Introduction of JASE-World and it’s Activities to Russia

18 November, 2013

**Japanese Business Alliance for Smart Energy Worldwide**

(JASE-World)

**Objectives of JASE-World**

- Promote Japanese Smart Energy Products & Technologies to the World on Business Basis
- Contribute to Solve: Global Warming & Energy Security Issues

**Major Activities**

- Publication of “Japanese Smart Energy Products & Technologies”
- Discussion & Practice of Project Finding by 5 Working Groups (Public-Private Cooperation, Energy saving solution, Solar power generation, Geothermal power generation and Waste to Energy)
- Arrangement of Business matching Meeting Abroad
- Introduction of JASE-World activities at International Exhibitions and other occasions

**Chairman of JASE-World:**
Mr. H. Yonekura (Chairman of Japan Business Federation)

**Member:** 70 companies
20 associations

**Observer:** 15 governmental organizations

What’s the “JASE-World”?
Publishing "Japanese Smart Energy Products & Technologies"

Features 208 of the latest practical products and technologies classified into 7 sectors below:

- Energy Saving Solution WG
- Waste to Energy WG
- Solar Power Generation WG
- Geothermal Power Generation WG
- Public-Private Cooperation WG
- Energy Solutions for Commercial Sector SWG

Activity based on 5 Working Groups and 8 Sub-Working Groups

5 Working Groups (WGs)

- Public-Private Cooperation WG
- Energy Saving Solution WG
- Solar Power Generation WG
- Geothermal Power Generation WG
- Waste to Energy WG

8 Sub Working Groups (SWG)

Under Energy Saving Solution WG
- Russia SWG (Page 7-9)
- Middle East SWG
- Latin SWG
- Vietnam SWG
- Energy Solutions for Commercial Sector SWG

Under Solar Power Generation WG
- Solar Thermal SWG

Under Geothermal Power Generation WG
- Latin SWG
- Indonesia SWG
Track Record of Activities of Russia Sub Working Group

1. About Russia Sub Working Group (SWG)
   One of sub working groups of "Working Group for Energy Saving Solution"

2. Participation in Joint Committee of Japan-Russia Cooperation in Energy Efficiency and Renewable Energy (March 2010 -)
   March 2010: 1st Committee in Tokyo
   July 2010: 2nd Committee in Moscow
   September 2013: 3rd Committee in Tokyo

3. Collaboration with Russian Energy Agency (July 2010 -)

4. Participation in Seminar on Russia-Japan Collaboration for Environment Improvement and Energy Saving in Moscow (September 2010)

5. Study on Utilization of Associated Gas of Russian Oil Field under Support of NEDO (2011)


7. Participation in APEC workshop for Co-generation System in Vladivostok (November 2012)

   Discussions has started between Russian Direct Investment Fund and JASE-W team consisting of Sumitomo, Toyo Engineering, Mitsubishi, Kawasaki, and other JASE-W members.

JASE-W / Super-efficient ESCO Model (Co-Generation)

(2) Russo-Japanese Investment Platform of RDIF
   Loan of governmental banks

(1) Capacity Supply Agreement (DPM)
   Energy-efficient power & heat supply services with construction or modernization of co-generation plants

Ministry of Energy
   Full turnkey & lump-sum EPC contractor (Toyo Engineering Corp.)
   Equipment supply contract

Russian design institutes
Russian vendors
Russian construction co.

VEB/IBIC etc.
RDIF/IBIC
Russian/Japanese Energy companies, trading firms etc.

EPC subcontract

(3) ESCO Arrangement
   To share economic value of energy saving (energy-efficiency) in fuel consumption

Core Equipment Supplier
<Mid/small size gas turbine, gas engine etc.>
(Kawasaki Heavy Industries Ltd.)

Core Equipment Supplier
<Large size gas turbine & waste heat recovery boiler etc.>
(Mitsubishi Heavy Industries Ltd.)

Russian Power & Heat Supplier
   Fuel supply contract

Fuel saved by energy-efficient plant

Fuel supplier

Russian Fuel supplier

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Fuel saved by energy-efficient plant

Fuel supplier

Russian Fuel supplier
Why “Super Efficiency Technology” in Japan, not in Russia?

- It is because of “Already Depreciated Facility & Low Domestic Fuel Price”

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<th>OPEX 100</th>
<th>Cost of Generation</th>
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<td>Super Efficiency in Japan</td>
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<td>OPEX 21</td>
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“α” is very small because of Old Facility already depreciated

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<th>OPEX 30</th>
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<td>CAPEX 105</td>
<td>OPEX 21</td>
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- However, “Saved Fuel Quantity” is the same in Russia and Japan

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<th>Conventional in Russia/Japan</th>
<th>Super Efficiency in Russia/Japan</th>
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<td>70%</td>
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“Saved Fuel Quantity” can increase Russian LNG Export Revenue ⇒ A new mechanism for appreciating this "Value –addition" should be established

- Super Efficiency technology needs “Capacity Payment Scheme” for Investment Incentive & “Added-Value” for Saved Fuel Q’ty

Thank you for your attention!!

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