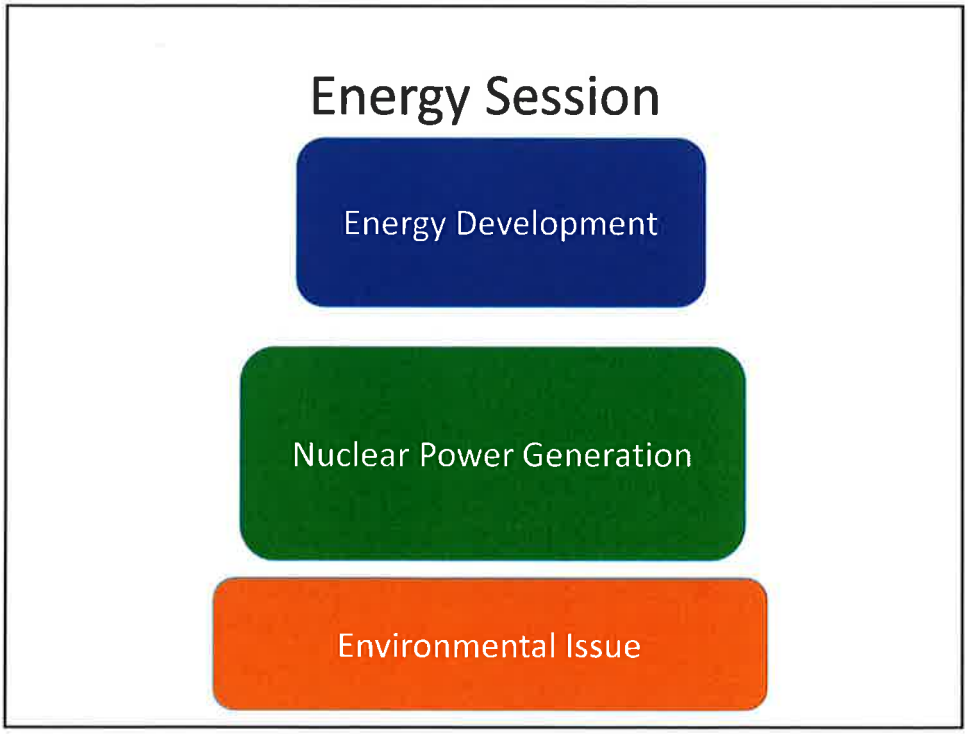
Energy Session Summary

University of Toyama, School of Medicine
AKIRA TOGA

Energy Session



Time schedule

- 13:00-14:30 Presentation in Group
- 14:30-14:40 Break
- 14:40-16:10 Discussion in Group
- 16:10-16:20 Break
- 16:20-16:50 Discussion in Energy session
- 16:50-17:00 Comment from Prof. Maruta
- 17:00-18:00 Making Presentation in Group

Japan-Russia cooperation in energy development

Outline

- Reasons to cooperate
- Prospects
- Problems

Reasons to cooperate

What we need:

- Diversification
- Russia-Japan re-approach
- Energy security
- Win-win cooperation

What we have:

- Geographical proximity
- Japanese high technologies
- Russian resources

Prospects

- Development of Russian Far East
- Creation of new technologies and conditions for implementation of high-potential projects
- Political cooperation
- Energy market renewal

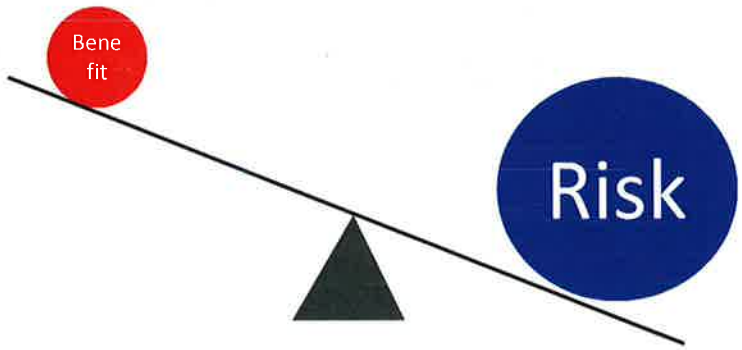
Problems

- Unresolved territorial issue
- Different legal systems
- Cultural differences
- Hard-to-change demand structure in Russia
- Difficulties to change whole energy market

Nuclear Generation
Nuclear Security

Zhakina Elina
Panchenko Anton
Kosuke Tsuji
Akira Toga
Haruka Kinoshita

Balance of benefit and risk



Collaboration

	Russia	Japan
Strength	・Scientists • Uranium mine ・Clean up contaminated materials	・Superb technology in building nuclear power plants
Weakness	・Old power plant	・Nuclear reprocessing facilities (e.g.) • Less resources

→ Important global task is the development and implementation of safe, clean and efficient production systems for nuclear power.

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Industrial cooperation 2008

• Atomenergoprom	• Toshiba
• enriches uranium produced in Kazakhstan. • has the technologies of an open nuclear fuel cycle and can build civilian nuclear facilities under turnkey conditions. It also has cutting-edge water-water reactor (VVR) technologies.	• produces nuclear fuel and undertakes the designing and engineering of nuclear power plants. • has the know-how to engineer nuclear power plants within three years.

Joint company promotes to exchange own strong point

Cooperation is still limited in some part

Joint company (venture)

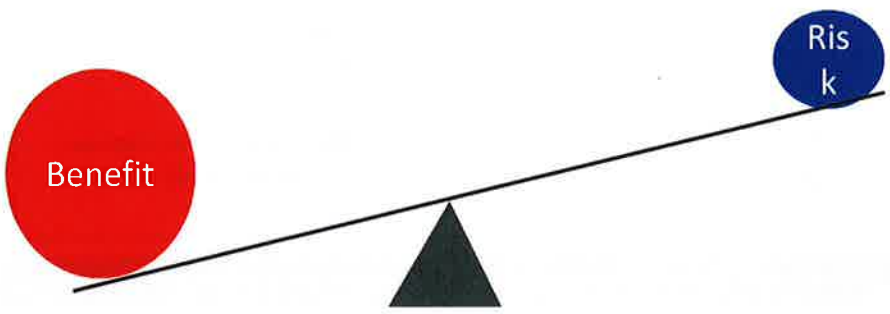
Other joint company....

Mitsubishi heavy industry — ALEVA

Hitachi — General Electric

ROSATOM — Siemens

Balance of benefit and risk



Group A : Energy - Environment

Kenta Ogasawara (Leader)
Kanade Miyagawa
Dai Yamawaki (Author)
Igor Voroshilov
Viktor Sazonov

27.09.2013
Japan-Russia Student Forum 2013
(Miyagi, Japan)

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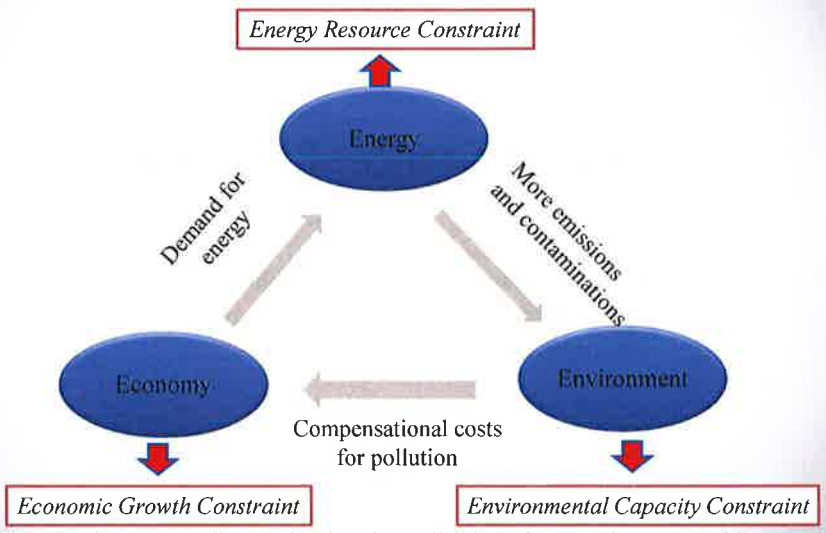
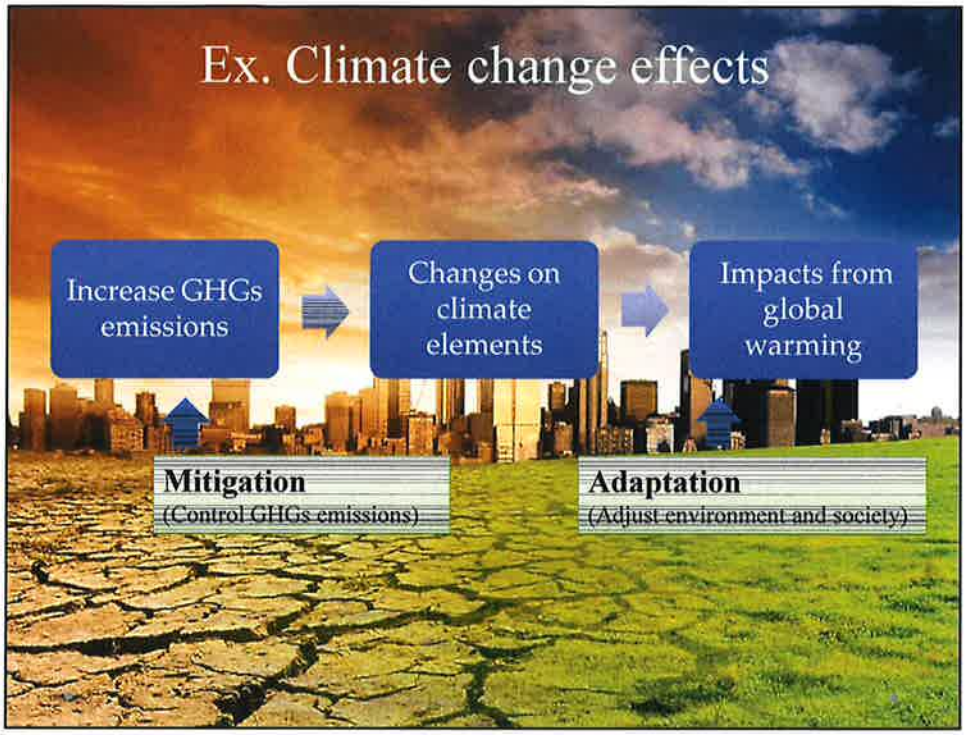
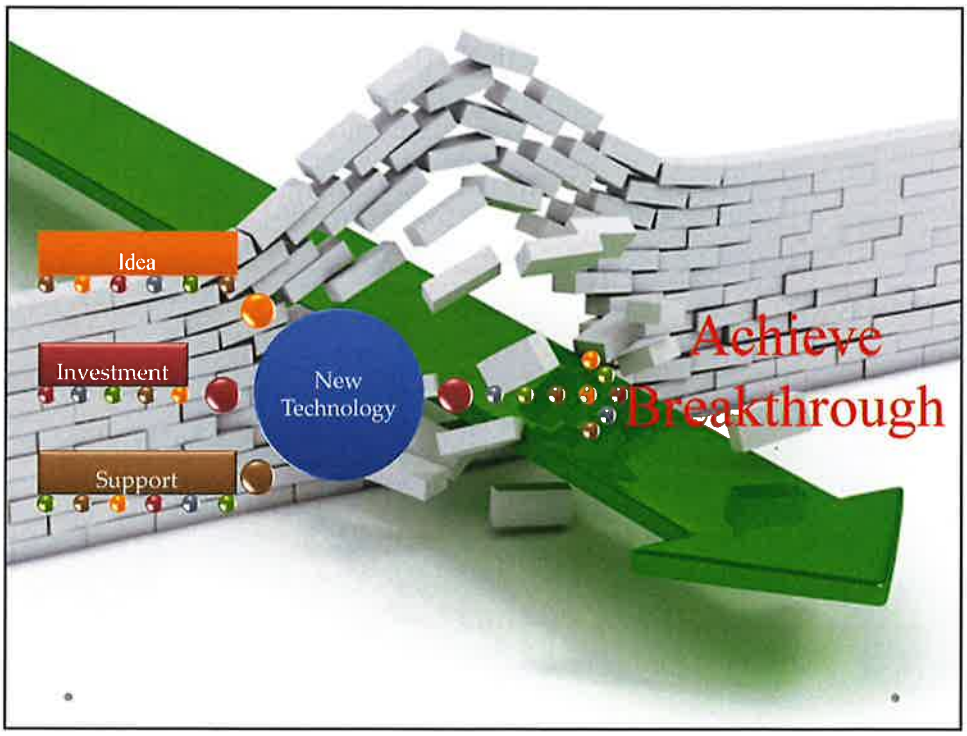
The Concept of 3E-Trilemma



The solution of 3E-Trilemma is a key for realization of economic system with sustainability and Sustainable Economy.

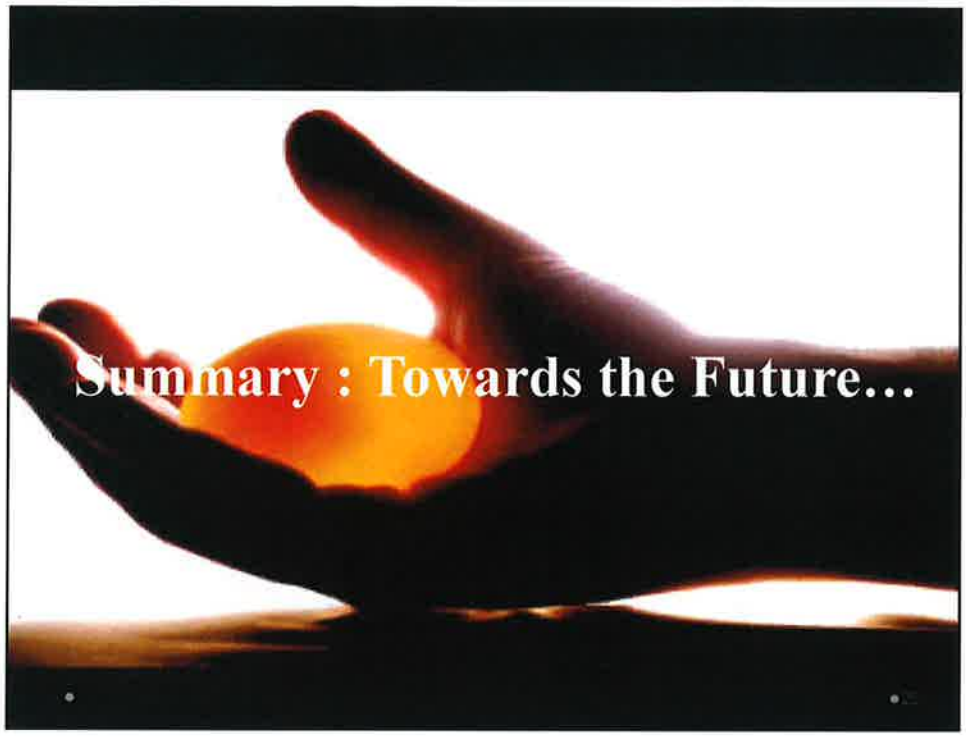

Ex. Climate change effects
Increase GHGs emissions
Changes on climate elements
Impacts from global warming
Mitigation
(Control GHGs emissions)
Adaptation
(Adjust environment and society)

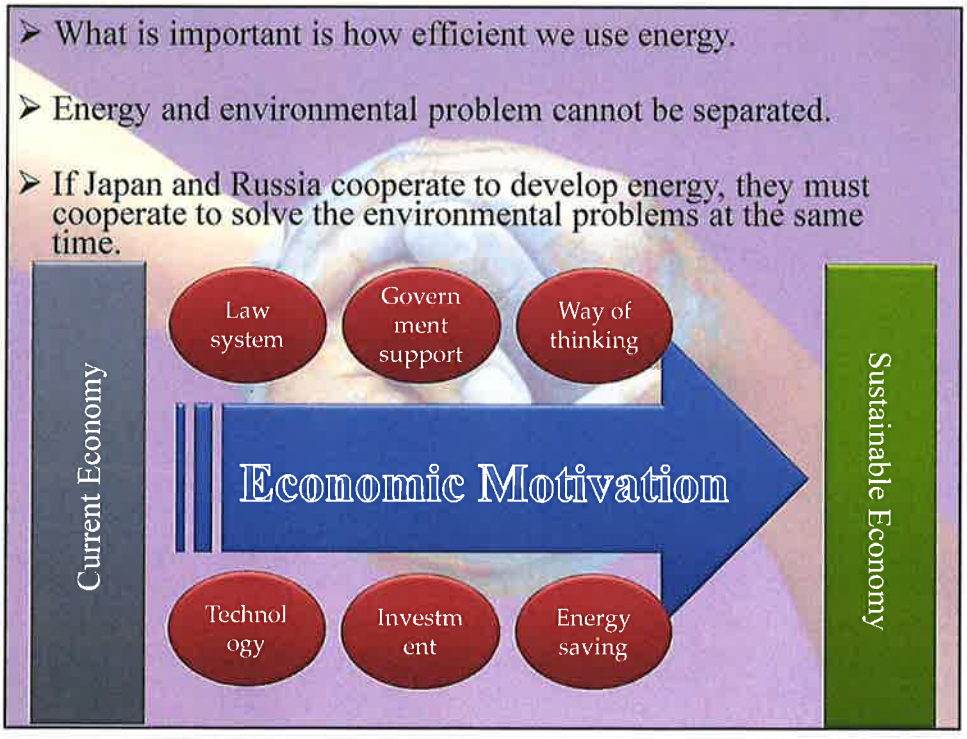

Idea
Investment
Support
New Technology
Achieve Breakthrough

Ex. Japan-Russia cooperation in wind energy

- Taking into account the world experience, 30-50 MW wind energy electric stations on the basis of modern 2-3 MW wind turbines are the most energetically and economically effective in Russia. In this reason, there are at least two models of the new wind turbine generators of MHI that can effectively serve as a basis of wind plants in the aforesaid Russian territories. These models are: MWT100/2.4 and MWT102/2.4.

- The expected cumulative volume of utilization of wind power stations can reach 7350 MW in 2020. So, the wind farms, which are based on the wind turbines with the MWT100/2.4 and MWT102/2.4 generators, can include about 3062 of such wind turbines in total.


Summary : Towards the Future…


What is important is how efficient we use energy.
Energy and environmental problem cannot be separated.
If Japan and Russia cooperate to develop energy, they must cooperate to solve the environmental problems at the same time.
Current Economy
Law system
Govern ment support
Way of thinking
Economic Motivation
Technol ogy
Investm ent
Energy saving
Sustainable Economy


БЛАГОДАРЮ ВАС ЗА ВНИМАНИЕ!
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