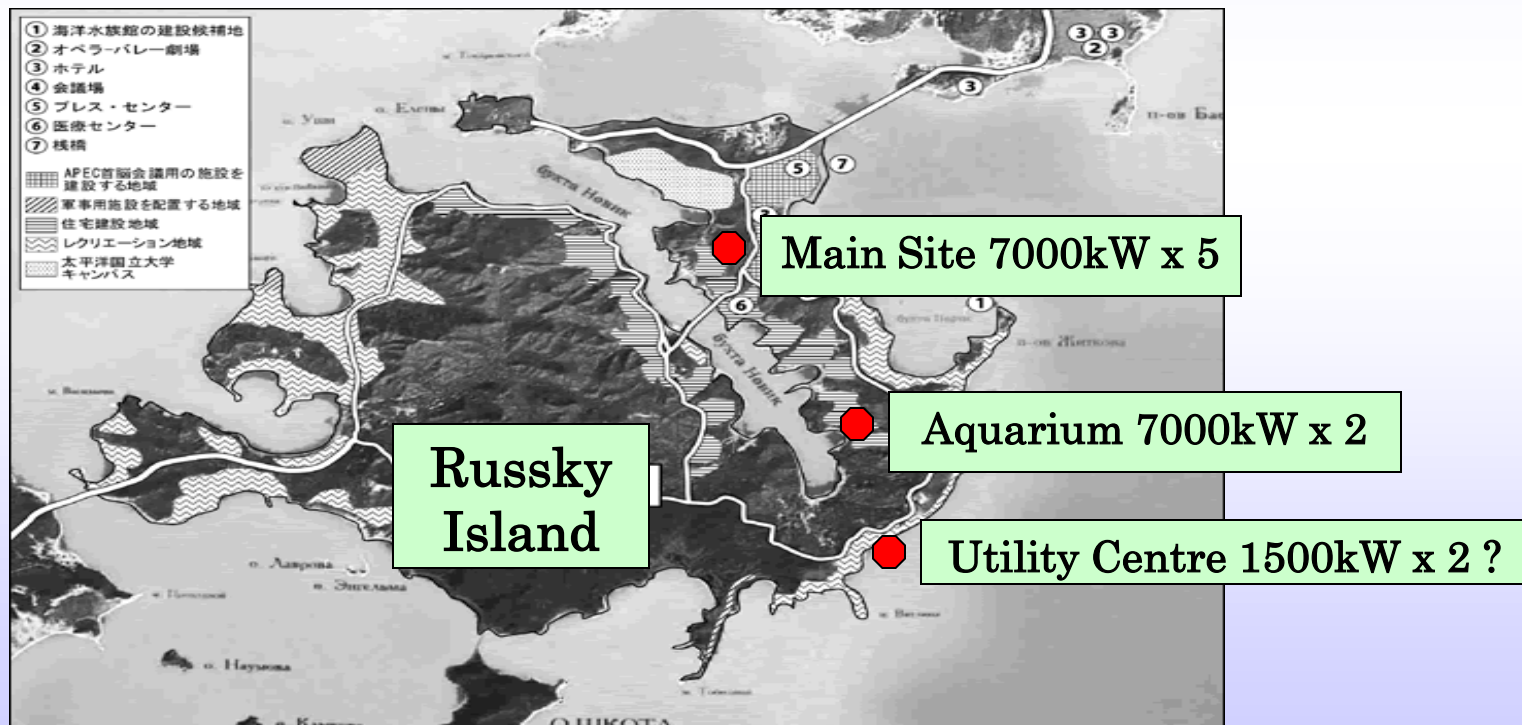


Cogen Plant Construction Collaboration in Far East Russian Towns & Villages along with Far East Gas Pipeline by Sojitz/Kawasaki/FEC Russia



Kawasaki received 7 orders GPB70D for APEC through Sojitz

7x7000KW Class Gas Turbine Generator Cogen Plants for
APEC summit 2012, held on Russky Island in Vladivostok
are under delivery with options for Utility Centre .



Kawasaki Baseload Models

**GENSET
MODEL**

**Gas Turbine
MODEL**

**OUTPUT
Of Electricity**

**Efficiency e
In Electricity, BUT**

GPB15D

M1A-13D

1490 kWe

24.0 %

GPB17D

M1A-17D

1690 kWe

26.6 %

GPB70D

M7A-02D

6740 kWe

30.2 %

GPB80D

M7A-03D

7440 kWe

33.1 %

GPB180D

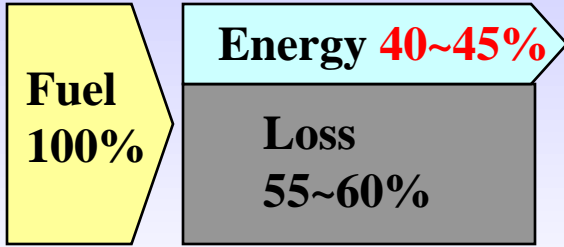
L20A

18420 kWe

34.2 %

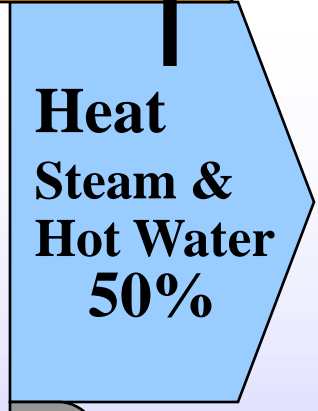
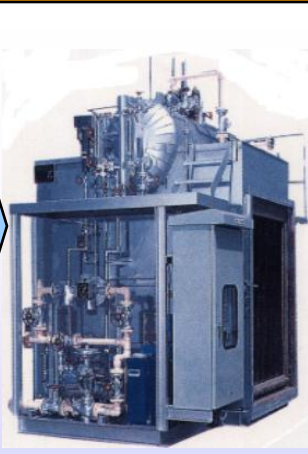
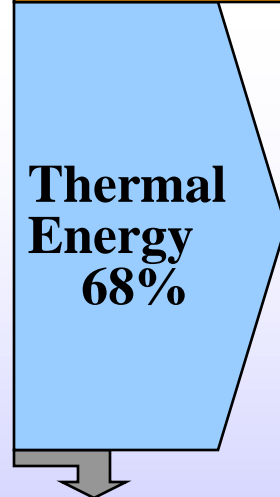
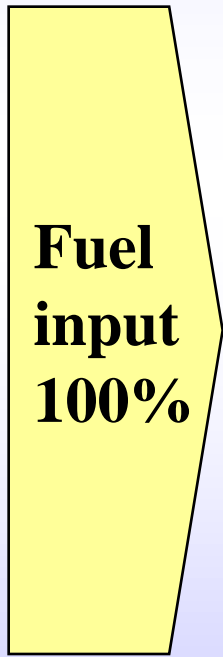
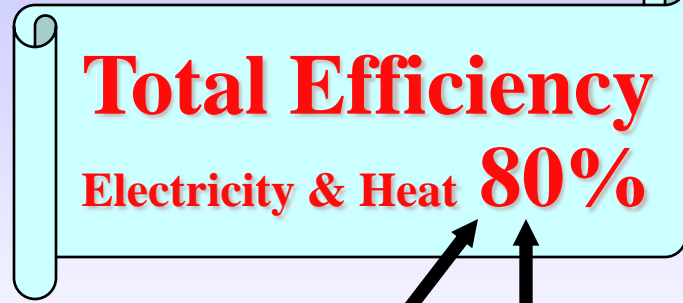
Basic Concept of GT Cogen System

Present Russian Far East



**CO2
Reduction
Also!!**

A green arrow points from the 'Total Efficiency' box towards the 'CO2 Reduction' text.



REFERENCE ONLY

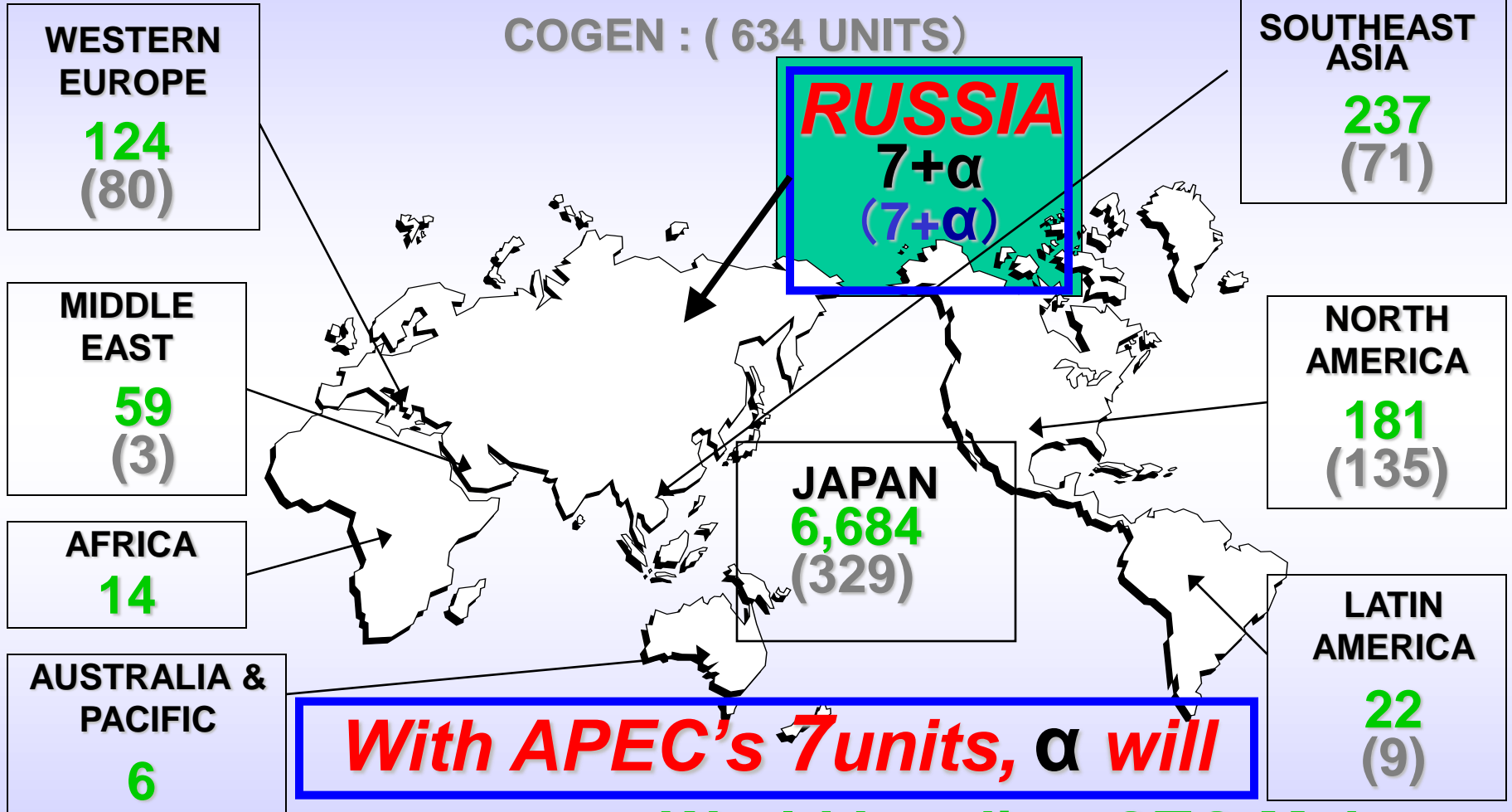
Radiation Loss 2%

Exhaust Loss 18%

Kawasaki GTG / Worldwide Installations (as of Oct, 2010)

TOTAL : 7,334 UNITS

COGEN : (634 UNITS)

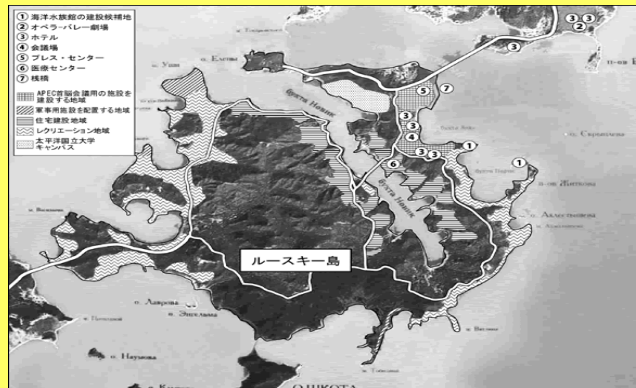


World Leading GTG Maker

In 1,000kW ~ 10,000kW class

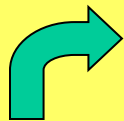
Notes : Figures in brackets are for Cogen.

Sojitz received 7 orders of Cogen Main Equipments' Supply for APEC 2012 from Far East Generation



Export to Russia

as Main Contractor

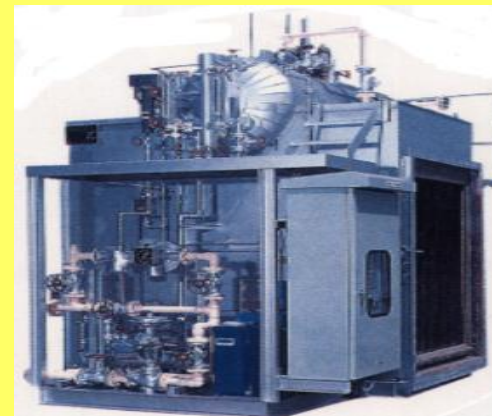


From Japan



Gas
Turbine
Generator

From Europe

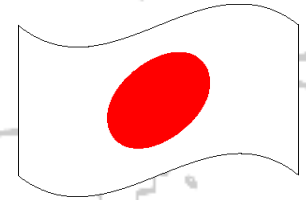


Hot Water
Boiler
with BOP

**Sojitz has Significant Experience in Russia,
including Far Eastern Region for a long period.**



Main Activities:



- 1) Professional Services such as Project Finding,
Project Creation/Matching, etc.**
- 2) Project Co-ordination, such as Financing &
National/Local Government Support, etc.**
- 3) Signing Contracts and Establishment of
the Best Relationship with Partners**

Sojitz Found:

1. Construction of SKV (Sakhalin-Khabarovsk-Vladivostok) Gas Pipeline within 2011
2. Many old boiler houses in Russian Far East along with the gas pipeline.
3. New Russian **Legal Framework for Co-Generation System** adopted for “**High Efficient Use of Energy**”
4. **FEC’s Co-Generation Projects**
5. **Construction Plan of Co-Generation Plants Factory** in Khabarovsk by XGTZ (Khabarovsk Gas Turbine Cogen Plant Factory)

Conclusion :

Collaboration with Kawasaki, EuroAsiatics and FEC (EIG) on the Co-Generation Project will create **Great Success** for all of us in Russian Far East.

Sojitz / EIG, an affiliate, of FEC signed Contracts today !



1) 2 x 1500kW Cogen main equipments' supply
for 1st Pilot Plant of FEC Project with Kawasaki GPB15Dx2

2) 3 x 7400kW Cogen main equipments' supply
for 2nd Pilot Plant of FEC Project with Kawasaki GPB80Dx3



3) 30 x Cogen main equipments' supply
for 1st Phase of FEC Project with Kawasaki GTGs

4) Feasibility Study of projects in Khabarovsk
with Kawasaki & EuroAsiatic/boiler BOP supplier



FEC, the Far Eastern Center for Strategic Research on Fuel and Energy Complex Development

FEC was established in Vladivostok under the Presidential Executive Office by the Joint Council of Far Eastern Federal District in 2004.

FEC's Task: Far East Russian Energy Sector's

- **Education**
- **Establishment of Strategic Plan**
- **Research of Resources**
- **Fuel Energy Strategic Development, etc.**



**FEC is going to Save Energy & Save our Earth by
On-Site Heat & Power Cogen
in Russian Far East together with Sojitz & Kawasaki.**

There are many boiler houses in the Far East and more than 60% of them are old & non-efficient.

**If we change those to On-Site Heat & Power Cogen,
we can save energy very much.**

**In case of Khabarovsk, with one Kawasaki GPB15D,
we can save, 10.3 million RUB ~ 18.5 million RUB/year
and also, without saying, we can reduce CO2 emissions.**

The GazProm's Eastern Gasification Program implementation

will create significant demand from 2012
for Modernization of
several hundred Old Boiler Houses into
Gas Turbine Cogeneration Stations
nearby main gas pipelines

along with Sakhalin – Khabarovsk - Vladivostok

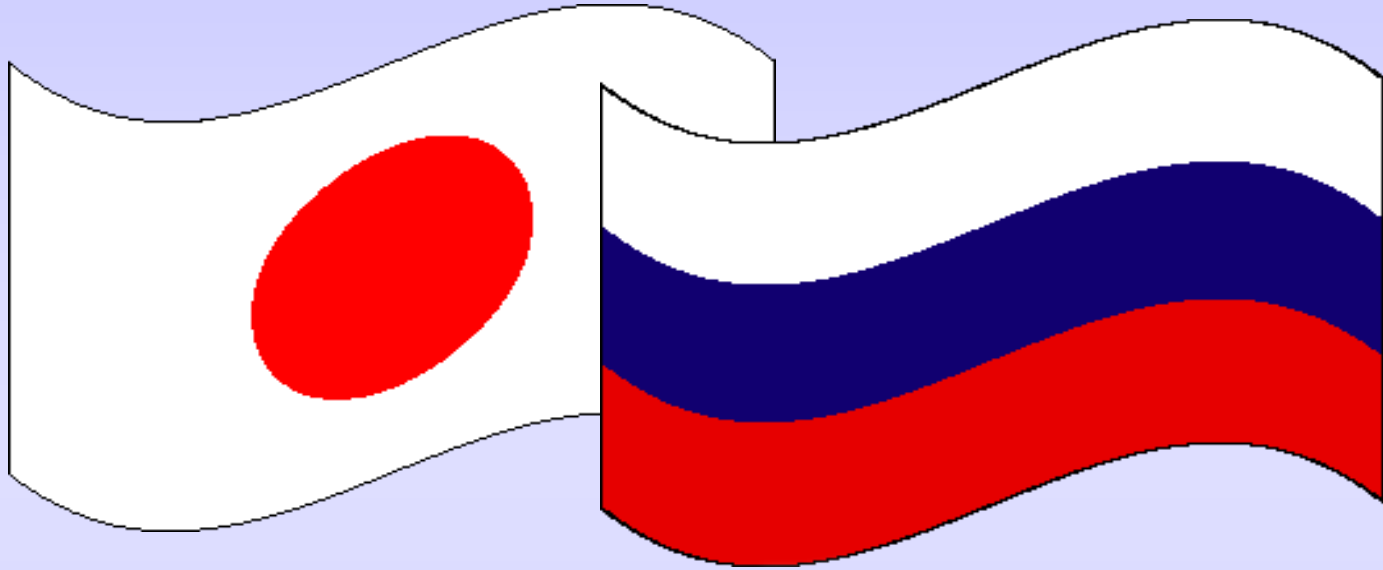


FEC is going to establish
Factory for Gas Turbine Cogen Plants
in **Khabarovsk**

&

FEC & Sojitz are going to establish
Engineering & Design Company
in **Vladivostok**

Let's Save Our Earth Together!



**By On-Site
Heat and Power
GT Cogen
Most suitable
to Russia**

