

Japan Renewable Energy Foundation

# Keys to Establishing a Sustainable Energy Society



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United Nations University U Thant Hall

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## Issue 1:

How to share the sense of crisis  
with the world

# World Bank Report

## *Turn Down the Heat*

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# Warning from the World Bank

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A new World Bank report (Nov. 18, 2012)

- “Present emission trends put the world plausibly on a path toward **4°C warming within this century**”
- Inaction on tackling climate change will trigger a **critical change**
- “A 4°C world **can, and must, be avoided**”

# Warning from the IEA

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International Energy Agency's *World Energy Outlook 2012* (November 2012)

- BAU: 3.6°C warming
- “If action to reduce CO<sub>2</sub> emissions is not taken before 2017, all the allowable CO<sub>2</sub> emissions (to limit warming to 2°C) would be locked-in by energy infrastructure existing at that time”

# Warning from the OECD

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## *Towards Green Growth* (May 2011)

- **Natural capital could be depleted** under BAU
- Reproducing damaged natural capital by artificial means would be extremely costly
- Going through various crises, the global community has begun to seek to transform the economy
- **Green economy is the way to protect natural capital**

# Hurricane Sandy

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Late October 2012

<Likely the 2nd worst damage in history>

- Severe storm surge despite being a category-1 storm
- Old social infrastructure
- NYSE closed for 2 days
- Subway service not fully restored even after 1 month
- Buildings in southern Manhattan still closed due to flooding
- Overall economic damage could reach \$80 billion

# Report of Munich Re

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October 2012

## <North America region>

- Overall loss burden from natural catastrophes between 1980 and 2011 surpassed \$1,000 bn.
- Of which the insured losses amounted to \$500 bn.
- Insured losses per year increased four times from \$9 bn. in the 1980s to 36 bn. in the 2000s
- Clearer relations between natural catastrophes and climate change



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## Issue 2:

How to establish a structure for  
an all-out effort

# CO2 is not the only issue

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## Collapse of natural capital

- More serious global warming
- Reduction/loss of biodiversity
- Water and other natural resources facing crisis / depletion, etc.

## Growing concern over social issues

- Poverty, widening economic gap
- Women's rights, human rights issues
- Social injustice, inequality, etc.

# Incorporation of natural capital accounting

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## Outcome of Rio +20

### 1. The **Natural Capital** Declaration

- Natural capital is the source of wealth and economic growth
- Work toward a green economy to protect natural capital

### 2. The 50:50 campaign (World Bank)

Calling for **incorporating monetary value of natural capital** in GDP and corporate financial accounting

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## Issue 3:

# How to prevent Japan from dropping out

# Japan lost strength in what it was supposed to be good at

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## Solar power generation capacity

1995      0.6 mil. KW

2001      1.8 mil. KW

2011     70.0 mil. KW

1. Germany (25); 2. Italy (13); 3. Japan (5)

## Market share of solar panel manufacturers

- Top 15 includes 9 Chinese, 2 US, 1 Canadian, and 1 Norwegian firms
- Japan: Sharp (7th), Kyocera (14th)

(REN21)

# Japan's standing out of question

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## Wind power generation capacity

1996 6.1 mil. KW

2001 23.9 mil. KW

**2011 238.0 mil. KW**

1. China (62.77 mil. KW); 2. US (46.91 mil. KW);  
3. Germany (29.91 mil. KW); 4. Spain; 5. India ...

**Japan 2.5 mil. KW (not in top 10)**

## Market share of wind turbine manufacturers

Top 10 includes 4 Chinese, 2 Danish, and US, Spanish, German, and Indian firms

# Japan left far behind

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Renewable energy power generation capacity by country (wind, solar, biomass, geothermal, etc., excluding hydropower) at the end of 2011

1. China (70 mil. KW); 2. US (68 mil. KW); 3. Germany (61 mil. KW);
4. Spain (28 mil. KW); 5. Italy (22 mil. KW); 6. India (20 mil. KW);
7. Japan (11 mil. KW)

(REN21)

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## Issue 4:

# How to realize ethical choices



# Ethics is a habit

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*Keizaigaku ni nani ga dekiruka* (What economics can do) by Prof. Takenori Inoki

- Free will is a prerequisite for ethics
- Ethical decision is meaningful only when choices are possible based on free will
- Ethical excellence, or virtue, becomes meaningful only when **it becomes a habit, not an act**: Aristotle's proposition

# Germany's Ethics Commission

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## Ethics Commission "Secure Energy Supply"

- 17 members include 2 religious leaders
- Is **civilization without nuclear power plants** possible for Germany?
- Klaus Töpfer, Co-chairperson:
  - Why do we need to choose **nuclear power generation, which entails high risks for future generations**, even there are choices for safer energy sources?
  - Natural energy sources are not only safer but also create **new business opportunities**.

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Thank you