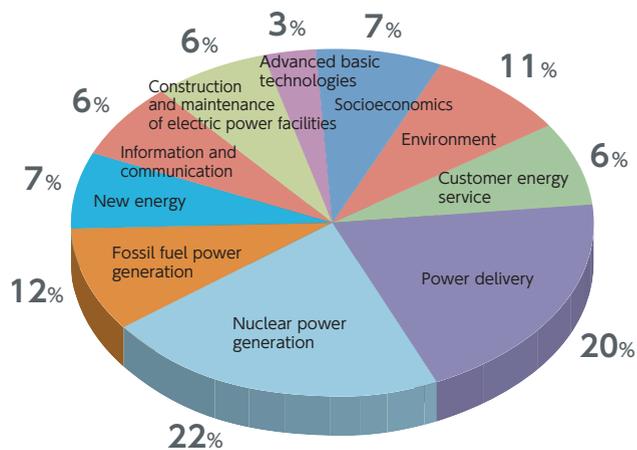


Fig. 2: Breakdown of reports by subject field

3 Presentation of Research Papers

A total of 1,409 research papers were presented in bulletins of academic societies and academic journals and at academic conferences. Of these, 360 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.

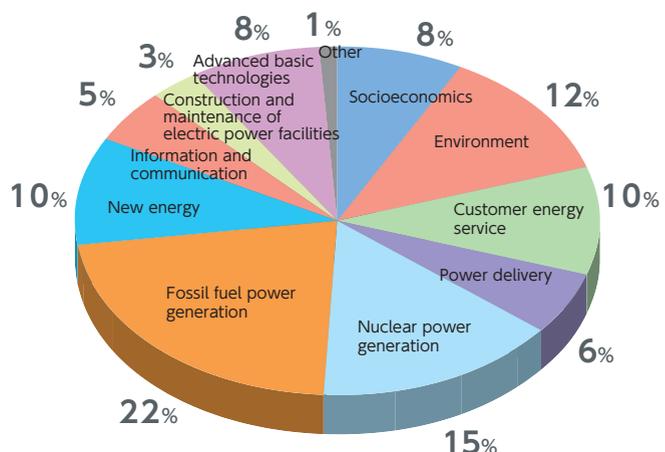


Fig. 3: Breakdown of research papers by subject field

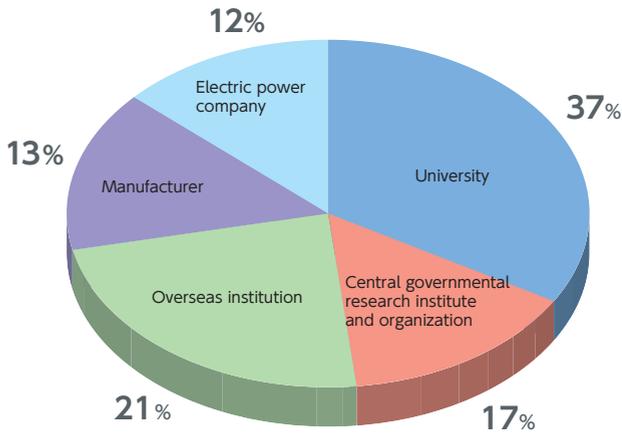


Fig. 4: Classification of research partners

4 Research Cooperation / Interchanges

4-1 Joint Research

A total of 187 joint research projects were conducted in FY 2013. As shown in Fig. 4, universities and central governmental research institutes, etc. accounted for 37% and 17% of the research partners respectively.

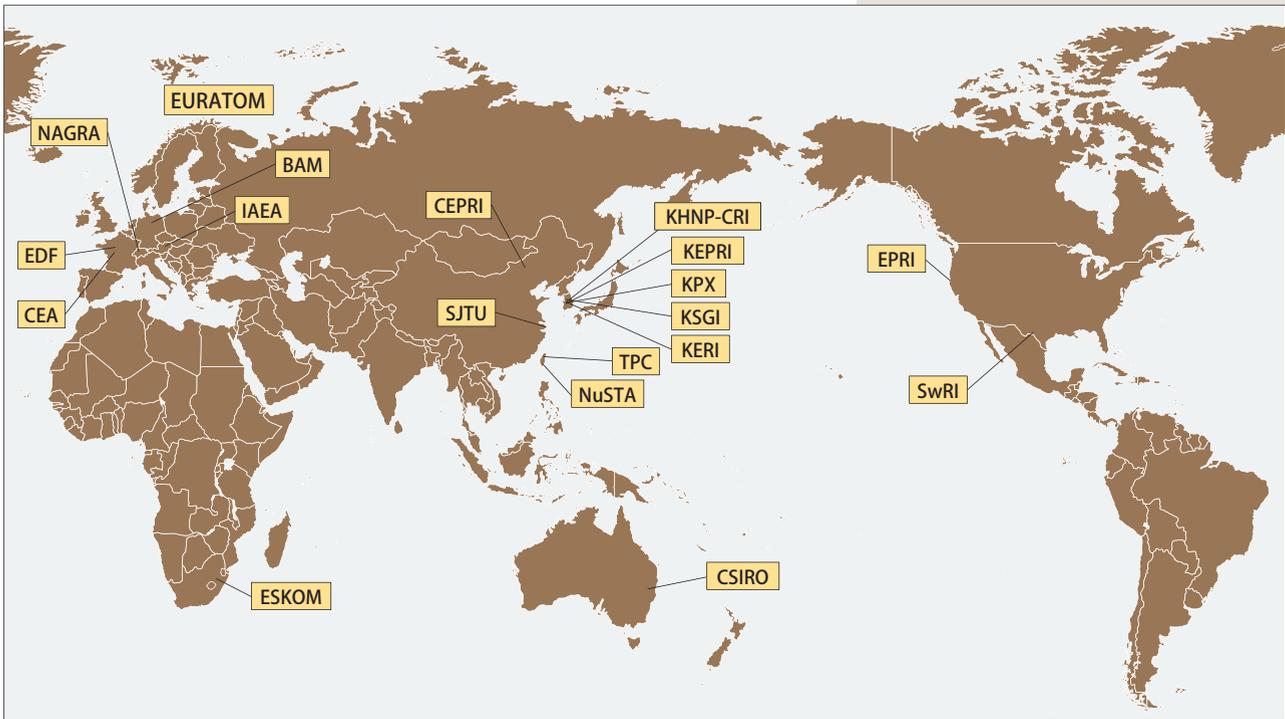


Fig. 5: Main partners for research cooperation

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.96) 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 Agreement	
Asia	
Korea Electric Power Research Institute (KEPRI)	China Electric Power Research Institute (CEPRI)
Korea Electrotechnology Research Institute (KERI)	State Grid Electric Power Research Institute (SGEPRI), China
Korea Power Exchange (KPX)	Shanghai Jiao Tong University (SJTU), China
Korea Smart Grid Institute (KSGI)	Taiwan Power Company (TPC)
Korea Hydro and Nuclear Power Company Central Research Institute (KHNP-CRI)	Nuclear Science and Technology Association of Taiwan (NuSTA)
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
United States Department of Energy (DOE)	Atomic Energy of Canada Limited (AECL)
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	Gesellschaft für Nuklear-Service mbH (GNS), Germany
Institute de Radioprotection et de Sûreté Nucléaire (IRSN), France	Federal Ministry of Economics and Technology (BMWi), Germany
Swedish Nuclear Fuel and Waste Management Company (SKB)	Friedrich Schiller University Jena, Germany
Studsvik Nuclear AB, Sweden	Leibniz Institute for Solid state and Materials Research (IFW), Dresden, Germany
Studiecentrum voor Kernenergie - Centre d'étude de l'Energie Nucléaire (SCK · CEN)	Gesellschaft für Anlagen – und Reaktorsicherheit mbH (GRS), Germany
National Cooperative for the Disposal of Radioactive Waste (NAGRA), Switzerland	Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Germany
VTT Technical Research Centre of Finland	Jacobs University Bremen, Germany
POSIVA, Finland	Karlsruhe Institute of Technology (KIT), Germany
Radioactive Waste Repository Authority (RAWRA), the Czech Republic	Polytechnic University of Turin, Italy
Comenius University in Bratislava, Slovakia	National Research Council, Italy
Organization for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA)	University of Twente, Netherlands
Institute for Energy Technology (IFE), Norway	Nuclear Research and Consultancy Group (NRG), Netherlands
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)	International Atomic Energy Agency (IAEA), Austria

of the activities that the CRIEPI was engaged in FY 2013.

5 Forums, Seminars and Other Events

The following forums, seminar and open laboratory were organized in FY2013.

- Research Results Debriefing Session 2013
"Securing Reliability for Thermal Power Generation and Distribution Facilities which Support Stable Power Supply"
May 23th, 2013, IINO Hall, Tokyo
- Open Laboratory
May 26th, 2013, Akagi Testing Center
October 5th, 2013, Abiko Area
October 19th, 2013, Yokosuka Area
October 27th, 2013, Komae Area

6 Industrial Property Rights

140 patents were registered and 81 patent applications were made in FY 2013. 19 patents or know-how*2 were newly licensed in FY 2013.

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 74 and 312 (1127 copies) respectively.

8 Other

The CRIEPI or its executives and regular employees wrote or edited 7 major books in FY 2013 while executives and regular employees received external awards on 52 occasions (total of 67 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.