### **General Overview**

#### **Explanatory notes**

- •: Promoted Project Subjects
- O: Project Subjects

#### In Figure

- · Promoted Project Subjects
- · Project Subjects

Social and Business

Risk Management

## Fossil Fuels and New Energy Innovative Technology 3 Environmental & ~Sustainable Use of of Electric Facilities~ (2) Advanced Maintenance Technology ~Rational Operation for a Stable Supply~ **(I)Nuclear Technology** ~Supporting Foundations

## power distribution facilities Advanced maintenance technology of

nuclear technology

Metallic fuel cycle

Next generation

Global warming measures

research

General project

- · Management measures for power distribution facilities Asset management of power Asset management support technology network

· Transpiration and storage of recycled fue

supporting research

Backend project

· High-level radioactive waste disposal Low-level radioactive waste disposal

- power generating facilities Advanced maintenance technology of
  - Gas turbine hot gas path parts Status diagnostics on power Comprehensive measures of thermal flow caused

High accuracy prediction of irradiation embrittlement in the light water reactor and its

code formation deterioration

Aged deterioration measures

aged deterioration research

Light water reactor

General project

· Power generating plant performance diagnostics

# ·Integrated operation and evaluation system for pulverized coal combustion power generation Low cost MCFC power generating system · Trace element control

Low dose radiation effect assessment Rationalized radiation safety ensuring

Radiation safety

### the cooperation between related problems and total it, and promote it The thing which we take Project subjects for the needs in actual business Next-generation IGCC system with CO<sub>2</sub> that provide the solutions Research projects

# **Utilization Technology 4**Optimum Energy

Safer Communities~ Japan type deregulation system Energy policy

More Comfortable and

Comfortable and Enriched Life~

~Contributing to More

~Contributing to

# ·Scenario analysis for energy technical

Assessment of demand reaction

Next generation grid communication infrastructure

High efficiency utilization of biomass

CO<sub>2</sub> underground storage

Warming projection and adaptive

Supply and Demand integrated operation and control

grid technology **Next** generation

of electric power infrastructure Disaster recovering support of electric distribution facilities Risk management Natural disaster risk ]

Next generation power distribution components

assessment of electric power facilities Wind and snow disaster prevention Maintenance technology for civil Lightning risk management

End use technology

Innovative environment measurement

·Coal ash environment measures

Innovative environment

technology

engineering facilities for hydropower generation

·Evaluation of system operational performance of new Eco-cute model

thermal plant technology

Coal gasified furnace

Next generation

Inverter with SiC device

· Customer energy utilization suppor

·Compact secondary battery utilization

Earthquake scale assessment by active Ground collapse effect assessment at earthquake occurrence fault survey

# [Human risk]

- Cyber security risk management framework
- Human error measures and safety culture cultivation

# Socio-economic Research Center

 Analysis and support of electric power business · Economics and social trend analysis under

· Impact assessment of wind power generation on a power system

 Communication media network technology System analysis and stability assessment

Information technology

Environmental Science Research Laboratory

 Assessment of hydrospheric environmen Assessment of atmospheric environmer

 Assessment of biological environment · Environmental risk management

Operation and maintenance technology in thermal power generation

· Fuel reforming and environmental protection technology

· High efficiency energy conversion technology

Energy Engineering Research Laboratory

· Energy conversion and storage materials technology

· Structural materials evaluation

· Hydrogen basic technology

· Micro/nano science of advanced materials

Water chemistry management

· Coating evaluation

Material Science Research Laboratory

· Biotechnology

System Engineering Research Laboratory

that back up actual business activities

Electric Power Engineering Research Laboratory

·Construction and assessment of technical concept of innovative

Risk information technology

Technical basis for nuclear reactor system safety

energy system

Application of basic technology in nuclear

Fuel engineering and reactor physics

Nuclear Technology Research Laboratory

 Transient phenomena and electromagnetic wave analysis · Electric power apparatus insulation for next generation

Countermeasures for fault current

Laser photon science & applications for diagnosis

Electromagnetic environmental assessment

Fundamental research

### Social trust and communication measures · Energy technology assessment decentralization

Civil Engineering Research Laboratory

Structural performance assessment technology Numerical fluid analysis technology

- Earthquake risk reduction technology
- Geosphere environmental behavior prediction technology

· Assessment of biological effect caused by electromagnetic field

### 5

Advanced SCC assessment method