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Country Report of the Republic of Korea

Korean Nuclear Technology and Policy Status

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Ministry of Science and ICT

Ministry of Science and ICT

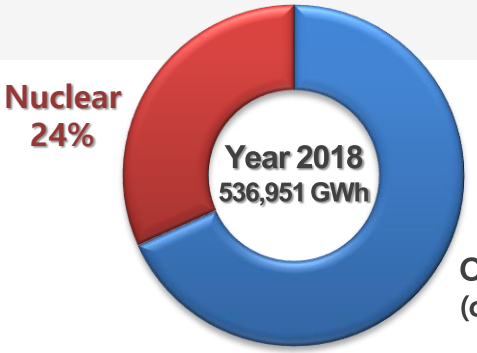
Contents

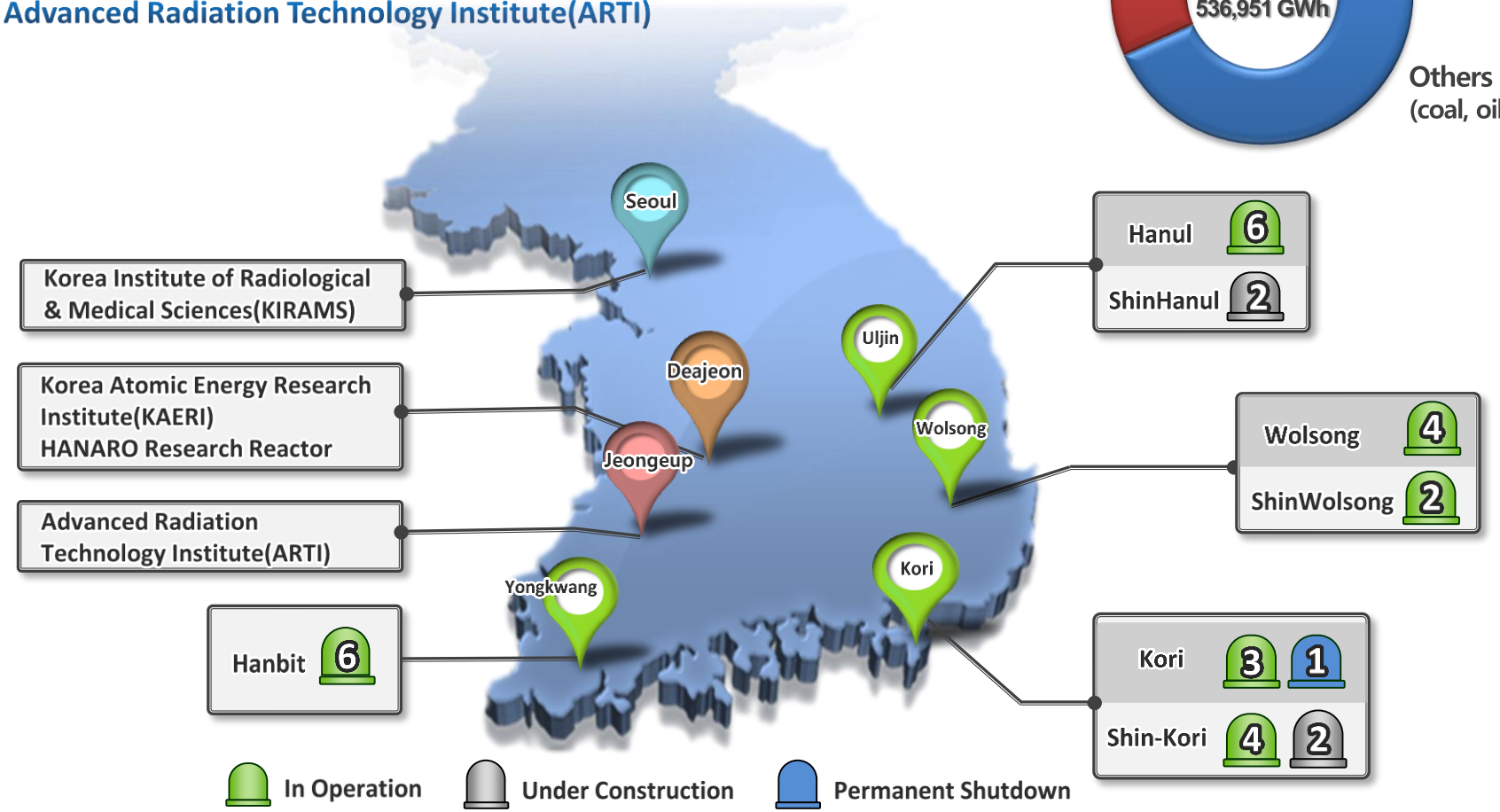
I. Nuclear Energy Status and Policy

1-1 Current Status

- Nuclear for Power
  - In Operation ➤ 25 Units (23,929MWe)
  - Under Construction ➤ 4 Units (Installed capacity: 5,600MWe)
- Nuclear for Non-Power
  - Korea Institute of Radiological & Medical Sciences(KIRAMS)
  - Advanced Radiation Technology Institute(ARTI)

[Electricity Generation by Source]





1-2 Energy Transition Policy in Korea

Energy Transition Policy

Ensure Sustainable development

Focus on Safety & Eco-friendliness

Expansion of renewable energy

Nuclear R&D

- **Future Nuclear Technology Development Strategy**

Safety & Decommissioning R&D
Diverse Use of Nuclear Tech
Overseas Export Promotion

Nuclear Energy Policy

- **Scale down proportion of nuclear power gradually**
- **Decommissioning Kori1**

Safety & Communication

Nuclear Safety Policy

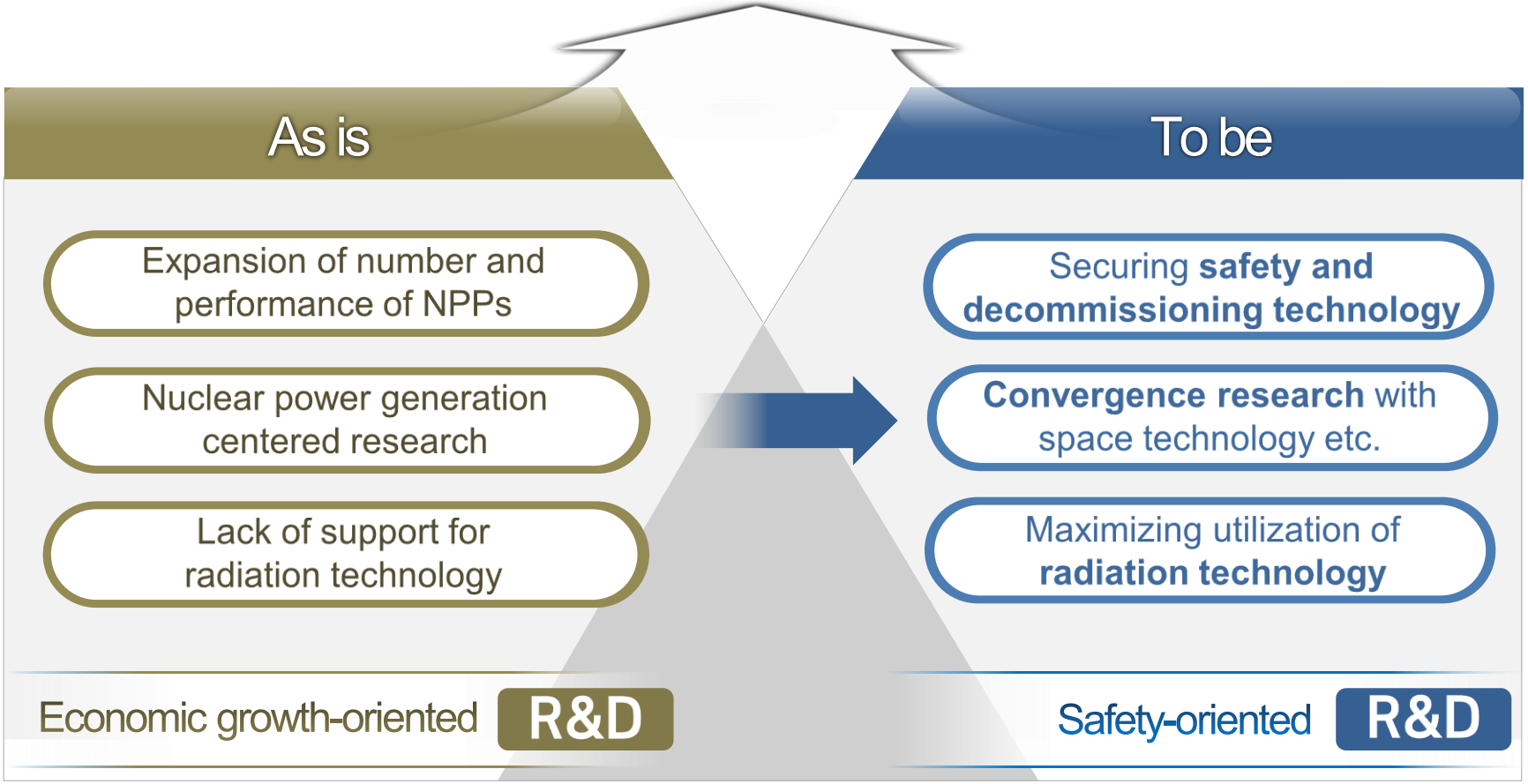
- **Strengthen Nuclear safety regulation**

Various institutional effort
Cooperate with IAEA to an international level

1-3 New Vision and Policy Direction

Vision

Securing Safety and Applied Technology Capability



1-4 Future Nuclear Technology Strategy('17.12)

VISION

Securing Safety and Applied Technology Capability

Safety & Decommissioning R&D

Expanded Applications of Radiation Technology

Securing New Future Energy Sources

Commercialization of Nuclear Technology

Overseas Export Promotion

Resource : Strategy for Future Nuclear Technology by MSIT('17.12.)

1-5 Main Implementing Task

Securing Safety and Applied Technology Capability

Nuclear Safety and Decommissioning Research

- Improving Safety of NPPs and Developing Accident Prevention Technology
- Developing Safe and Eco-Friendly Nuclear Waste Treatment Technology


<KORI 1 NPP>


<Nuclear Waste Treatment>

Expanded Use of Nuclear Technology

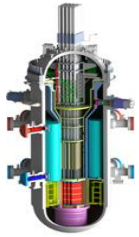
- Conversion of Nuclear Research with Medical and Bio Fields
- Expanded Use of Nuclear Technology to Space, Marine, Polar, etc.


<Radiation Oncology>


<Radiation Breeding>

Overseas Export Promotion

- Supporting export of research reactor and SMR technologies
- Establish base for export for element tech. and nuclear fuel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II. HRD in the Nuclear Field

2-1 HRD Infrastructure of Korea

HRD Infrastructure of Korea

- **18 universities** that are operating nuclear engineering major
- **In-house training centers** in nuclear organizations(KAERI, KINS, KINAC and KHNP)

2-2 New Nuclear HRD program

Nuclear Safety Research HRD Program(‘18.07.)

- Field Force Training

- Nuclear Technology Convergence

- Nuclear Human Resources Management

- Nuclear Global Researcher Nurturing

- Nuclear HRD Power-up

III. Policy on the utilization of RT in human health

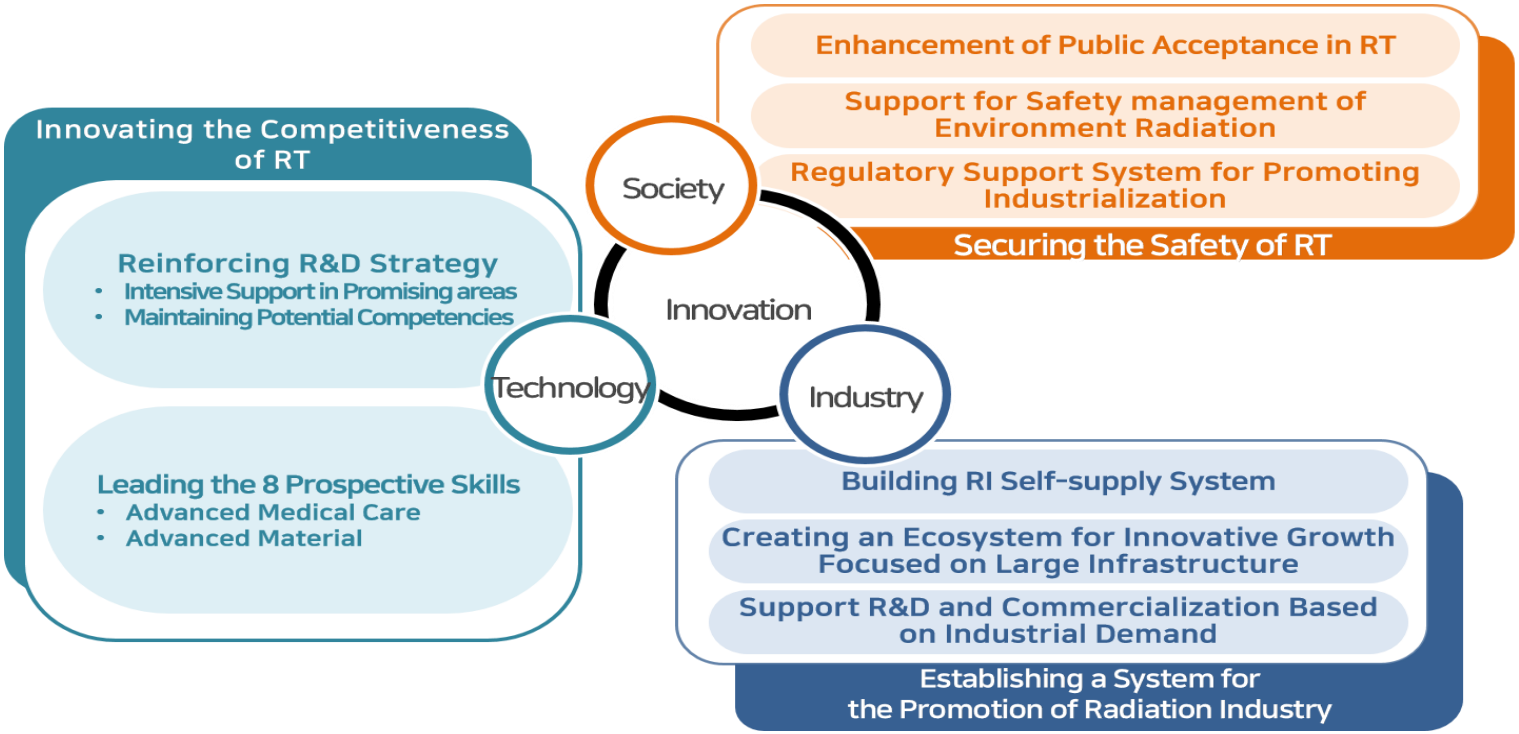
3-1 Future Radiation Industry Creation Strategy('19.11.)

Vision

Driving Innovative Growth through Safe Radiation Utilization

Strategies and Missions

Driving innovation on three major bases of radiation utilization (technology/industry/social studies)

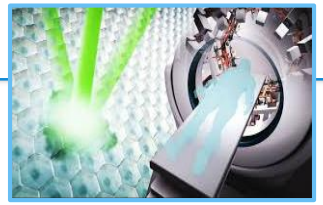


3-2 Future Radiation Industry Creation Strategy('19.11.)

Strategy for Advanced Medical Care

- Development of future promising technologies
- Establishment of R&D-Industry ecosystem

1	2	3	4
Precision-Targeted Theranostic Radio-pharmaceutical	Precision Diagnosis for Highly-Efficient Radiotherapy	Curative Technology for Targeting Intractable Diseases	Precision Radiotherapy Device Development



Promoting strategic R&D to intensively support 4 promising Radiotherapy Technologies

Thank you

Ministry of Science and ICT