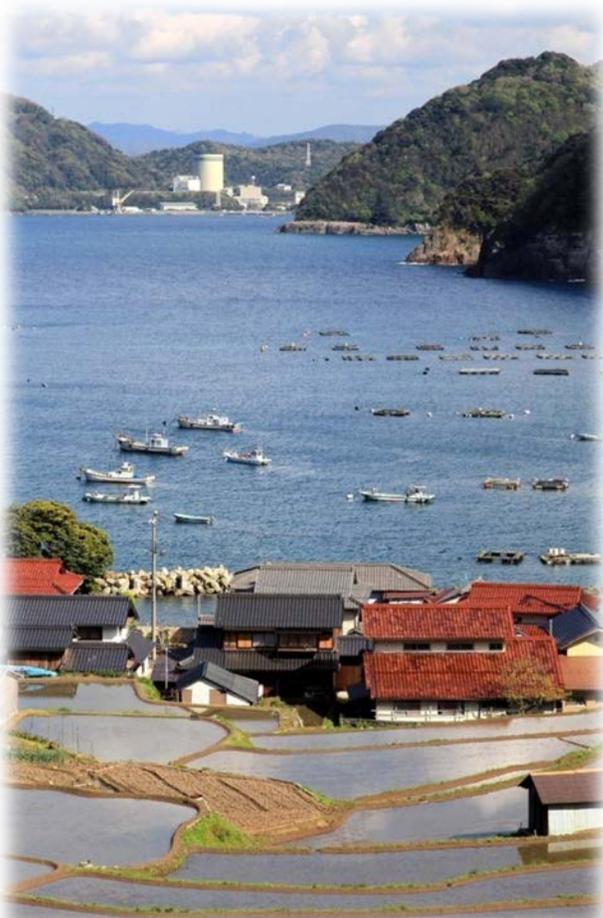


# Strategic International Cooperation of Fukui Pref. Gov. in Human Resource Development for Nuclear Power Programmes



**“International Conference on Human Resource Development for Nuclear  
Power Programmes: Building and Sustaining Capacity”  
12<sup>th</sup> May 2014  
Issei Nishikawa, Governor of Fukui Prefecture**

# Nuclear power plant in Fukui

Operational  
(Operation currently stopped)

Undergoing performance test

Under planning

Decommissioning

The Kansai Electric Power Co. Inc.  
Mihama NPP

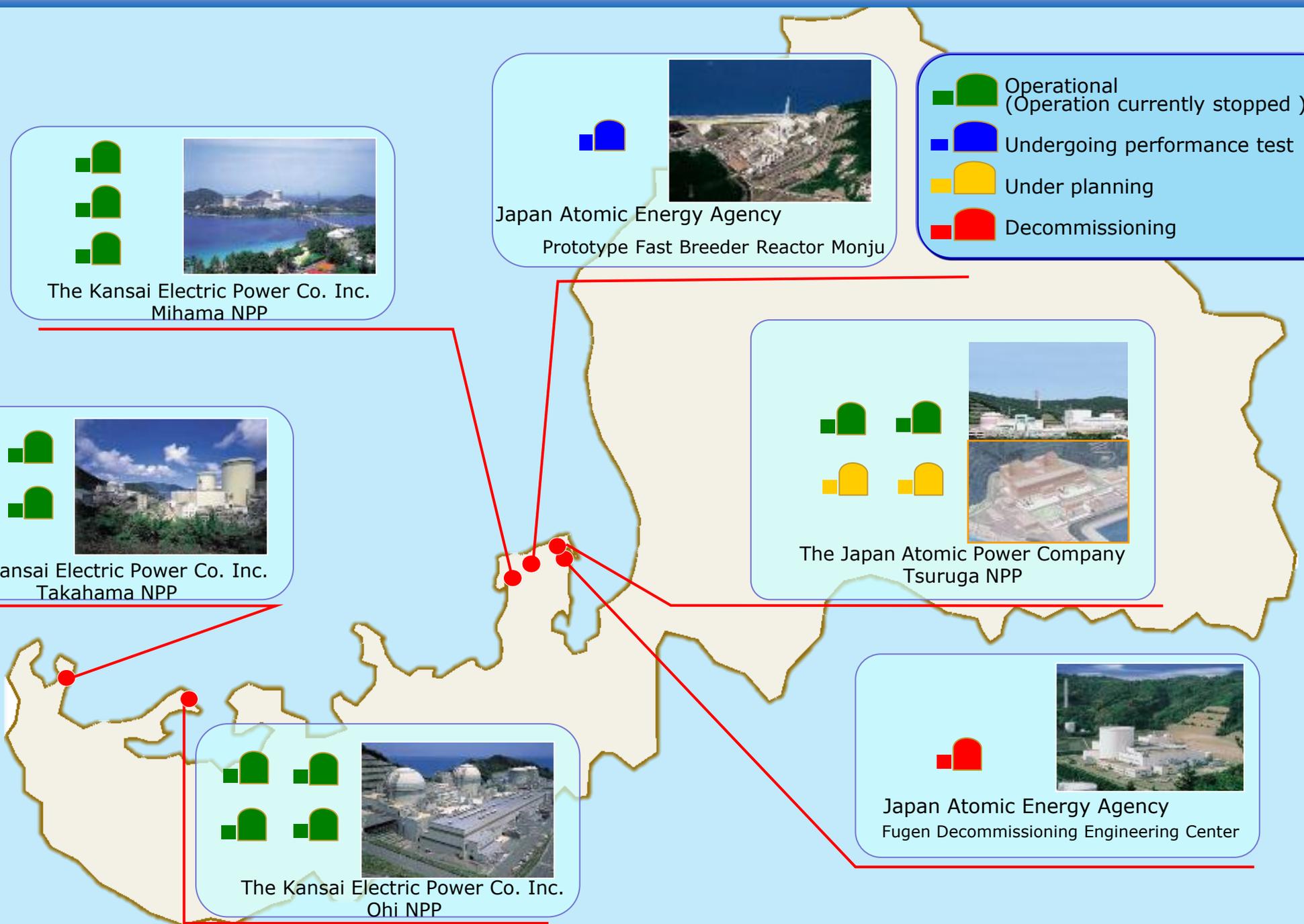
Japan Atomic Energy Agency  
Prototype Fast Breeder Reactor Monju

The Japan Atomic Power Company  
Tsuruga NPP

The Kansai Electric Power Co. Inc.  
Takahama NPP

Japan Atomic Energy Agency  
Fugen Decommissioning Engineering Center

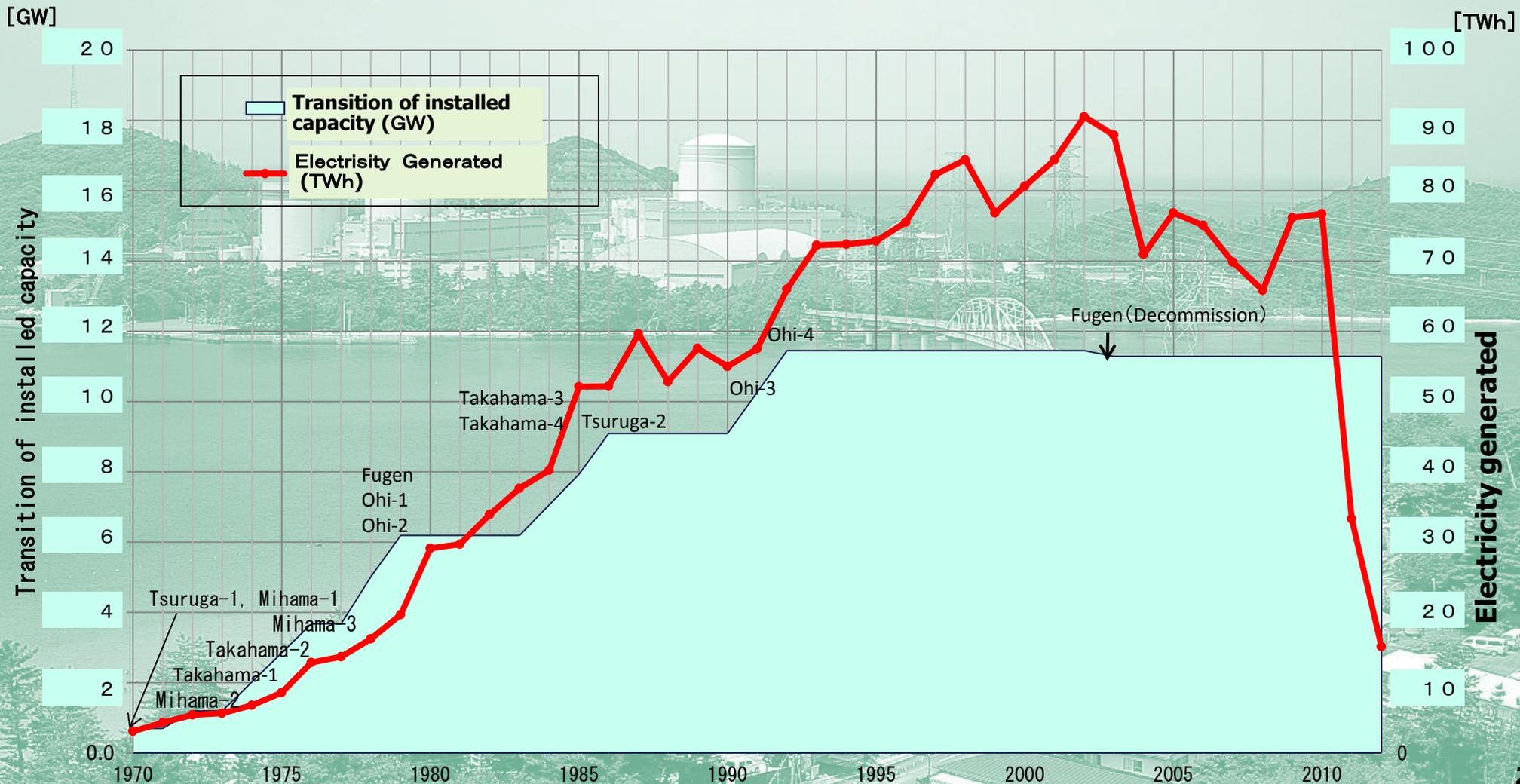
The Kansai Electric Power Co. Inc.  
Ohi NPP



# Trend of Nuclear Power Generation in Fukui

## The greatest power supply area in Japan

- Amount of electric power generation by 13 NPPs. **11.28 GW**
- About **1/4** of nuclear power generation in Japan
- About **1/2** of power consumption of Kansai area before Fukushima Accident



## History

- 1970 First NPPs started operation in Fukui
- 1972 Employ nuclear power specialist  
(earliest in Japan)
- 1977 Set up the Nuclear Safety Division  
(earliest in Japan)
- 2001 Dispatch technical staff  
to the Nuclear and Industrial Safety Agency,  
METI (until May 2005)
- 2005 Accept technical staffs from NISA
- 2006 Dispatch technical staff to OECD-NEA  
(until July 2010)

# Organization for Nuclear Safety Management System of Fukui Pref.

Governor

Department of Public Safety and Environment

Technical Staff :22  
Office Staff :10

Nuclear Safety Division

[TS:2 OS:2]

Coordination Group

Publicity for safe use of nuclear power [OS:3]

Safety Measurement Group

Safety measures for nuclear plants [TS:6]

Reactor Decommissioning and  
New Power Sources Policy Office

Provision for decommissioning [TS:2,OS:3]

Center for Monitoring the Effects  
on Nuclear Energy on Environment

Environmental monitoring and research  
[TS:6,OS2]

Fukui Analysis Room

Radiation measurement and analysis [TS:6]

Crisis Management and  
Disaster Prevention Division

Nuclear Disaster Prevention Group

General coordination for nuclear disaster  
prevention measures [OS:5]

# Restarting the Ohi Nuclear Power Plant after the Fukushima Accident

- March 2011 Fukushima nuclear power plant accident
- May 2012 All 50 NPPs in Japan stopped operation
- June 2012 Prime minister decided to resume operation of Ohi No.3 & 4 units  
Governor of Fukui Pref. requested the government to set up a “special monitoring system”
- July 2012 -Sep.2013 Ohi No.3 & 4 units resume operation



By taking every precautionary measure and proceeding carefully, we showed that safe operation was possible while meeting the electricity demand of the kansai area



Governor Nishikawa and the Chairman of the Nuclear Safety Commission inspecting the Ohi NPP(12 June 2012)

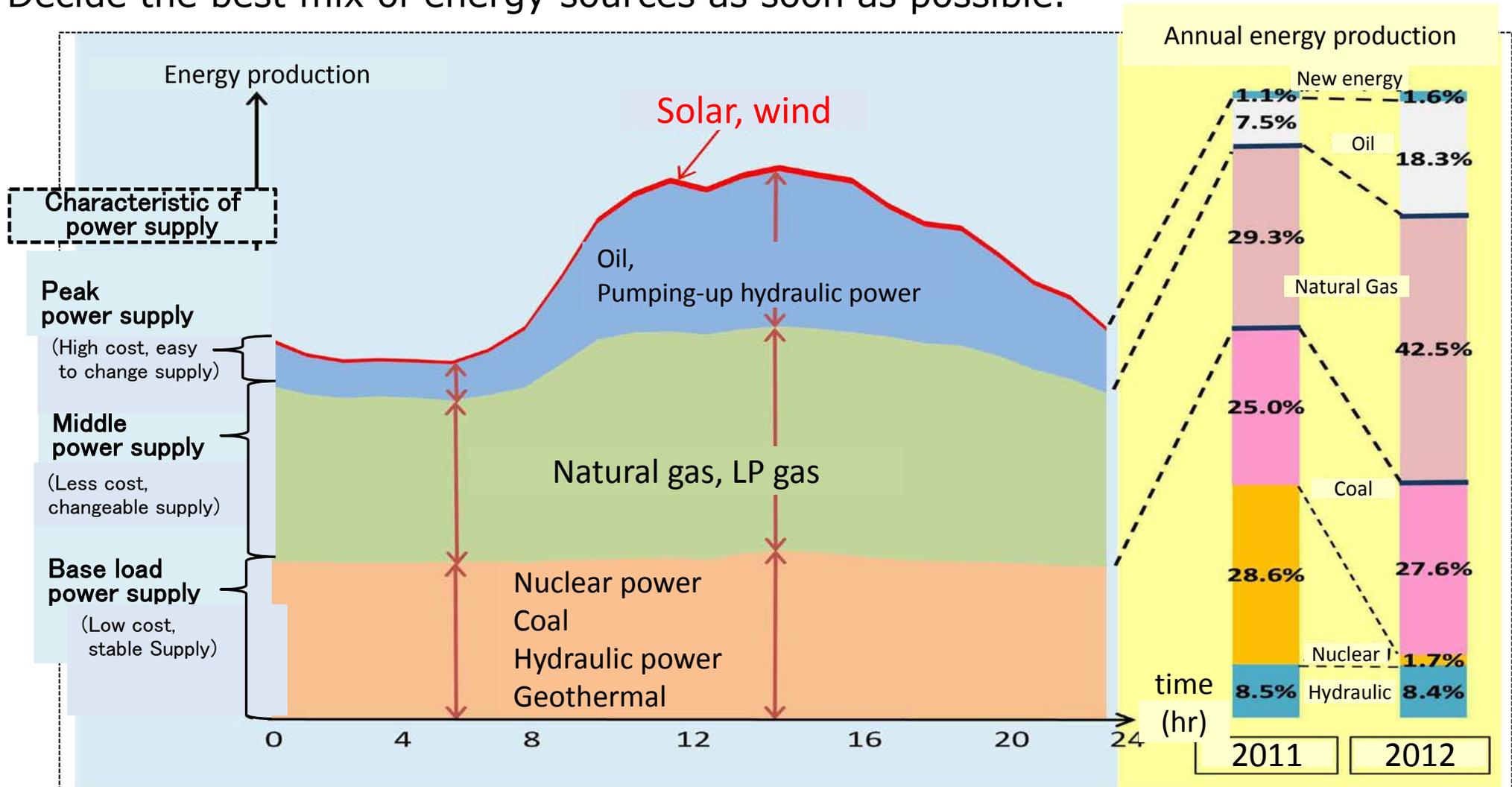


Governor Nishikawa requesting to Prime minister Noda to set up a “special monitoring system”(16 June 2012)

# Japan's new "Basic Energy Plan"

Approved by Japanese Cabinet on April 11<sup>th</sup> 2012

- Nuclear Energy is an important "base load power supply"
- Restart NPPs that adhere to the world's strictest regulation standards.
- Reduce dependence on nuclear power as much as possible.
- Ascertain the scale of steady supply, cost reduction, global warming, ensuring safety.
- Decide the best mix of energy sources as soon as possible.



# Characteristics of training program in Fukui

## On-site training(example)

Visit plants of various reactor types (rarity in the world)



Ohi NPP (PWR)



Tsuruga NPP (BWR)



Monju (FBR)



Fugen (ATR)

From construction to decommissioning of nuclear facilities  
Experience the livelihoods of people coexisting NPPs



Construction site of a latest model NPP (APWR)  
(Tsuruga NPP Units 3 & 4)



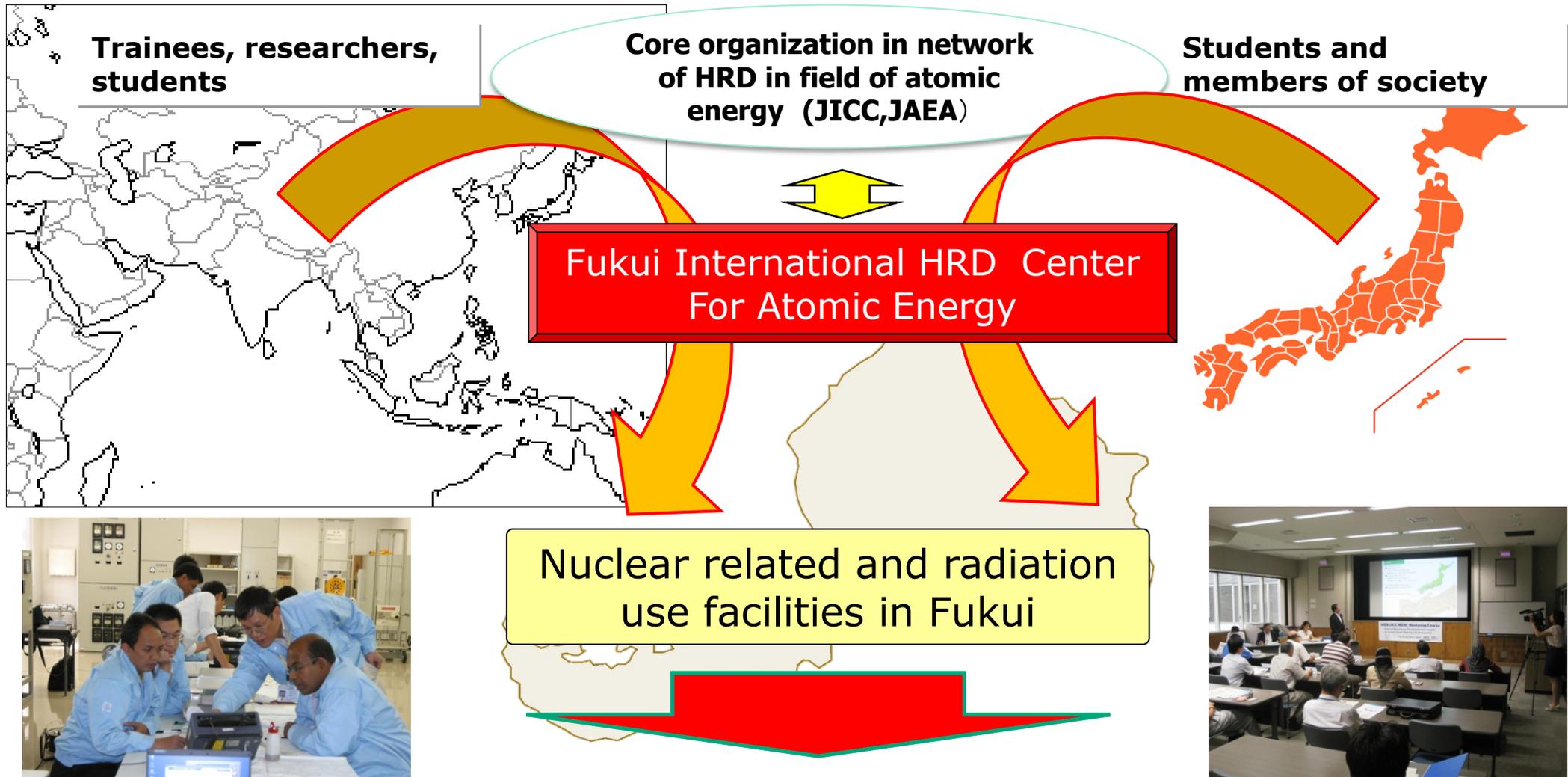
Demolition work site of a NPP  
(decommissioning Fugen)



Tourists enjoying swimming at a beach close to NPP  
(Mihama NPP)

# Activities of international human resource development for nuclear energy in Fukui

We form a base for international nuclear human resource development in Fukui



We contribute safety technology advancement and HRD to countries planning to introduce nuclear power or radiation use.

# Signing Practical Arrangements between Fukui Pref. and IAEA

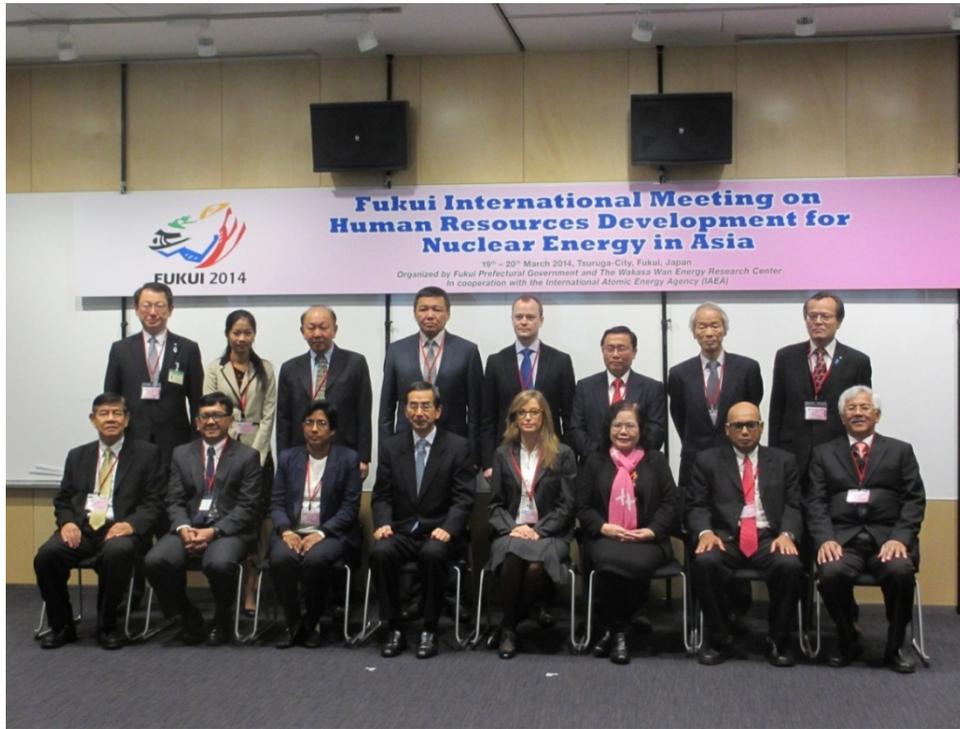
**Purpose** :HRD in the field of safe use of nuclear energy and applications, by utilizing facilities and human resources in Fukui

**Scope** :Assistance in training, disseminating information, exchanging experiences, etc.



Signed between Mr.Amano, DG, IAEA and  
Mr.Nishikawa, Governor, Fukui Pref. 7 October 2013

# Cooperation with the IAEA: Nuclear Power



Holding a international conference

## **Fukui International Meeting on HRD for Nuclear Energy (March 2014)**

Held by Fukui Pref. & WERC  
In cooperation with IAEA  
5 Asian countries & IAEA Participated



Implementation of training programs

## **Mentoring Course (July 2013) Nuclear Policy School (February 2014)**

Held by IAEA, JICC & WERC  
10 Asian countries Participated

# Cooperation with the IAEA: Radiation Application

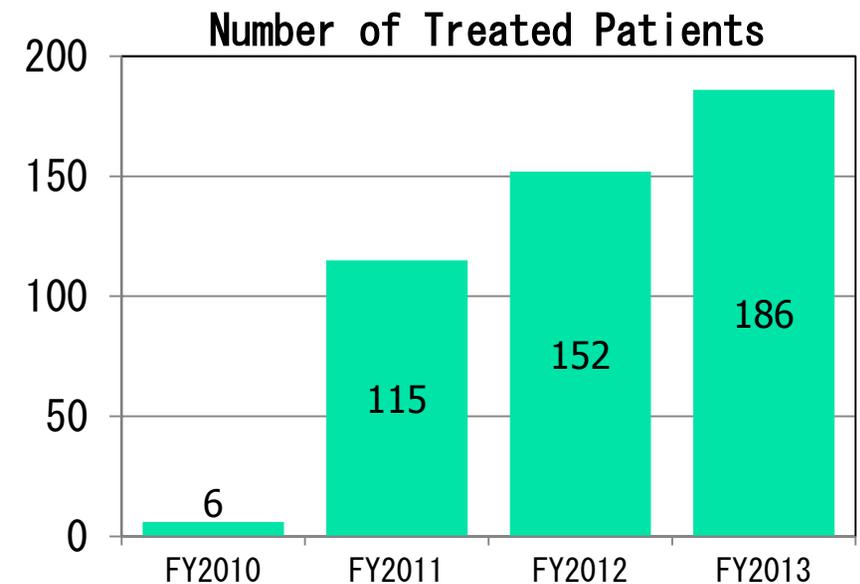
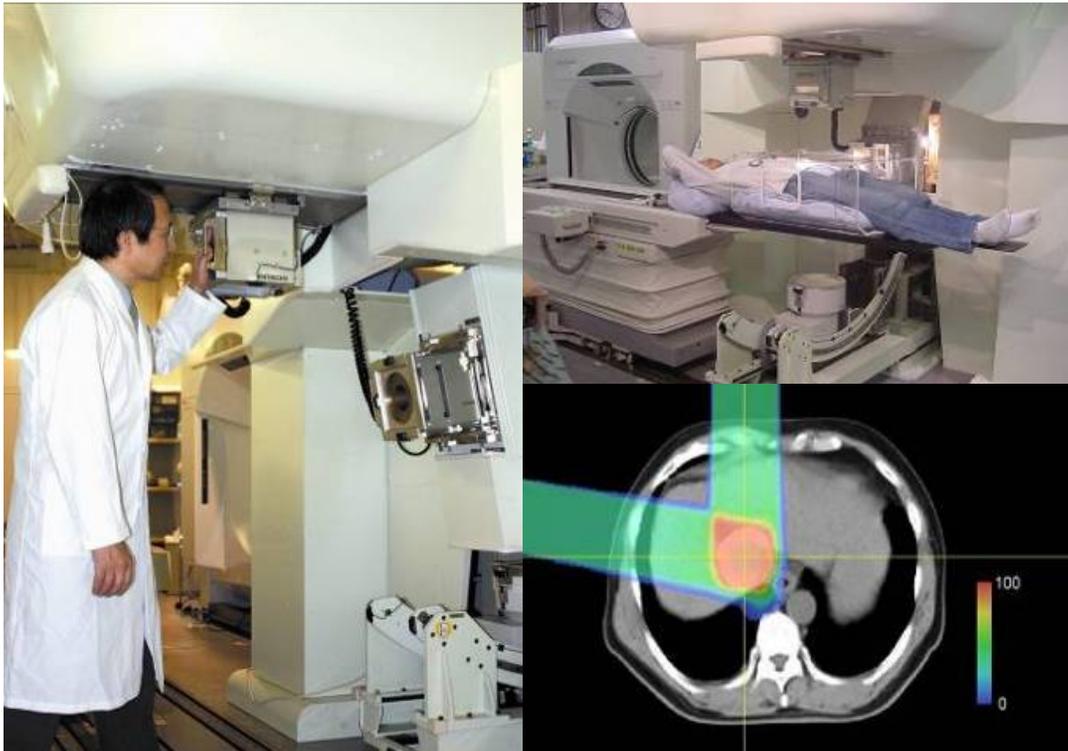
## Radiation Cancer therapy technique by using proton beam accelerator

### Proton Therapy Center in Fukui Prefectural hospital

Since March, 2010

Target Disease : Solid tumors of head and neck, lungs, liver, prostate, etc.

Number of treated patients : 459 as of March,2014



# Cooperation with the IAEA: Radiation Application

## Advanced Medicine by PET and MRI

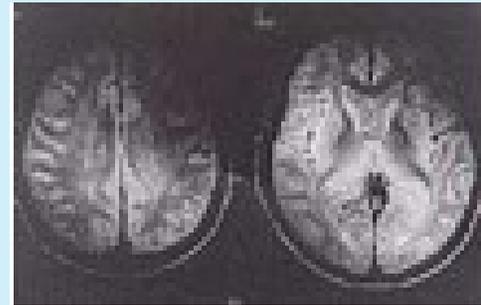
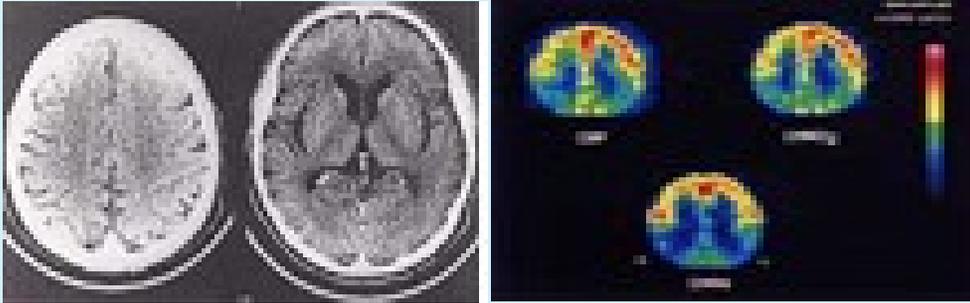


Image diagnostic technology  
X-ray CT (Upper left)  
MRI (Lower left)  
PET (Above)



**University of Fukui  
Biomedical Imaging Research Center**

## Selective Breeding Research



Conventional Improved

Improved tomato  
(Sweeter, lower suberin content,  
and resistant to disease)



Conventional Improved

Improved green soybean  
(Increase in grain size)



**The Wakasa Wan Energy Research Center**



# Experience Fukui !



**Fukui Prefectural Dinosaur Museum**  
in Katsuyama City



**WASHOKU,**  
**traditional Japanese cuisine**  
made with rich, natural ingredients of Fukui