



A rule creates the situations “Geothermal rich”

October 5th, 2023

Dr. Akihiro SANDO
Renewable Energy Institute, Senior Researcher



Local Coexistence & Local Economy on



【Mission】 For a sustainable, rich society based on renewables



地域・漁業と洋上風力の共生に向けた提言

2022年6月

公益財団法人 自然エネルギー財団

Research & Studies

Policy Recommendations

Geo project in Obama town, Nagasaki



自然エネルギー財団
RENEWABLE ENERGY INSTITUTE

- Participated in a geothermal power project as one of the residents in Obama, Nagasaki
- Local resident led project from 2013





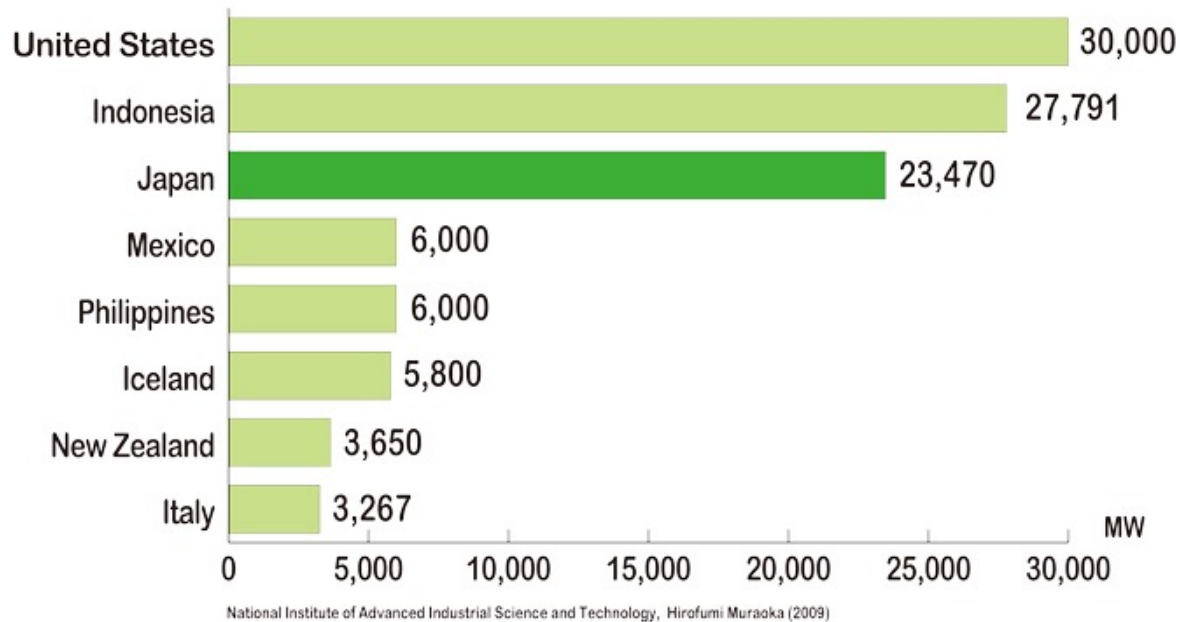
Geothermal is....

“Not at all impressive”

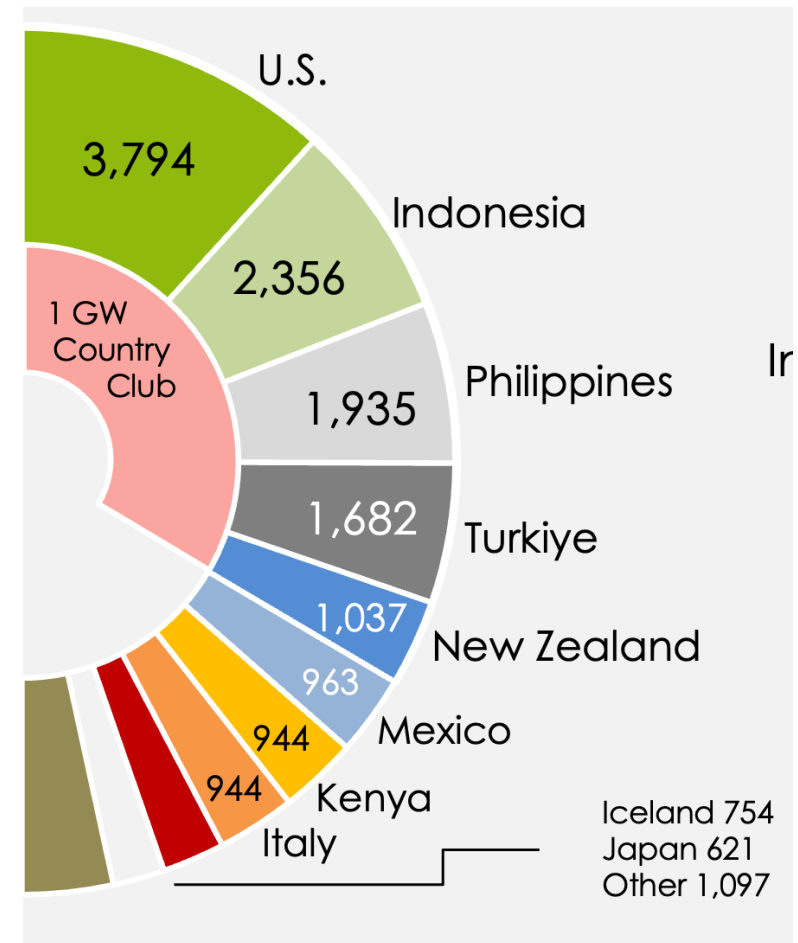
compared to other renewables...

Potential of Geothermal

Estimated Geothermal Resources



Estimated Resource (190GW)



Install (16GW)

“Use less than 10% of its potential”

General issues in Geothermal

- 1. Development Cost**
- 2. Consensus Building**
- 3. National Park**
- 4. Simplify Processes**



1. Development Cost

⇒ Financial support and Gov. led on survey & development, etc

2. Consensus Building

⇒ Opportunity to study Geothermal, mandatory monitoring, etc

3. National Park

⇒ Deregulation of development, etc

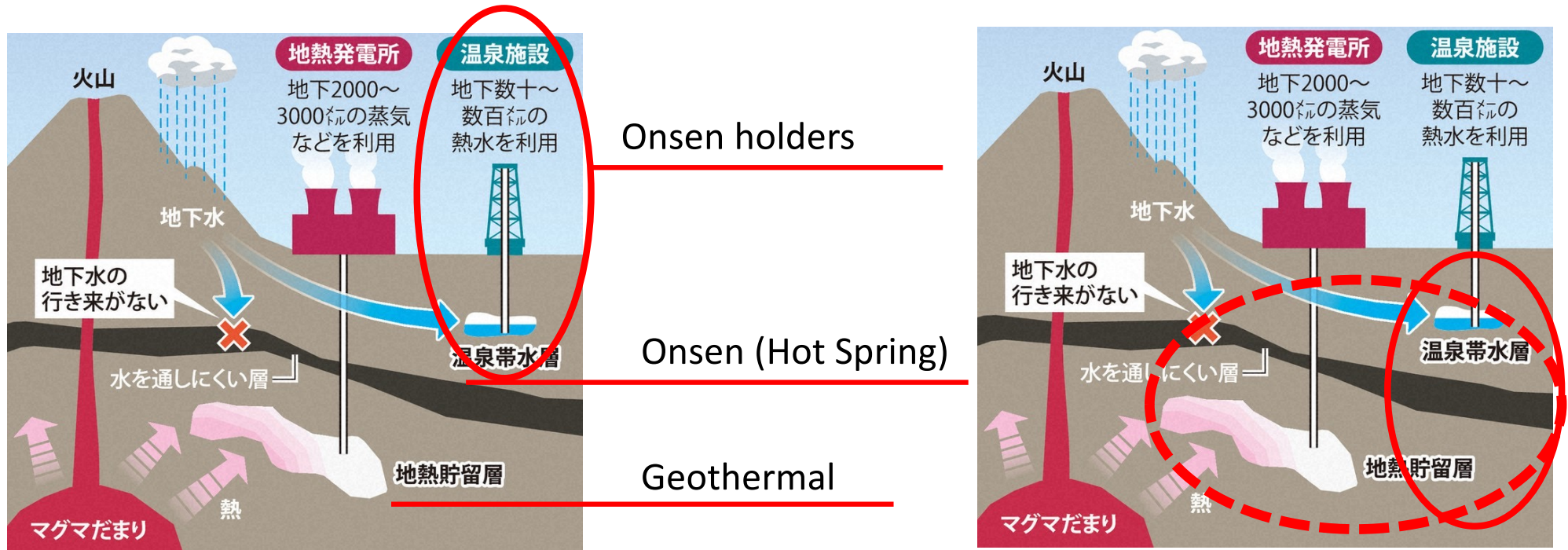
4. Simplify Processes

⇒ Shorten the Environmental Impact Assessment, etc

- 1. Lack of Predictability in the development process**
- 2. Guarantees and Trusts on Local Engagement**
- 3. No rule and definition on whose is the geothermal resource**

- 1. Lack of Predictability in the development process**
- 2. Guarantees and Trusts on Local Engagement**
- 3. No rule and definition on whose is the geothermal resource**

Whose is Geothermal resource?



1. Now based on the law of Onsen (Bath), shallow resource
2. No boundary of geothermal resource holders
3. You can say it is your resource even as far as possible
4. This ambiguous & unclear situation causes conflicts

1. Centralized System

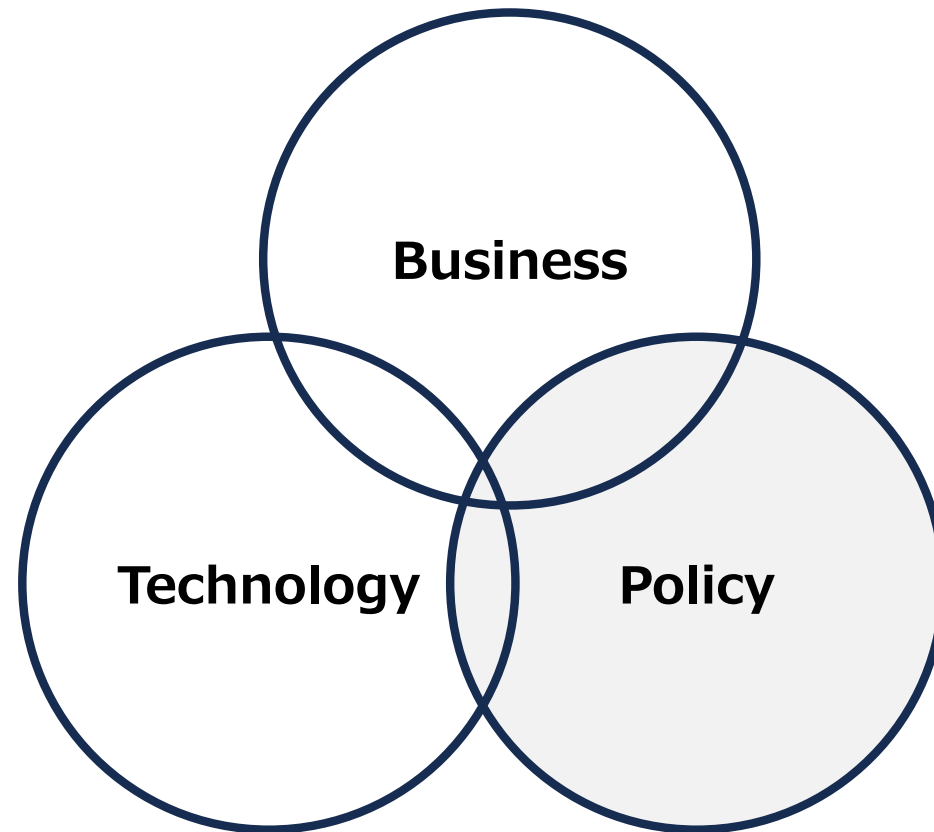
1. Government-led development
2. Zoning
3. Public Bidding

2. Basic rule on local engagement to the geothermal

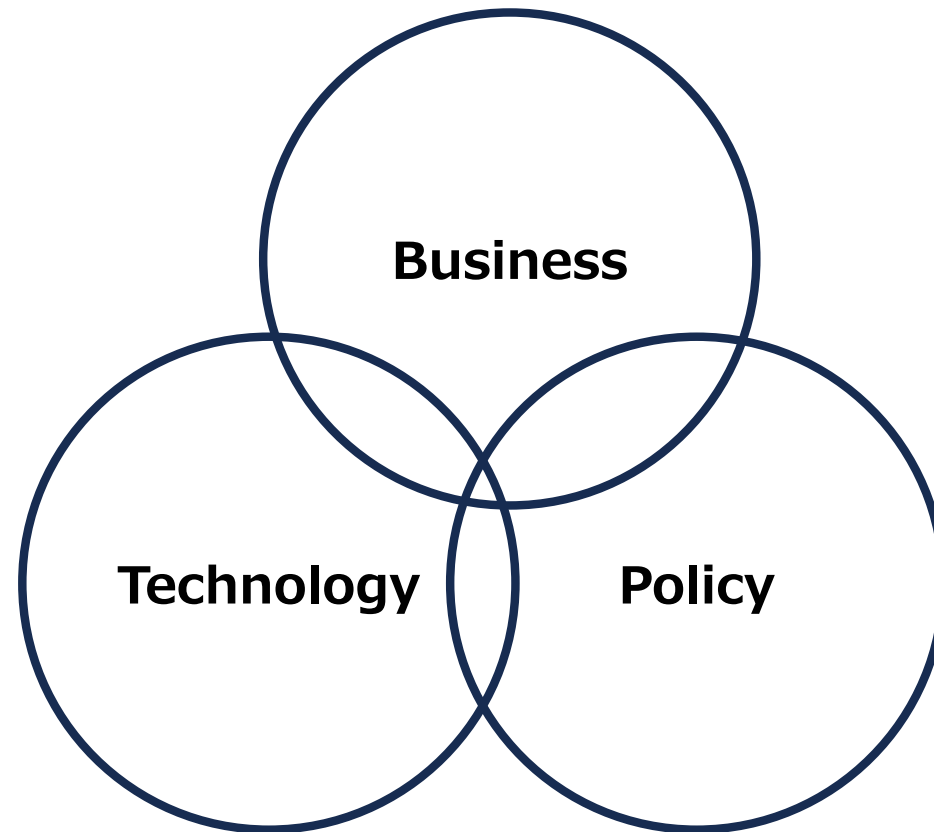
1. Local fund and Local Invest

3. Clear definition of whose geothermal resource is

1. Easier to find stakeholders
2. Less Confliction from misunderstanding



- 1. Lack of Predictability in the development process**
- 2. Guarantees and Trusts on Local Engagement**
- 3. No rule and definition on whose is the geothermal resource**



- ~~1. Lack of Predictability in the development process~~
- ~~2. Guarantees and Trusts on Local Engagement~~
- ~~3. No rule and definition on whose is the geothermal resource~~



A rule creates the situations “Geothermal rich”

October 5th, 2023

Dr. Akihiro SANDO
Renewable Energy Institute, Senior Researcher

Email: a.sando@renewable-ei.org