International IPPNW Congress
5 years living with Fukushima, 30 years living with Chernobyl
- Effects on health and the environment
- The nuclear chain – from uranium mining to nuclear waste
- The challenge: energy revolution

Japan’s Energy “Backlash”
with rising community power as small hope

February 27th 2016,
Tetsunari IIDA
Institute for Sustainable Energy Policies
Outline

1. The reality of 5 years after Fukushima disaster
2. Small but fundamental hope
3. Japan could be renewable 100% future
4. Energy democracy could change
5 years after 3.11 Fukushima
現実  The reality

- 若干の進歩  Small improvements
- 広がる混乱  Spreading chaos
- 大きな「封印」  Big seal
広がる混乱  Spreading chaos

1. 「安倍の大獄」 “ABE backlash” and “Shock doctrine”
2. 描餅の「40年廃炉」 “40 years TEPCO’s roadmap” w/o any proof
3. 焼太り経産省の罪 All nuclear policy under METI’s control
4. 廃棄物＝（混乱×無責任）² Complicating “nuclear waste issue”
5. 放射線(能)被ばくを巡る倒錯 “Perversion” over radiation
6. 帰還か支援打ち切りか Forced refugee’s return to high radiation area
7. メディア支配再び Media control resume
No.4 Fukushima daiichi
Spent fuels successfully taken out (Dec.20, 2014)

But no chance for No.1 ~3
「除染」“decontamination”

小さな進展 small progress

- Progress in “decontamination” in some place
- “Interim storage site” for decontamination waste decided

広がる混沌 Spreading chaos

- Pressure to “return” after “decontamination”
- Massive transportation of decontamination waste
- After 30 years’ “interim storage”?

15 – 30 million m³
Ice wall

非感冷凍土壁 non-sense ice wall
Endless increasing “tank-farm”
Contamination plume

Impermeable layer?

Ground water level

Sampling well

Leak age

Cooling water

Sampling well

Contaminated water tank

Sea level

Contamination plume

Impermeable layer?
5年が経過してもなお10万人の避難者数
About 100,000 refugees left behind

県内6万2849人（8月31日）、県外4万4854人（8月13日現在）
1. 原発事故原因・資料の「封印」
   Nuclear accident data & documents

2. 放射線(能)被ばくを巡る「封印」
   Radiation health effect

3. 原発事故負担を巡る「封印」
   Economical burden structure
“Under control”
“Completely blocked”
by Shinzo Abe
Radiation health effect

![Graph showing radiation health effect for Belarus, Japan, and Fukushima over years after an accident.](image-url)
New trend in Justice: the case of Fukui

Dec 24, 2015
Local people opinion poll
http://news.livedoor.com/article/detail/9084235/
Japanese TV anchors lose their jobs amid claims of political pressure

Supporters of the three news broadcasters say prime minister had private dinners with top media executives before the departures

Justin McCurry in Tokyo

Wednesday 17 February 2016 06.00 GMT

Shinzo Abe, was said to be angered by critics
Shino/Reuters
1. Insufficient the new safety regulations
2. Not *conform to* the new safety regulations
3. New “safety myth”
4. No reality of evacuation
5. No one responsible for evacuation
6. No improvement of emergency plan
7. No consideration of aging
8. No refection liability from Fukushima
9. No progress of nuclear waste issue
10. Political structure of lack of responsibility
Small but potential hope for fundamental change

1. Citizens’ Jury succeeded in the case against TEPCO
2. Fundamental change in public perception about nuclear
3. Nation’s common experience in large scale energy saving
4. Rapid growth in renewable energy by FIT
5. Community power rising
6. Democracy activated both in energy and peace
Citizens’ Jury : the case against TEPCO (July 31, 2015) (the Committee for Inquest into the Prosecution)
Radiation health effect

Belarus

Japan

man / million

year after accident

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
## Comparison between Chernobyl and Fukushima

<table>
<thead>
<tr>
<th>Dose limit</th>
<th>Chernobyl</th>
<th>Fukushima</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mSv/y &lt;</td>
<td>Forced evacuation</td>
<td>Forced evacuation</td>
</tr>
<tr>
<td>20 – 50 mSv/y</td>
<td>Forced evacuation</td>
<td>Preparing for return</td>
</tr>
<tr>
<td>5 – 20 mSv/y</td>
<td>Allowed to live</td>
<td>Allowed to live</td>
</tr>
<tr>
<td>1 -5 mSv/y</td>
<td>Right to live Radiation monitoring</td>
<td>Allowed to live</td>
</tr>
<tr>
<td>&lt; 1 mSv/y</td>
<td>Right to live Radiation monitoring</td>
<td>Allowed to live</td>
</tr>
</tbody>
</table>
Explosive growth of RE

Data from: GWEA, IAEA, Photon, Platts,
Wind surpass Nuke

2015 End
Fundamental change about nuclear

Before 3.11
- Cheaper electricity
- Good for economy
- Supply security
- Oil alternative
- For national security
- Safety myth
- Need for monopoly

After 3.11
- More expensive & risk
- Risk for economy
- Supply risk
- Need for stand-by oil
- Risk for national security
- Reality of risk
- Need for open market
Energy saving – the largest alternative to nuclear
Rinsing renewables power in Japan

FIT introduction

Biomass
Small hydro
Geothermal
Wind
Solar PV
RE share (%)

ISEP調査
Proposal of Energy Shift for 100% RE

Before Fukushima

Nuclear

Fossil Fuel

Renewable Energy

After Fukushima (Transition Phase)

Fossil Fuel

Renewable Energy

Energy Shift Phase

Fossil Fuel

Renewable Energy

Long-term Energy Shift to 100% Renewable Energy
From "centralized monopoly" to "decentralized community power"
2 axes power transition

- Nuke/Fossil
- RE
- Large/Centralized
- Small/Decentralized
“Ajisai” (hydrangea) Revolution in 2012 summer

- Jump up after 3.11
- Drastically changed public attitude
- Enhanced by social network
- Poor perception by “old system”
- Chance for nation-wide dialogue
Community power in Niigata
Rising community power in Japan

Niceko
Obihiro
Kyotango
Toyama
Takarazuka
Takayama
Bizen
Hiroshima
Yamaguchi
Obama
Kumamoto
Shiragami
Akita
Yamagata
Niigata
Iwate
Aizu
Soma
Minami-Soma
Saitama
Chofu
IIDA city
Shizuoka Odawara Nagano
Setagaya
100% renewable Fukushima and rise of community power
Global network of community power
...made activated democracy in 2015 Summer
Limitation of “top-down” approach

- Exclusive circle within power elite
- Biased by techno-centric view
- Dogma, or heavily weighing on the past trend
- Alienated from the reality
- Negative for innovation and social change
Energy democracy
or bottom-up energy transition

- **Fundamental thought**, *a right to our own power or energy*
- **Conditions**: *technically economically being more feasible*
- **Inclusive**, *being more people and communities getting involved*
- **Associative democracy**, “*participate in action*”
- **Sense of ownership**, *strengthen political empowerment*
- **Social innovation**, *through “learning by doing”*
- **Next stage of ecological modernization**
At the crossroad

<table>
<thead>
<tr>
<th>Old regime</th>
<th>New paradigm</th>
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</thead>
<tbody>
<tr>
<td>Centralized</td>
<td>Small distributed</td>
</tr>
<tr>
<td>Monopoly</td>
<td>Community ownership</td>
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<tr>
<td>Hierarchy</td>
<td>Network</td>
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<tr>
<td>Fossil &amp; nuclear</td>
<td>Renewable &amp;</td>
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<tr>
<td></td>
<td>Energy efficiency</td>
</tr>
<tr>
<td>(Numerical)</td>
<td>Sufficiency, justice, welfare</td>
</tr>
</tbody>
</table>

Economic growth
最初は無視される
次に嘲笑される
やがて闘ってくる
最後はあなたが勝つ
（マハトマ・ガンジー）

First they Ignore you,
then they laugh at you,
then they fight you,
then you win.

-Mahatma Gandhi