



*3rd Russia – Japan Energy Dialog, “New Prerequisites
And Economic Conditions for Northeast Asian Energy
Cooperation in the Russian Far East”
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Japan-Russia Collaboration and International Science and Technology Center’s Role Concerning Renewable and Energy Technologies

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What is ISTC?



- An intergovernmental organization focused on responsible management of sensitive knowledge and technology through international, cooperative science and technology projects
 - Provides research grants for civilian projects engaging experts with “sensitive” knowledge
 - Provides funds for projects solving problems of global/regional dimensions
 - Very convenient framework for partner (funded) projects
- A technology matchmaker between Russian/CIS R&D institutes and western companies.
- A tool to integrate Russian/CIS scientists into the international research community

CIS: Armenia, Beralus, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan



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ISTC Core Programs and Services



- **Regular Science Project Program**

- **Partner Project Program**

- Commercialization/Innovation Support Program

- Patenting and IPR protection Program

- Competence Building Program

- Workshop and Scientific Seminars

- Mobility Program: Travel Grants

- Communication Support Program

- Partner Promotion Program

- Programmatic Approach



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ISTC - 15 Years of Operation



More than 2650 funded science and technology projects

- Over 70 000 scientists/experts working with ISTC projects and benefiting from other ISTC programs
- 830 M\$ support
- Thousands of scientists benefiting from mobility program
- Hundreds of conferences, seminars, workshops and working meetings supported by ISTC



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Programmatic Area:

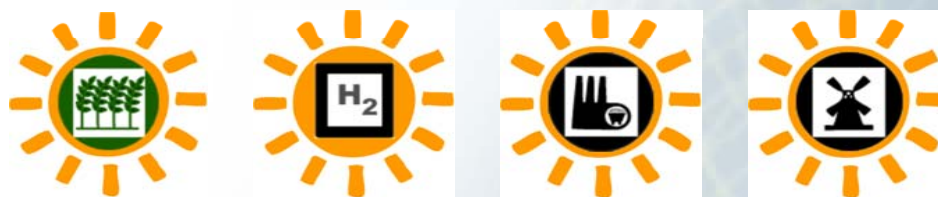


- Global Security;
- **Sustainable Energy Technologies;**
- **Environmental Technologies;**
- Biotechnology, Public Health and Agriculture;
- High Energy Physics (edge physics); and
- Nanotechnology



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Renewable Energy Projects – over 50 projects, over 20 M\$!



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Projects in Renewable Energy



- *Wind and hydro* (3 projects)
- *Solar* (9 projects)
- *BE and fuel cycles* (33 projects) in particular:
 - Gasification of solid fuel – 9,
 - Devices for heat and energy generation by combustion of biofuels and organic fuels – 11 ,
 - Heat production from organic wastes – 2.
- *Biostimulation of biomass plants* – 2
- *Ecology in BE production* – 2
- *Electrochemical transformers* - 2



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Results obtained (1)



ISTC project “Environment friendly Car equipped with Hydrogen Rich Gas Generator”.

Engine control system



- Up to 20% fuel saving and CO₂ emission reduction
- Meet EURO4 standard without catalyst treatment of exhaust gases

Gas Injectors

Syn-Gas Supply Line

Syn-Gas Generator



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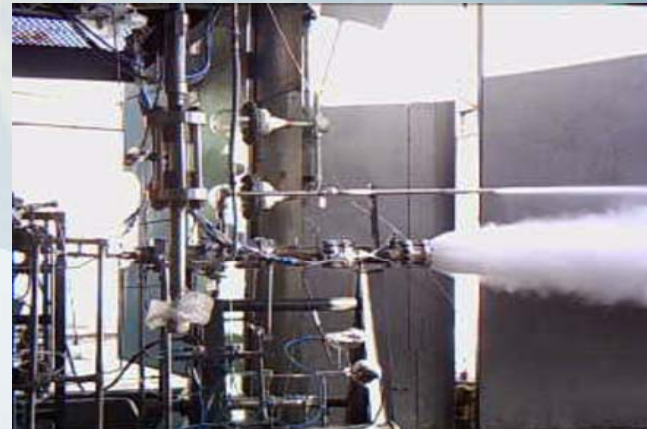
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Results obtained (2)



ISTC project “High Pressure Hydrogen-Oxygen Steam Generator for Power Industry and Energy Technology” .

Creation of experimental H₂/O₂- steam generators with thermal capacity from 20 kW to (25-30) MW at generated steam pressure from 4-5 to tens of atm and temperature 1200 K.



Fire tests of 25 MW(t) steam generator



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Development Strategy



Programmatic Mode of Operation

- Alignment of ISTC project activities with national priorities of the ISTC Parties
- Identification of areas of technical strength and scientific expertise of ISTC project participants
- Transforming ISTC projects into “sustainable programs”, maximizing efficiency and relevance to international science and cutting-edge research



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ISTC Mission:



- Creation of stronger scientific community in RE
- Raising awareness of environmental effects of fossile fuels in particular mounting evidence for greenhouse effect
- Creation of international network of coperation
- Dissemination of experiences and knowledge from other countries



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ISTC Priorities on the Frame of Renewable Energy Program



- Funding and co-funding of science and technical projects;
- Events support;
- Education, retraining;
- Analytical reviews, training aids development;
- Involve Russian and CIS scientists to the **International associations** and joint science Programs.



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ISTC Partner Program



- **Government organizations and private companies have invested over \$190 million in FSU science through ISTC Partner Program**
- **Partners enjoy certain privileges, such as technology matchmaking and tax-free grant payments**
- **Dedicated Partner project managers at ISTC respond to specific needs and focus of Partner**



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Future Steps



- **Search for Collaborators**
- **Search for Partners**
- **Targeted Call for proposals**



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