

IAEAの進める各国人材育成ネットワーク構築活動の進捗状況 ～原子力人材育成ネットワーク原子力人材育成ネットワーク～

2018年 2月16日

広瀬 大也

IAEA, 企画・情報・知識管理部, 知識管理課

Regional Education Networks

IAEA Facilitated Regional and Inter-Regional Networking in Nuclear Education:

- o **cooperation** on educational experience and resources
- o **discuss policies and strategies** for
- o **lessons learned**
- o **works in developing countries with**
- o **countries**



Fostering Regional Educational Networks in Collaboration with.

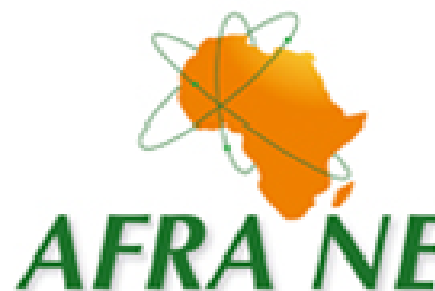
To facilitate collaboration among nuclear education institutions



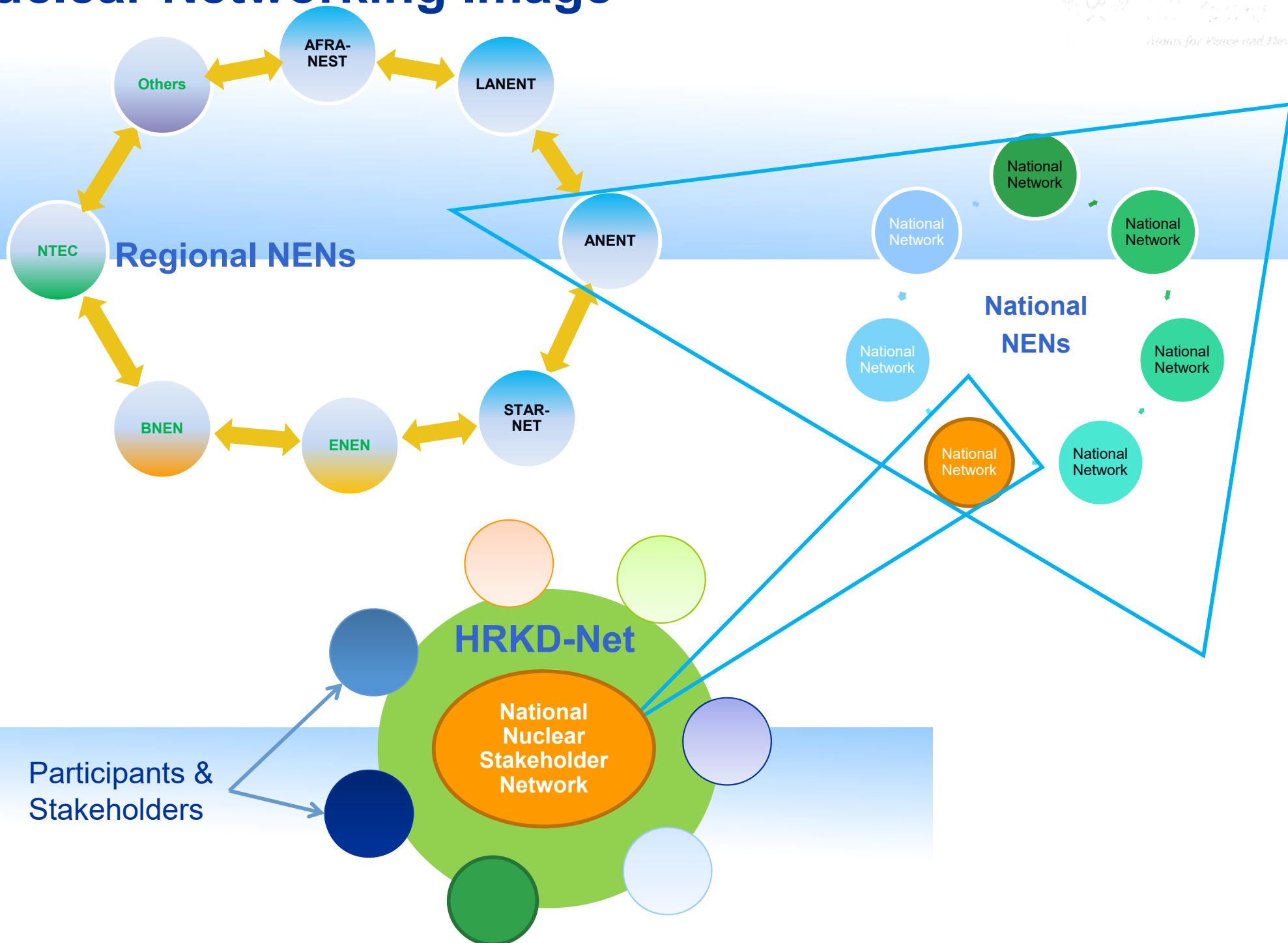
Strives to promote availability of qualified human resources



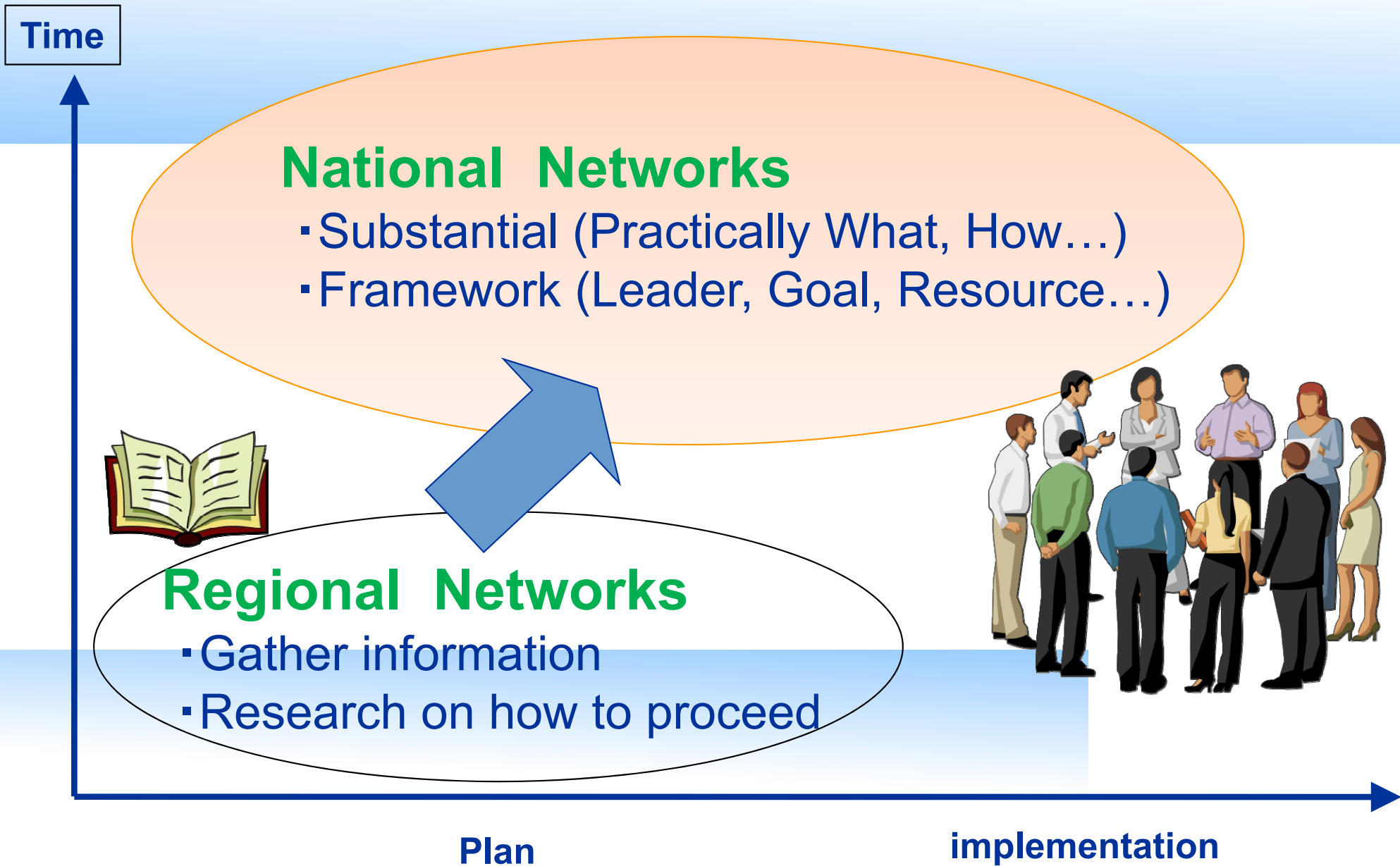
Contributing to sustainability of nuclear technology



Nuclear Networking Image



HRKD Network(approach)



Member of a National Network

➤ HRKD is one of the most crucial tasks for some countries utilizing or planning to introduce nuclear energy power.

1. In order to solve national-level various issues related to HRKD (education, training, knowledge management, public relation, etc.)
2. The close cooperation among all of relevant organizations in the government, the academia, and the industry is inevitable.
3. Some countries have started to organize a national network

Government

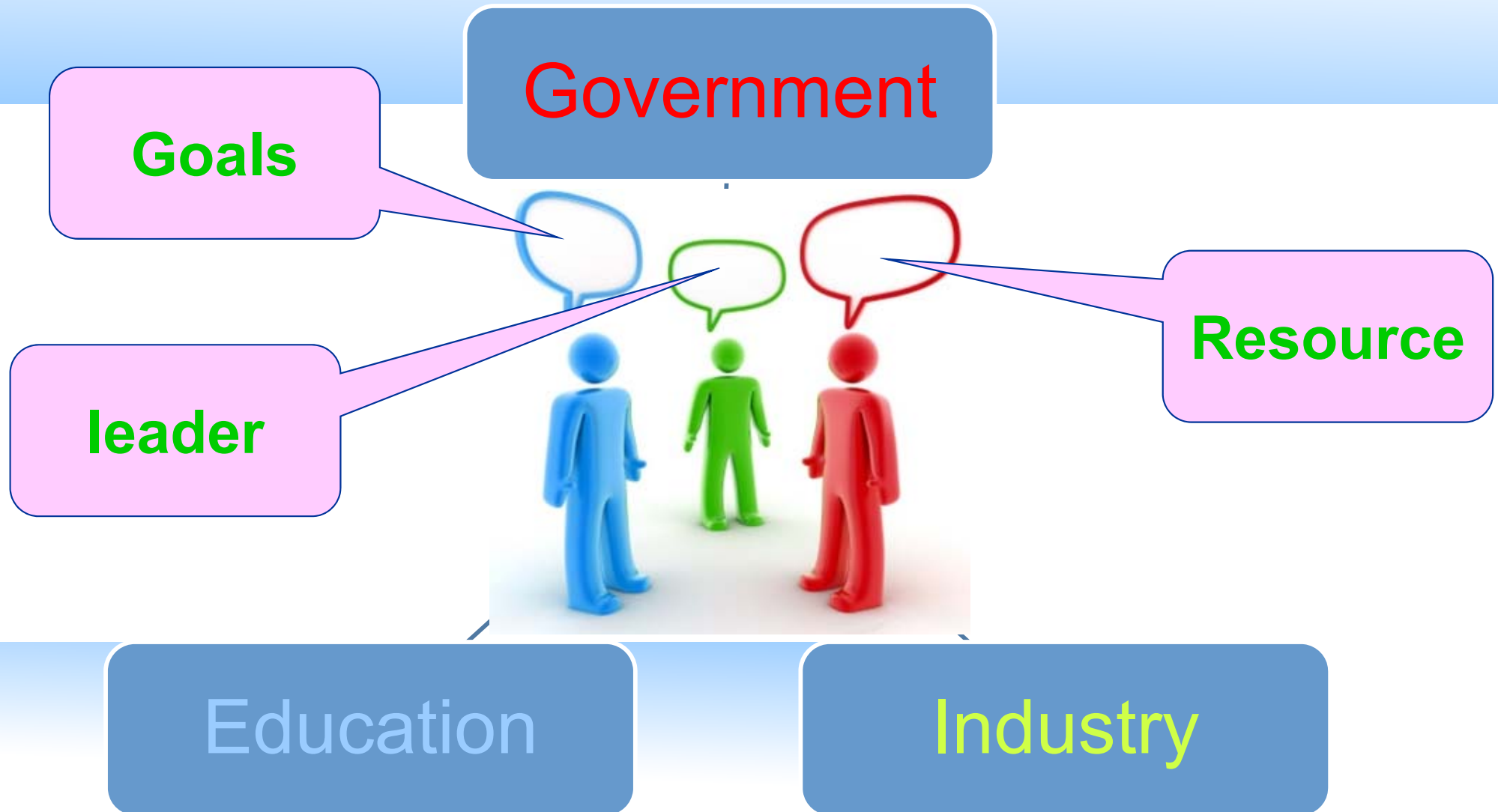


Academia

Industry

Member of a National Network

close cooperation



N-HRKD Network

(Main points for implementation 1)



❖ **Leader**

- ✓ Who or which organization is expected to lead the network
- ✓ Having a Secretariat to strategically implement projects.

❖ **Goals**

- ✓ Establish common goals for member organizations to be supported by the network

❖ **Resource**

- ✓ Appropriate people from member organizations to run the projects
- ✓ Budget if necessary

National Network

Goal, Resource

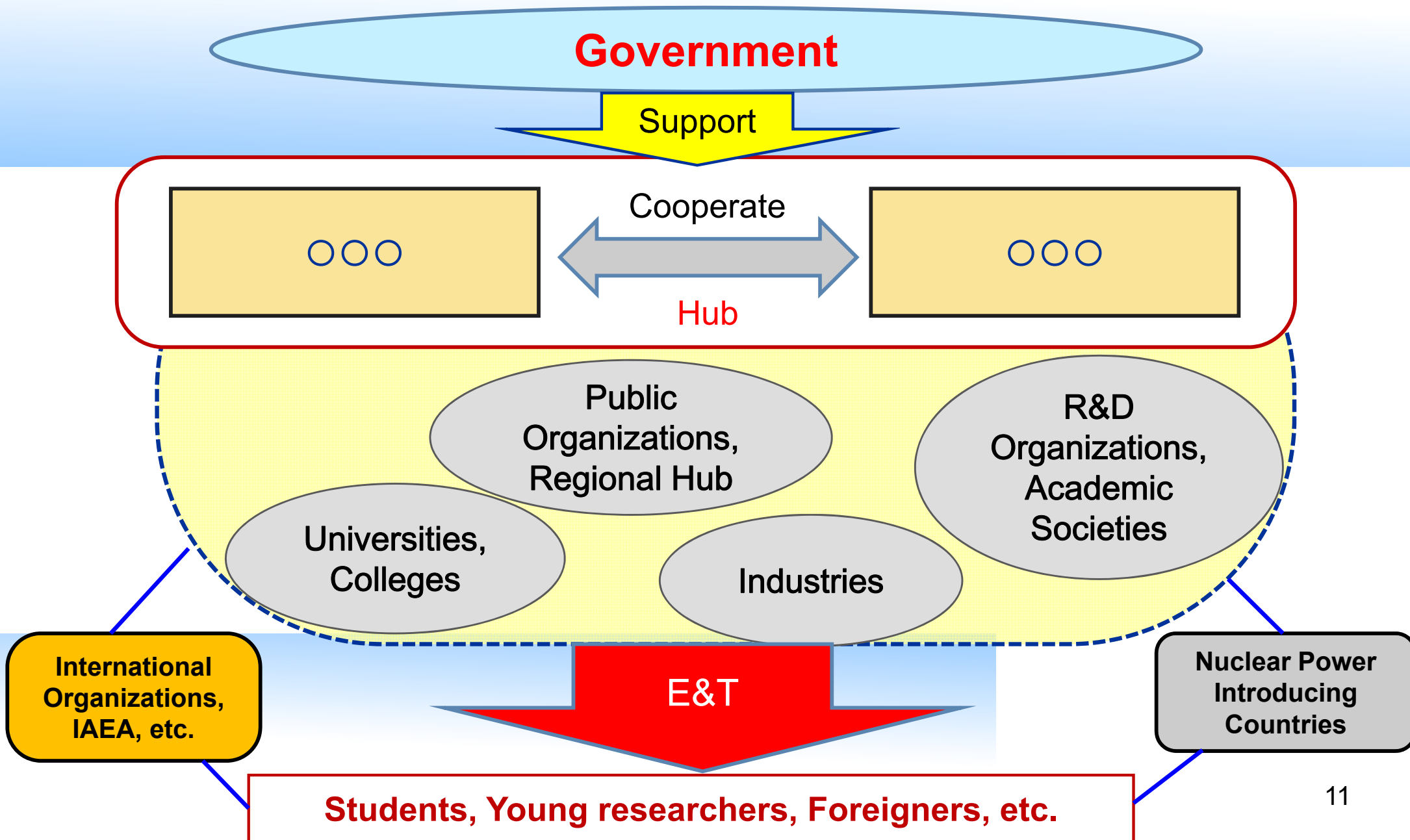


National Stakeholders

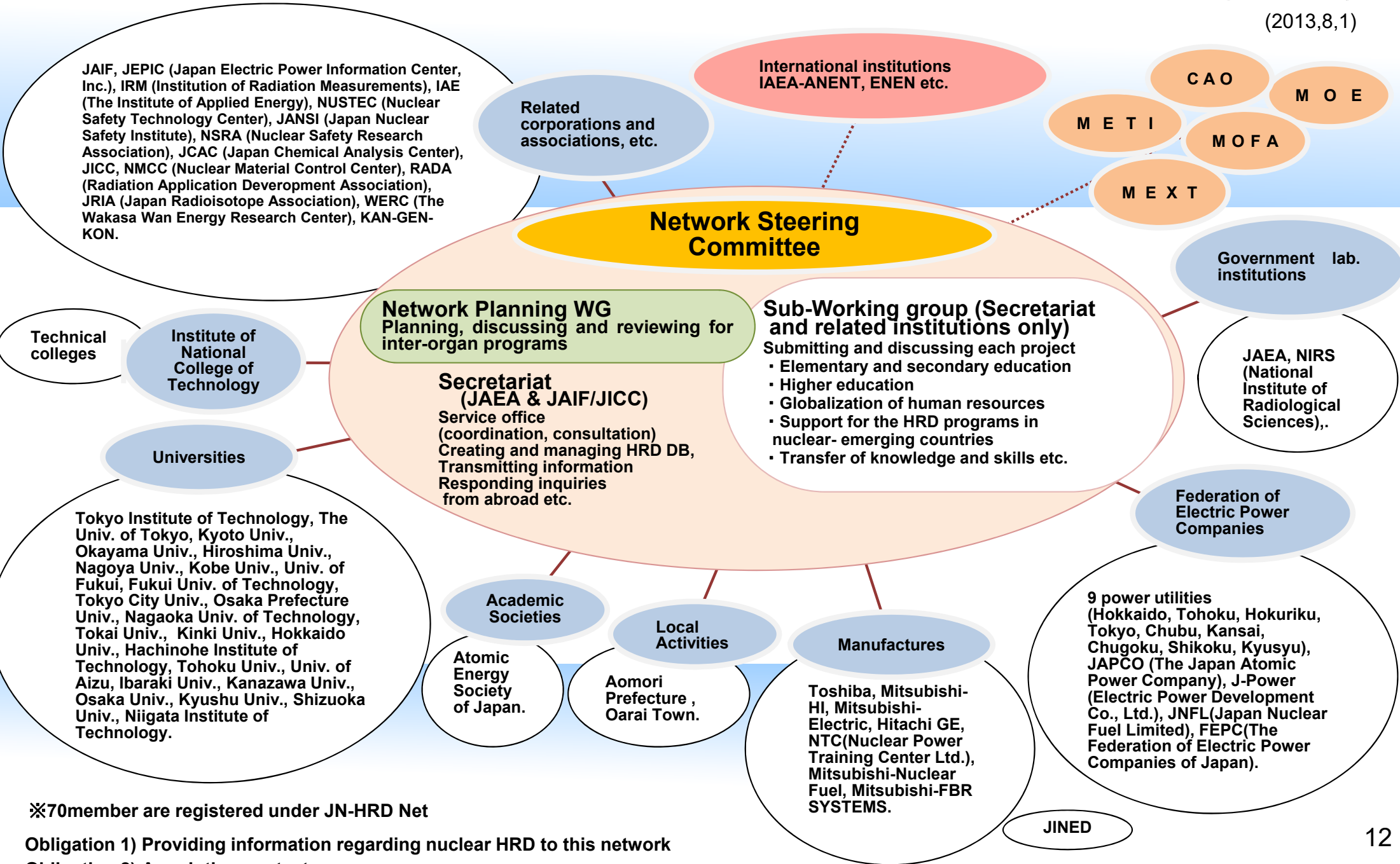
Stakeholder group	Examples
<p>Government</p>	<ul style="list-style-type: none"> • Ministry • Atomic Energy Commission • Nuclear Regulatory Authority • National Nuclear Institutions
<p>Education</p>	<ul style="list-style-type: none"> • Academia • R&D institutions and Labs • Technical Schools • Training Organizations
<p>Industry</p>	<ul style="list-style-type: none"> • Operators • Relevant companies • Representatives of Industries • Nuclear Professional Associations



National Network Structure (Example)



Detailed Organization (Example of JN-HRD Net)

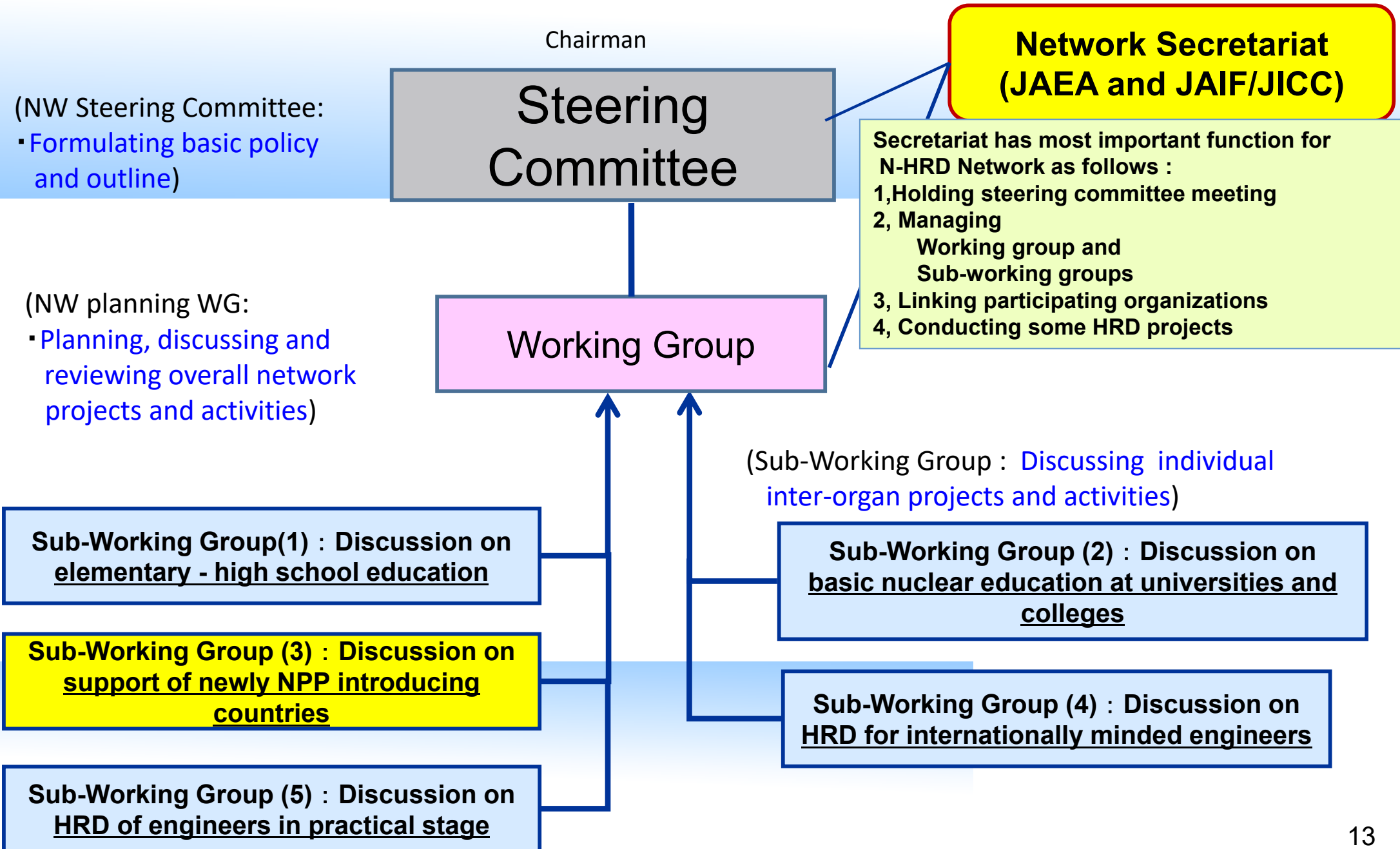


※70member are registered under JN-HRD Net

- Obligation 1) Providing information regarding nuclear HRD to this network
- Obligation 2) Appointing contact person

(Example)

Framework of JN-HRD Net



(Example)

Roles of Sub-Working Groups



Sub-Working Group (1) : Discussion on elementary - high school education

To reinforce action toward elementary, junior-high and high school educations to encourage students to proceed to a higher grade school to study science and engineering including nuclear field

Sub-Working Group (3) : Discussion on support of newly NPP introducing countries

To support nuclear HRD in countries that plan to introduce nuclear energy (NPP) in the near future

Sub-Working Group (5) : Discussion on HRD of engineers in practical stage

To support transfer of nuclear-related knowledge, skills and experience (know-how) to next generations

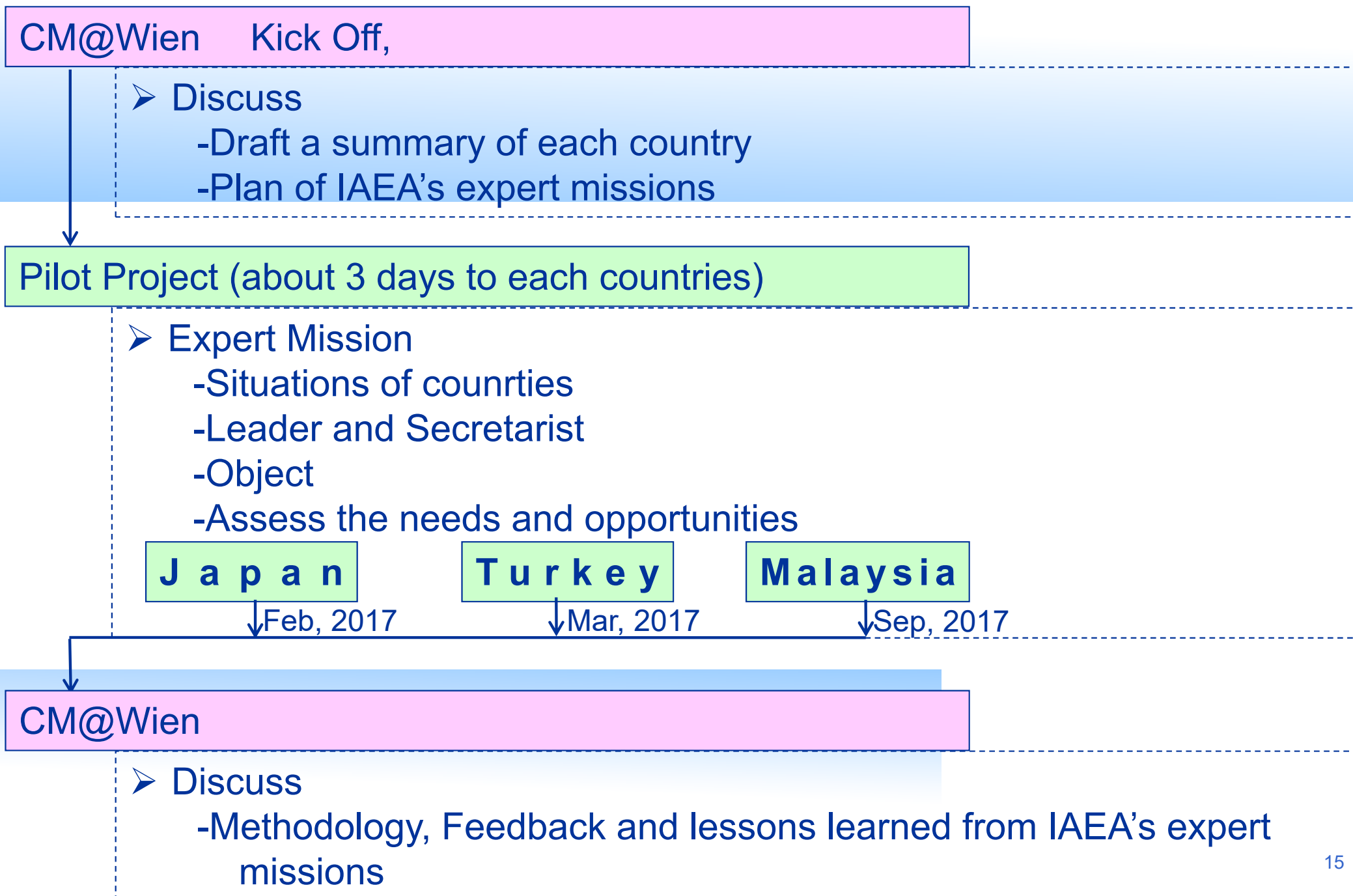
Sub-Working Group (2) : Discussion on basic nuclear education at universities and colleges

To reinforce the basic education on nuclear technologies and related subjects at universities and colleges, and to rebuild the professional education system on nuclear energy

Sub-Working Group (4) : Discussion on HRD for internationally minded engineers

To train young generations to be internationally minded talented persons

Schedule of HRKD network

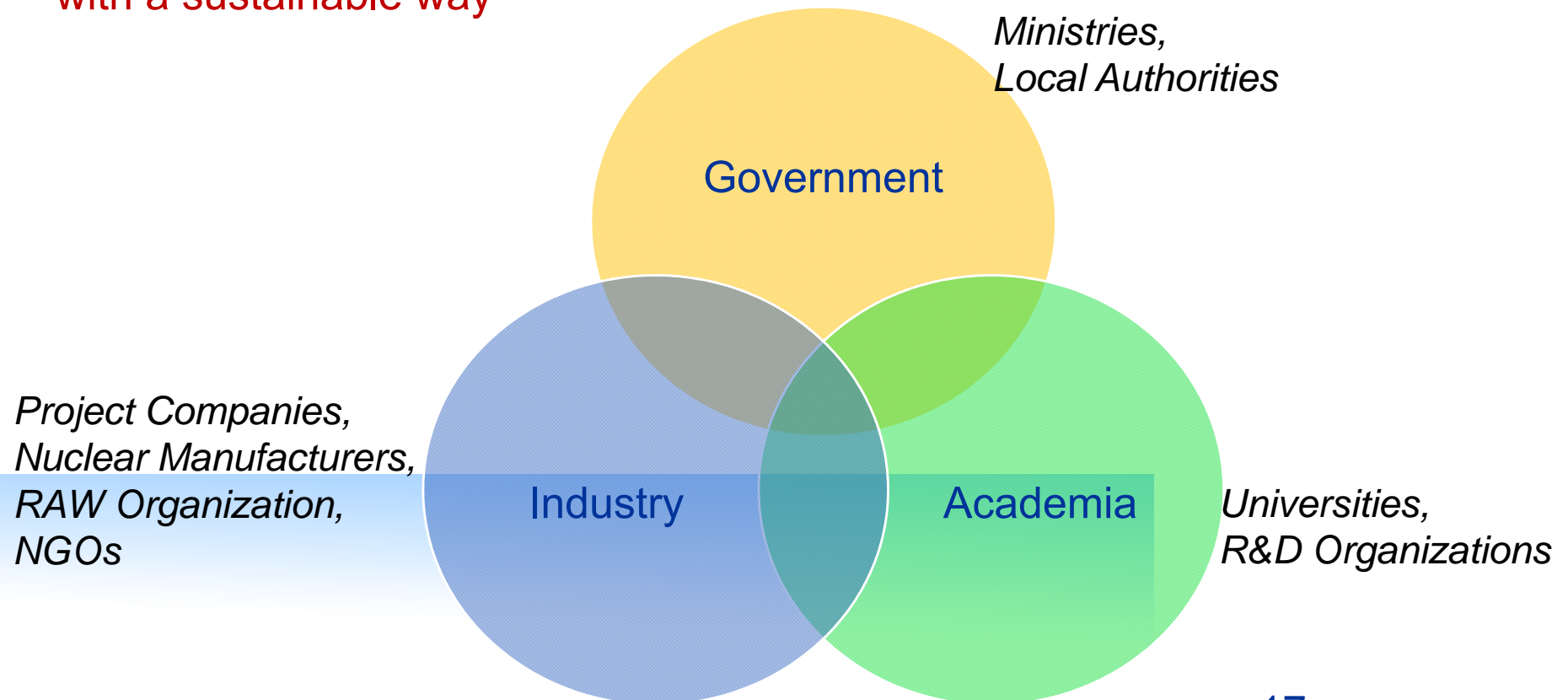


National N-HRD Coordination Network



National N-HRD Network

- The network will ensure «close cooperation among ...» in the solution of problems regarding with N-HRD.
- **Purpose:** To develop nuclear workforce needed for Turkish nuclear industry with a sustainable way



Schedule of National N-HRD Network

14-16 June 2016: Consultancy Meeting in Vienna, AUSTRIA

13-15 February 2017: Consultancy Meeting in Tokyo, JAPAN

13-14 March 2017: Consultancy Meeting in Ankara, TURKEY
(21 participants from 12 organizations)

12 April 2017: Kick-Off Meeting with Turkish Organizations in Ankara, TURKEY
(41 participants from 27 organizations)

Feedbacks from Turkish Organizations on Possible Structure of the Network (30 organizations)

Draft Rules of Turkish National N-HRD Network

Feedbacks from Turkish Organizations on Draft Rules of the Network and Name of Participants from Organizations (30 organizations)

6-8 September 2017: Consultancy Meeting in Kuala Lumpur, MALAYSIA



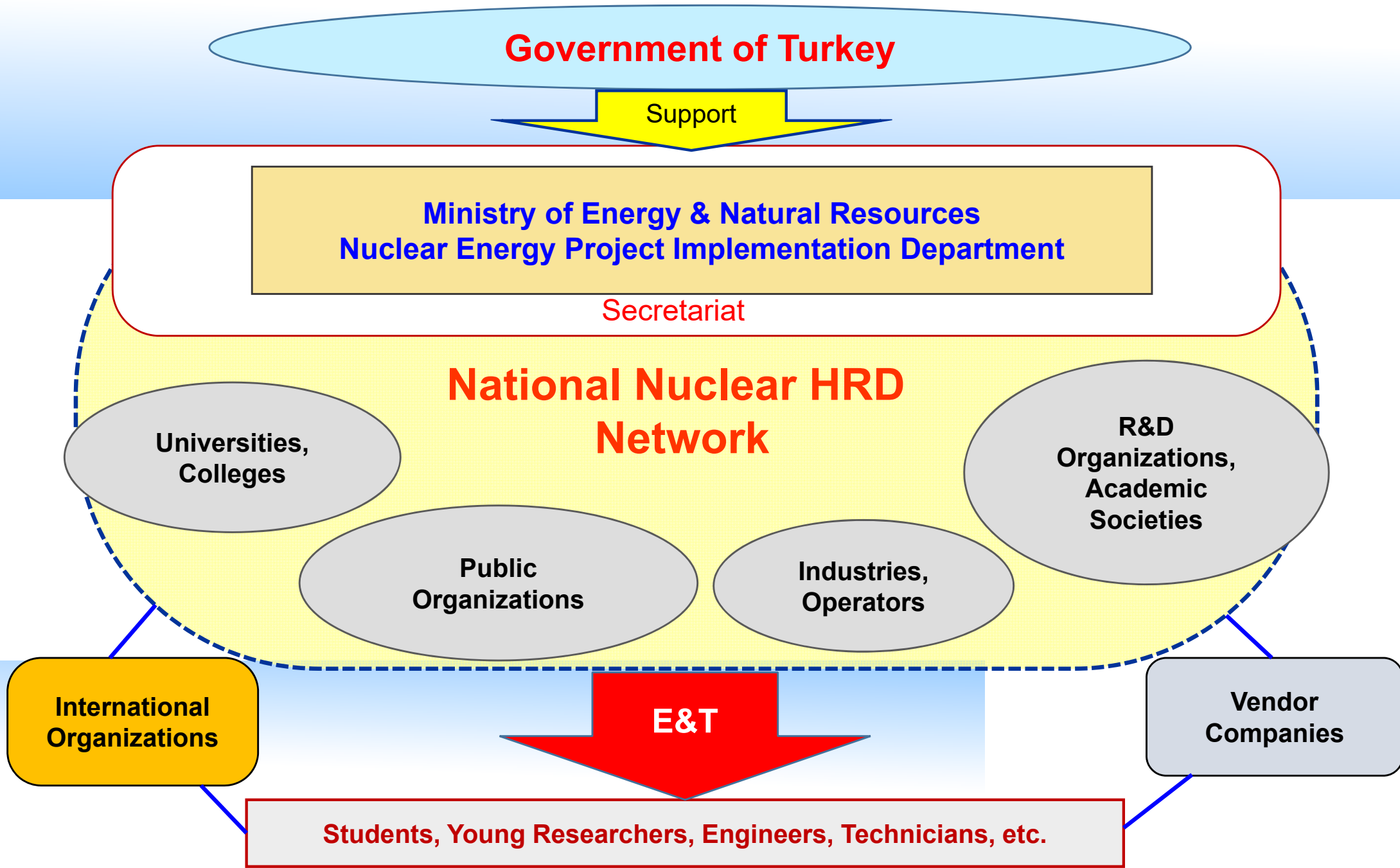
Annual Meeting of Steering Committee in February 2017, in Tokyo, JAPAN



Consultancy Meeting on April 13-14, 2017, in Ankara, TURKEY



Kick-Off Meeting on April 12, 2017, in Ankara, TURKEY



Government of Turkey

Support

**Ministry of Energy & Natural Resources
Nuclear Energy Project Implementation Department**

Secretariat

**National Nuclear HRD
Network**

Universities,
Colleges

Public
Organizations

Industries,
Operators

R&D
Organizations,
Academic
Societies

International
Organizations

Vendor
Companies

E&T

Students, Young Researchers, Engineers, Technicians, etc.

30 TURKISH ORGANIZATIONS

MINISTRIES (4)

- Ministry of Energy & Natural Resources
- Ministry of Development
- Ministry of National Education
- Ministry of Foreign Affairs

PUBLIC INSTITUTIONS (10)

- Turkish Atomic Energy Authority
- Higher Education Council
- Professional Qualifications Authority
- Turkish Scientific and Technological Council
- Turkish Standards Institute
- Disaster & Emergency Management Presidency
- Turkish Radio & Television Corporation
- Anadolu Agency
- Ankara Chamber of Industry
- Ankara Development Agency

NON-GOV. ORGANIZATIONS (4)

- Nuclear Engineers Society
- Radiation Protection Society
- Radiation Protection Experts Society
- Chamber of Physic Engineers

OPERATORS (3)

- Akkuyu Nuclear JSC
- Sinop Nuclear Ltd. Co.
- EUAS International CC

UNIVERSITIES (6)

- Hacettepe University
- Ankara Universities
- Istanbul Technical Universities
- Akdeniz Universities
- Ege Universities
- Sinop Universities

TRAINING & RESEARCH CENTERS (3)

- Cekmece Nuclear Training and Research Center
- Saraykoy Nuclear Training and Research Center
- Marmara Research Center

Structure of Coordination Network

Steering Committee

• **Role:**

- ✓ Highest decision-making body of the network,
- ✓ Final evaluation of network activities

• **Chairman:** Deputy Undersecretary of Energy Ministry (MENR)

• **Number of members:** 15

- At least one time meeting per year (within 4th quarter of the year)

Working Group

• **Role:**

- ✓ Planning, coordination and preliminary evaluation of all projects and activities on HRD,

• **Chairman:** Head of NEPID/MENR

• **Number of members:** approx. 30

- At least two times meeting per year (at the end of 1th and 3rd quarter of the year)

Sub-Working Groups

- At initial stage, there are 8 sub-working groups.
 - Heads of each sub-working group are selected by related group members.
 - Heads of SWGs submit evaluation report of related SWG's activities on N-HRD to Working Group at the end of 1th and 3rd quarters of the year.
- 1- Determination of Basic Qualifications and Training Needs of Turkish People for the Nuclear Sector
 - 2- Promoting Nuclear Acceptance and Awareness
 - 3- Radiological Emergency Planning and Response; Crisis Management
 - 4- Returning of Turkish Citizens Working in the Nuclear Sector Abroad to Turkey
 - 5- Development of Nuclear Education at the Higher Education Level
 - 6- Training of «Mid-Man» (Technicians and Skilled Crafts) to be Needed for Nuclear Sector
 - 7- Strengthening Nuclear Academic Staff at Universities
 - 8- Strengthening Nuclear R&D Staff at R&D Centers and Institutes

Visit us at:

<http://www.iaea.org/nuclearenergy/nuclearknowledge/>

Thank you!



HIROSE, Hiroya <H.Hirose@iaea.org>