

# Renewables in Japan

**Impacts of the International Renewable Energy Policy Process  
REN21, 13-14 DEC 200 UNEP/DTIE Office, Paris**

Mika Ohbayashi

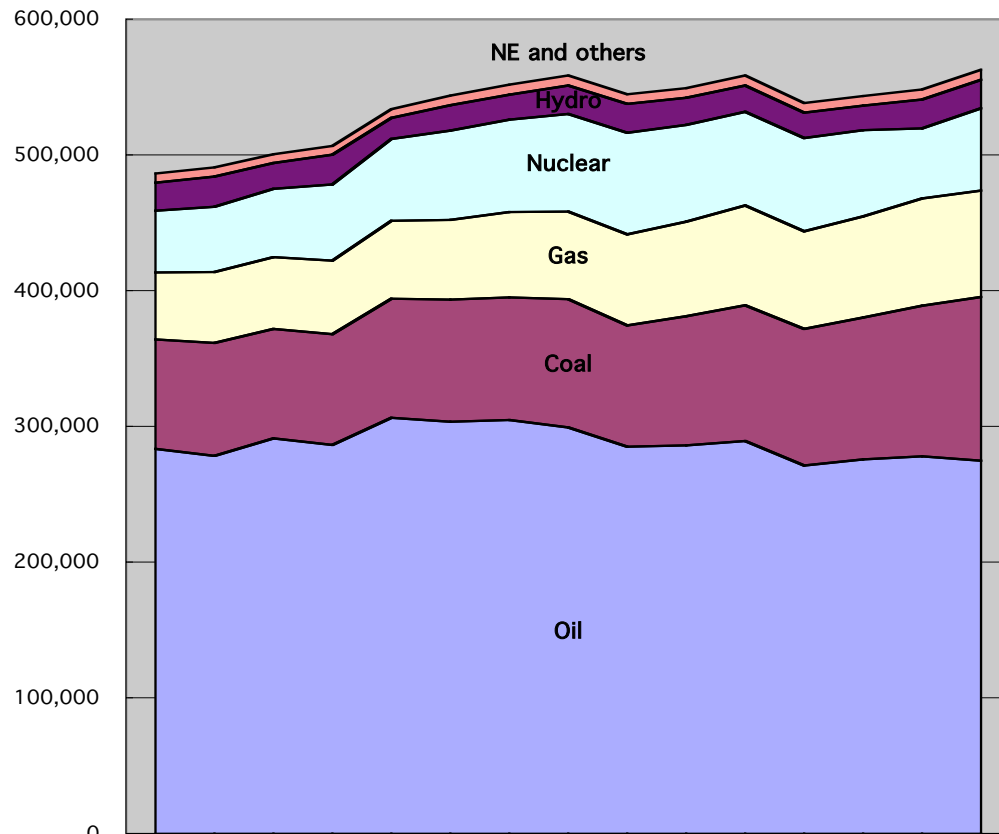
Director, Institute for Sustainable Energy Policies

Vice-chair, Green Energy “Law” Network

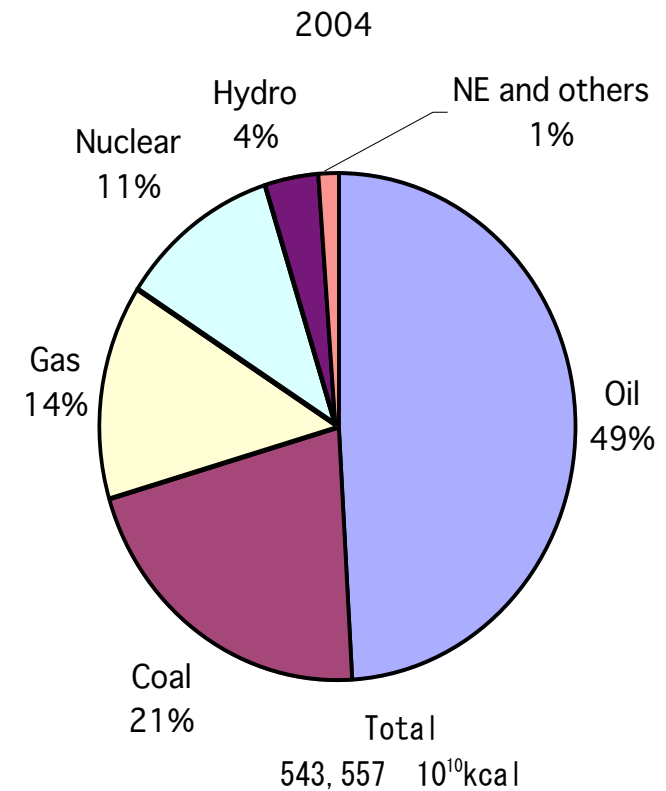
JAPAN

# Renewables in JAPAN, 2006

Primary Energy Supply in Japan:1990-2004 (10<sup>10</sup>kcal)



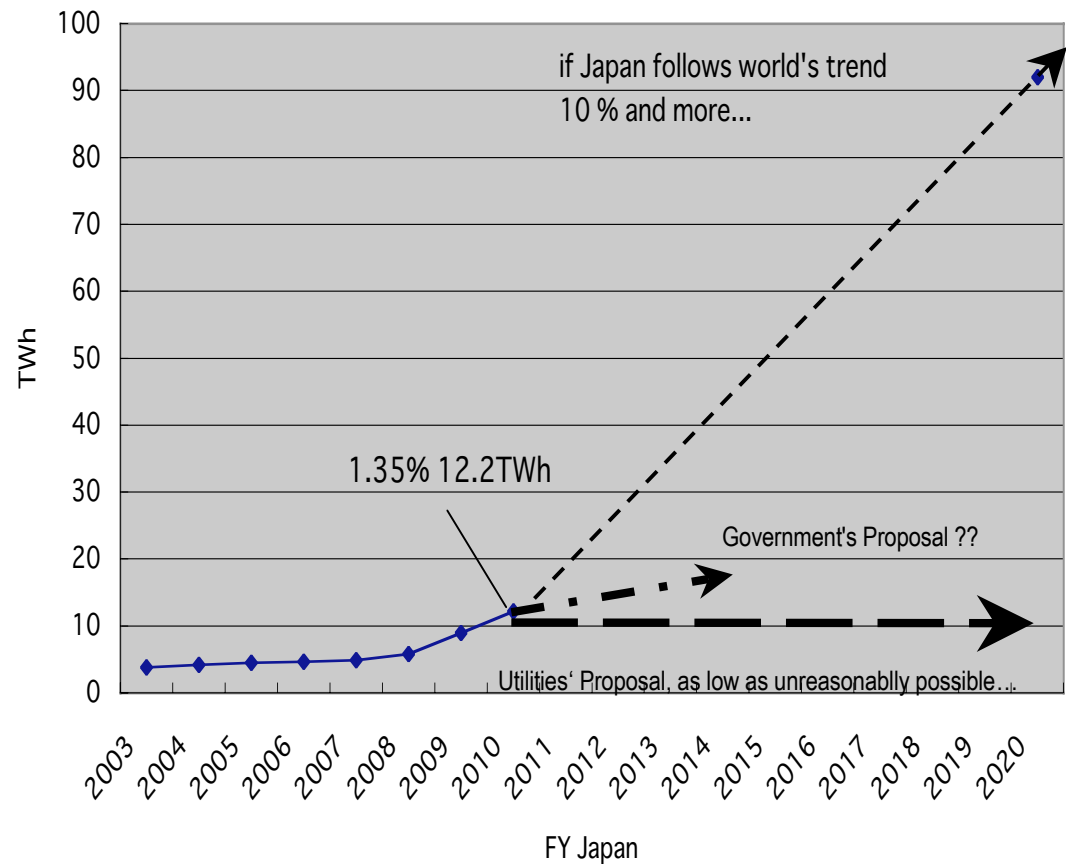
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NE and others	6,691	6,739	6,603	6,373	6,498	7,081	7,320	7,613	7,142	7,257	7,234	7,025	7,114	7,435	7,276
Hydro	20,512	22,400	18,938	22,008	15,403	18,888	18,487	20,948	21,447	19,870	19,253	18,637	18,174	21,248	20,964
Nuclear	45,511	48,028	50,233	56,083	60,554	65,532	67,995	71,815	74,777	71,239	69,241	68,770	63,445	51,603	60,725
Gas	49,284	52,086	52,941	54,160	57,480	58,927	63,026	64,650	66,995	69,749	73,398	72,002	74,321	78,964	78,427
Coal	80,754	83,188	80,787	81,551	87,474	89,899	90,329	94,329	89,278	95,322	100,22	100,77	104,79	111,00	120,62
Oil	283,55	278,52	291,27	286,59	306,57	303,58	304,78	299,45	285,27	286,03	289,20	271,14	275,67	278,092	274,76



# Renewables in JAPAN, 2006

- ◆ The amount of introduction is still dull.
- ◆ Currently, the discussion to revise the target in FY2014 is undertaken
  - 1.35% → 1.5 or 2.0%?
  - ..anyway, a situation practically equal
- ◆ Huge resistance from utilities
  - More than 98% of electricity market is still occupied by utilities
- ◆ We only talk about electricity but not about RES in heat/fuel.
- ◆ Emission of GHGs increased 8.1% from 1990, 1.3 bt in 2004

RPS, current target and future targets?

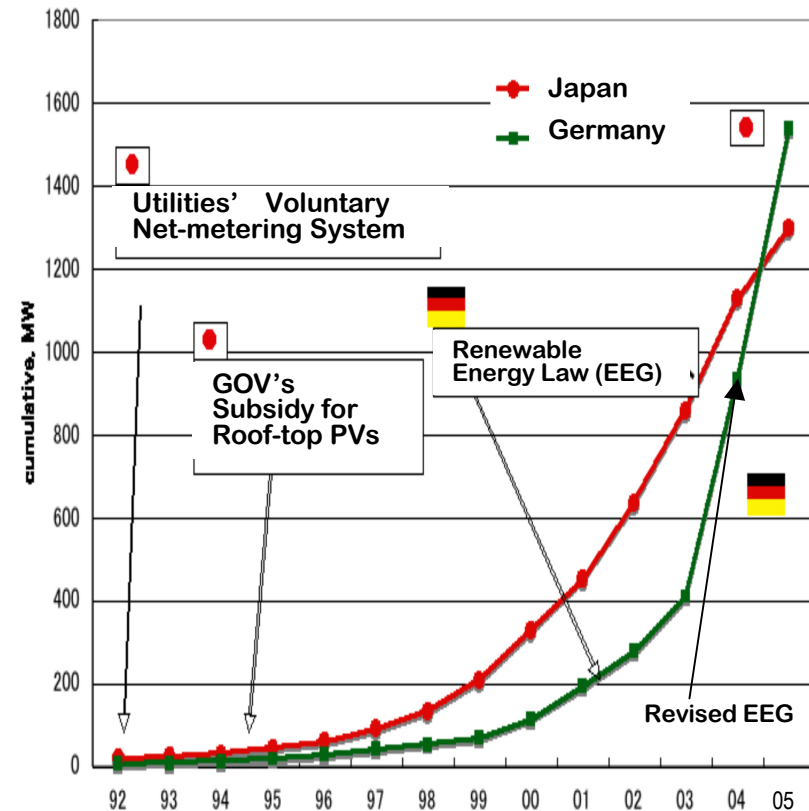


# Renewables in JAPAN, 2006

## PVs

- The end of governmental subsidy in this March, decreases a signal of “this is a promoted energy” in the market, even though the amount of the subsidy was so low (125 Euros/kW) at last.
- The end of utilities’ voluntary net-metering system “purchase of electricity surplus menu” will may occur. This program has substantially supported the growth of PV market.
- Corresponding to the demand concentrated in Europe, Japanese PV manufacturers shifted their attention to Europe. The domestic market are almost neglected.

**Future:** The national target of 4,850 MW by 2010 is far from achievement. Destructive situation will be brought if voluntary net-metering system is abolished or the price reduction is determined.



Source: Tetsunari Iida, 2006

# Renewables in JAPAN, 2006

Source: Tetsunari Iida. 2006

## Wind Power

- RPS became “fettters” for the introduction of wind power. Regional potential gap by each utility.
- Utilities claim "influence to the grid system” and set severe restrictions on introduction of wind power.
- “Kairetsu” - order to stop power generation and storage battery has become rule of introduction.
- ”An application" is performed by a bid and the lottery, a business plan became unstable.



## Bidding Situation for MW Wind

Hokkaido Electr	250MW	No bidding in FY2004/2005, in 2006, 50MW with Oder to Stop /Batteries (only for electricity, about 2.2
Tohoku Electric	470MW	No bidding in FY2004/2005. In 2006, they announced to call for 380 MW as a total in future with Oder to Stop /Batteries (only for electricity, about 2.2 EC/kWh)
Hokuriku Electri	100MW	Set 150 MW limit as a total
Chugoku Electri	300MW	No bidding in FY2005, in 2006, call for 50MW ((only for electricity, about 2.2 EC/kWh)
Shikoku Elecric	200MW	No bidding since 2004, set 200 MW limit as a total
Kyushu Electric	400MW	currently, about 60MW/year bid is called, set 700MW limit as a total

**Future:** The tragic state of the wind power--the national target of 3,000 MW in 2010 seems hardly achieved with introducing order to stop generation and a storage battery.

# Renewables in JAPAN, 2006

## Renewable is domestic policy:

### Situation of Energy Policy in Japan -- a dark age for renewables

- Ministries without the policy capability and world common sense;  
Insisting low increment of 1.35% is a global standard “if big hydro power is put in”  
“New Energy” category-- power generation from waste incineration is included in, existing 520 MW of geothermal and <1MW of small hydro are excluded from RPS
- Powerful METI and MoFA which has no interest in Environment... MoE has no power
- Huge political domination by utilities and heavy industries;  
Spread of a rumor: the myth of “Stable Supply of Energy” --wind power less than 0.1% disturb the grid system?  
Influence on the parliament---by running elections to the Diet  
Now, it is re-shifting to the nuclear energy policy

RES in Outlook for Energy Demand and Supply in 2030, METI, March 2005

	Primary Energy	Electricity
	billion little oil equivalent	TWh supplied by utilities
Reference Case	27 (4.4%)	10 (0.9%)
EE Case	27 (5.0%)	10 (1.1%)
New Energy Case	46 (7.6%)	40.3 (3.7%)
EE+High Growth+Nuclear Low	27 (4.8%)	10 (1.0%)

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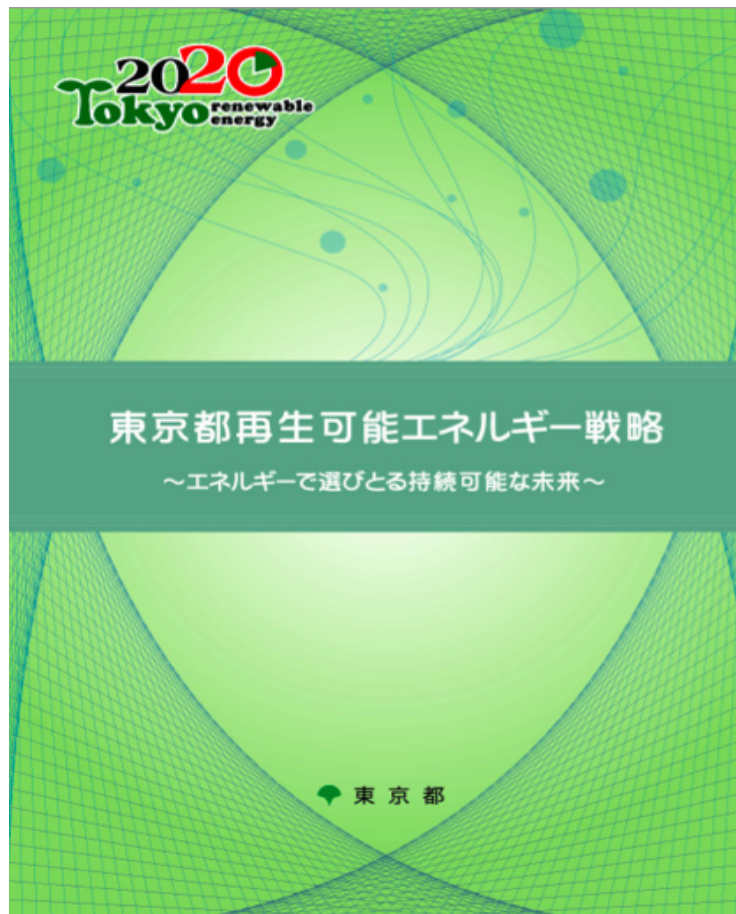
## Beyond the government: Innovative "local energy policy" emerges

Tokyo Renewable Energy Strategy:

Sustainable Energy Future through Energy: 20% of RES in 2020

Green Power Purchase through electricity bidding -> becoming national level policy

European Type Energy Efficiency Label -> became the national label



### 3.4 東京がめざす再生可能エネルギーの利用目標

(1) 東京の再生可能エネルギーの利用目標

先に述べた視点から、東京の利用目標を次のように提起する。

2020年までに東京のエネルギー消費に占める  
再生可能エネルギーの割合を  
20%程度に高めることをめざす

本戦略での利用目標の提起を契機に、広範な議論を進め、平成19年度に改定を予定している東京都環境基本計画の中で、エネルギー消費量及び二酸化炭素排出量の中長期的な削減目標等の検討と合わせて、具体的な再生可能エネルギーの利用目標値を決定していく。

(エネルギー総量の削減)

2020年に20%程度という目標は、現在のエネルギー消費の大きさ、消費のあり方をそのまま前提として、単にその一定割合を再生可能エネルギーに置き換えることではない。

まず現在のエネルギー消費そのものの必要性や効率性を徹底的に見直す省エネルギー化を進め、同時にパッシブエネルギーを活用するなどエネルギー消費の削減努力を行わなければならない。その上で、本当にエネルギーの消費が必要な部分について、再生可能エネルギーの利用を進めていくことが重要である。

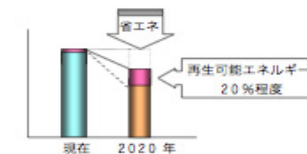
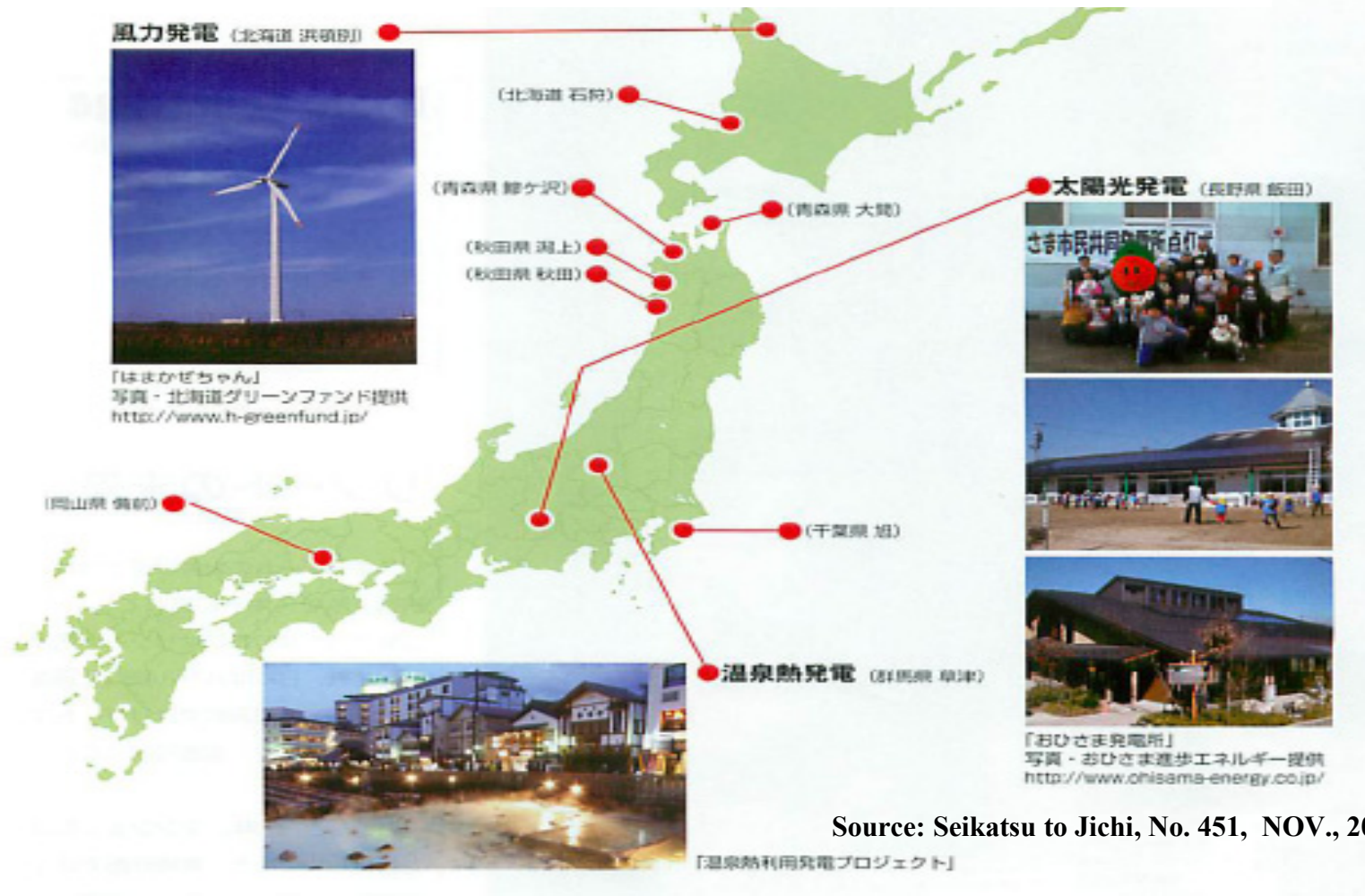


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# Renewables in JAPAN, 2006

## Beyond the government: Innovative "local energy policy" emerges Renewable Energy Community

- Citizens' Initiatives of Local RES: 10 wind turbines--12 MEuros, big solar PVs --1.6 MEuros, green heat stoves, hot-spring Karina cycle generation.



Source: Seikatsu to Jichi, No. 451, NOV., 2006



# Impacts of International Movements to Renewables in JAPAN

However, Johannesburg and Bonn 2004 gave the big impacts to the inner circle.

- Japanese government:

The “shock of Johannesburg” leads to acknowledgement of renewable energy target

Johannesburg’s “bad memory” is under eradication

At the Bonn2004, they were not main speaker but not were huge opponents either

and, because of RPS introduction, the promotion of renewables could have status inside the ministry

- NGO use this opportunity to raise the political awareness

Series of meetings and conferences were held related to Bonn2004

Great influence to Diet members

June, 2005 ,

the Asia-Pacific Parliamentary Conference were held.

Some of them participated in BIREC.



Note: The touched-off publishing company published “The Renewable Energy Market”

# Impacts of International Movements to Renewables in JAPAN

- CSD15  
Use this opportunity to put RES as a main agenda in national strategy  
Encourage new Minister of Environment to get interests in RES
- G8 and the report back of Gleneagles in 2008  
Japan put the higher priority to G8 than other G8 members.  
This is an essential chance to put climate change/RES promotion into the Ministers' and the Prime Minister' s minds.
- Coalition of NGOs propose 20% of RES in 2020.  
Introduction of new scheme into RES policy besides RPS. e.g., not only utilities but encourage other industries to buy credit from renewables for reduction of GHGs





# Renewables in JAPAN for Future

In long term, a domestic political situation needs to be radically reformed.

But do not let Japan become alone in international community

Continue to give Japan a positive signal on RES.

**“It is profitable”**

## **Domestically we need to;**

Raise public awareness on urgency of climate change...also peak oil.

Encourage Ministry of Agriculture to put RES in their main agenda and to cooperate with MoE

Encourage the RES discussion in the Parliament

re-activate the parliamentarians network, getting young members of parliament

Inform financial sector the growth trends of investment in RES

Sustainable Energy Finance Initiative Japan is under preparation

Encourage the introduction of new policies and measures on climate change; eg Emission Trading Scheme with cap, Environmental Tax, green power pricing---activate the electric power market

Get more and more positive initiatives from bottom-up level--local level



# Renewables in JAPAN for Future

In long term, a domestic political situation needs to be radically reformed.

But do not let Japan become alone in international community

Continue to give Japan a positive signal on RES.

**“It is profitable”**

## **Internationally we need to;**

Encourage Ministry of Economics to get to know the growth trend of RES


-- Get them as a member of JREC at CSD15

Encourage Ministry of Environment to put RES in their main agenda

Encourage international parliamentary level network to get more politicians who are interested in RES

Encourage financial institutions to get to know the world's growth of investments in RES

Encourage industries not only focus on CDM but on domestic solution



As well as other countries,  
Japan's Future is RENEWABLE...

**Mission of ISEP is to establish sustainable energy society in Japan**

[www.isep.or.jp/en/](http://www.isep.or.jp/en/)

for further question, CONTACT:

Mika Ohbayashi

Institute for Sustainable Energy Policies

[mika@isep.or.jp](mailto:mika@isep.or.jp)