



# How to Resolve Environmental Disputes over Wind Farm Siting; Implications from Experiences in Japan

IEA R&D Wind Task28  
Social Acceptance of Wind Energy Projects  
Side Event at EWEC 2010 @ Warsaw

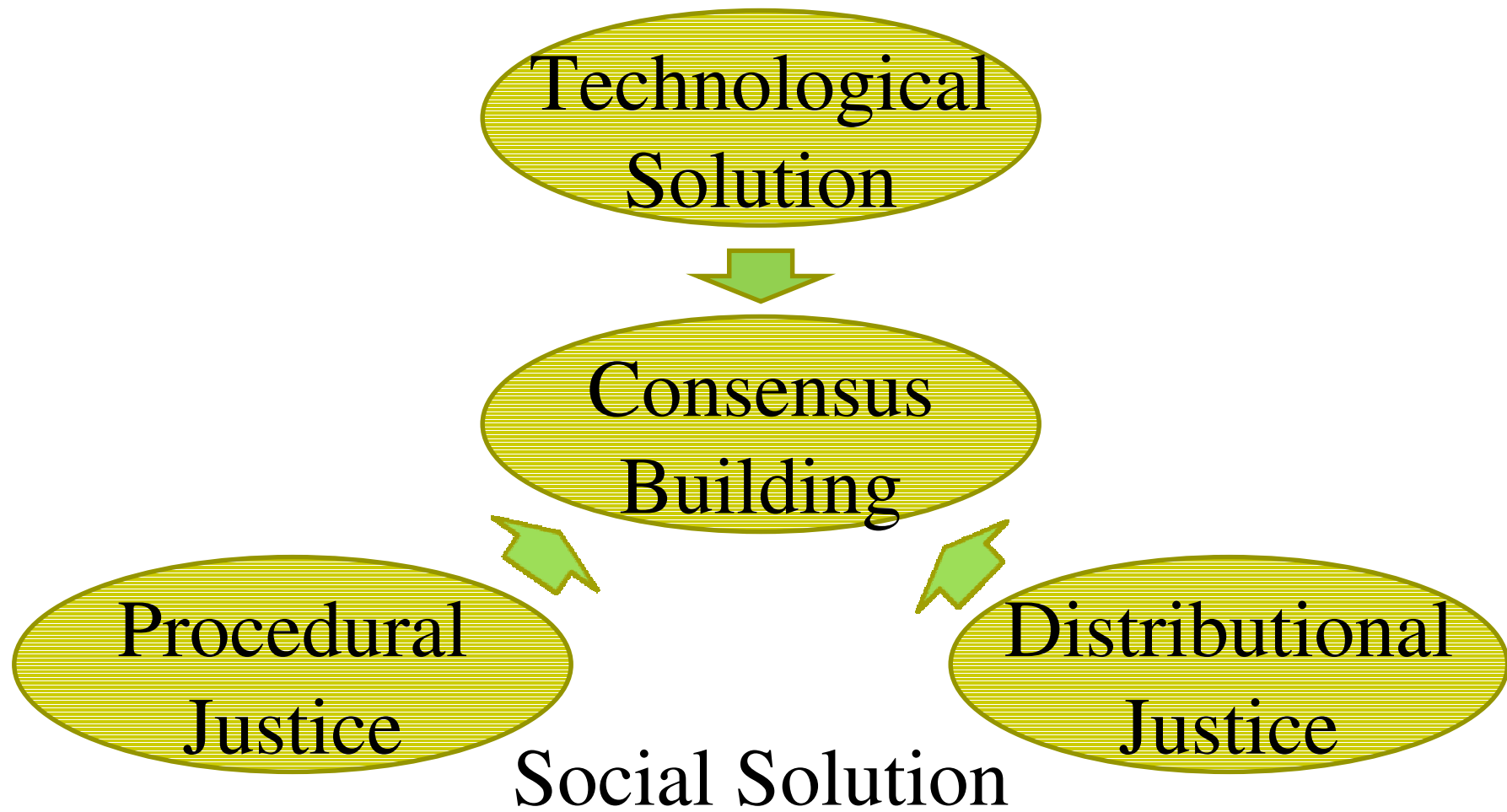
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# SUMMARY

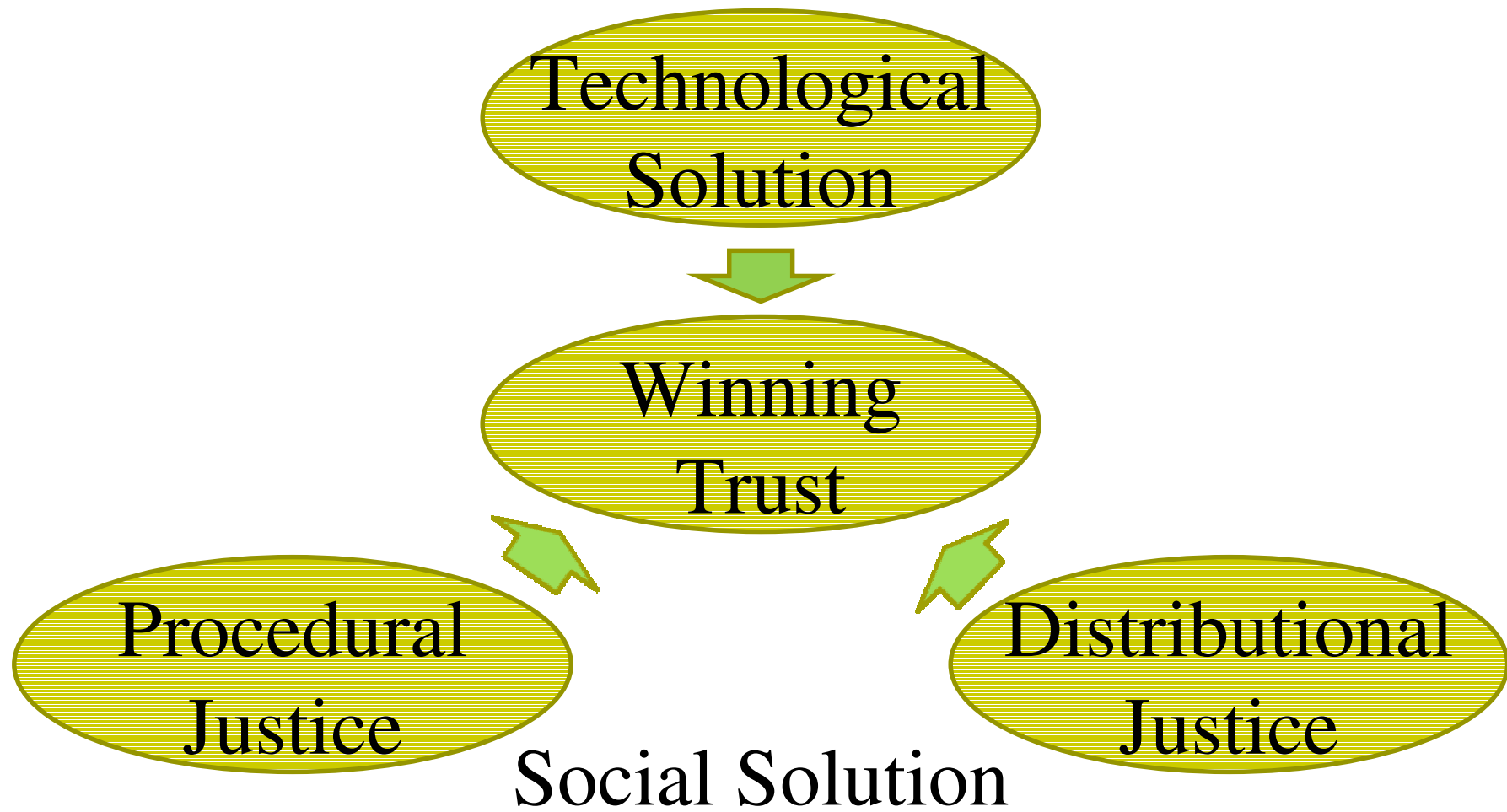
# Perspective on Community Acceptance

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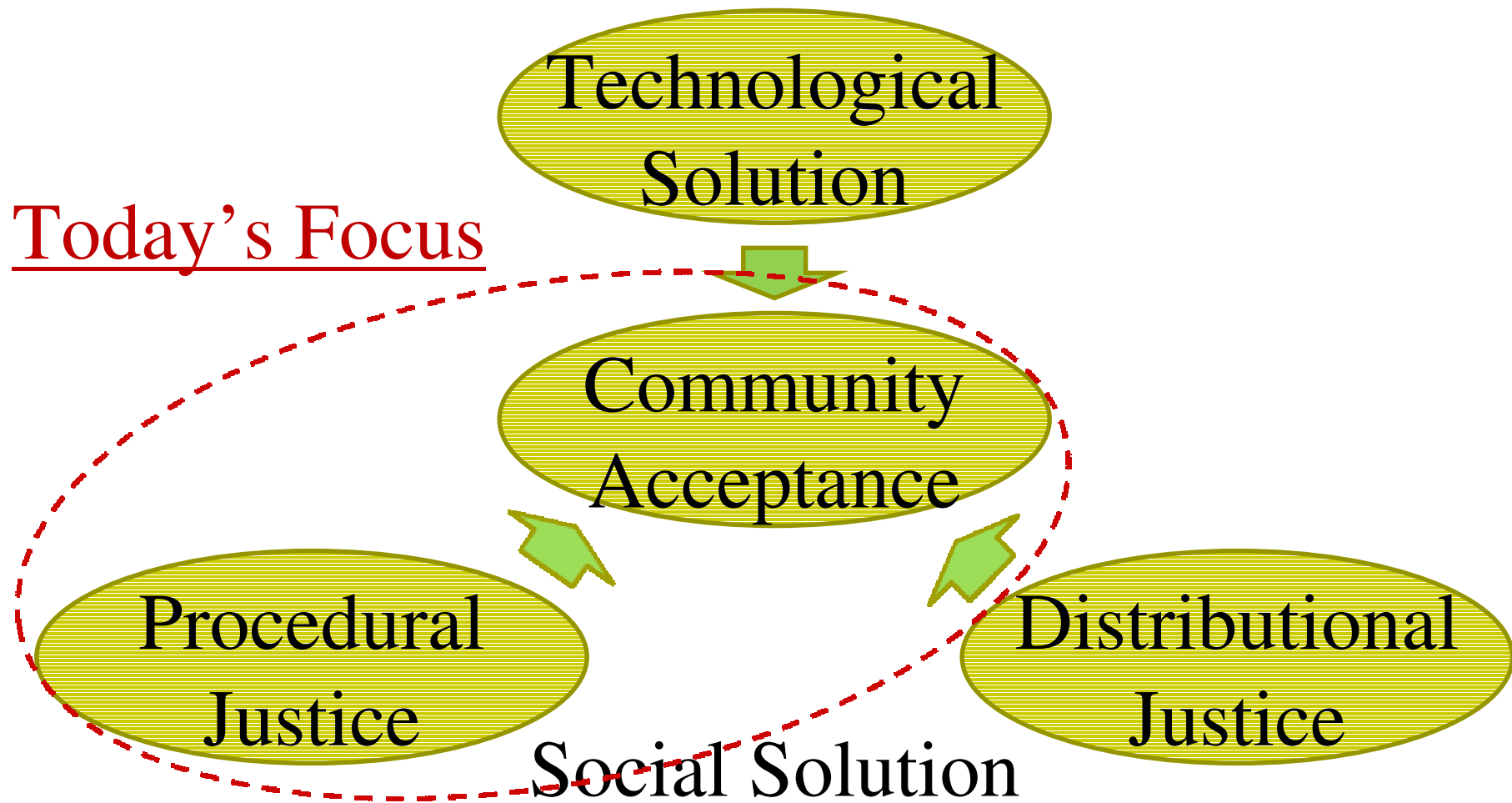
# Perspective on Community Acceptance

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# Perspective on Community Acceptance

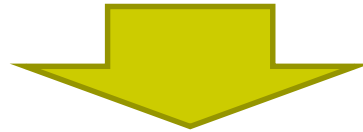
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# Key Question

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*“Community Acceptance”*



*How do local governments and wind industries achieve procedural justice to build a consensus with the local stakeholders?*





# Key Answers

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- Observed features of the disputes
  - Issues; Scientific uncertain or values(aesthetic)
  - Three patterns of social decision making
- Why different outcomes have been yielded?
  - (Dis)Trust to science, technology and expert
  - Agenda setting in social decision making



# Key Answers (cont'd)

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- Observed local residents' attitudes
  - The silent majority!
  - Procedural justice such as self-efficacy
- Example measures to overcome distrust and to build consensus
  - Joint fact finding
  - Step-by-step participatory approach

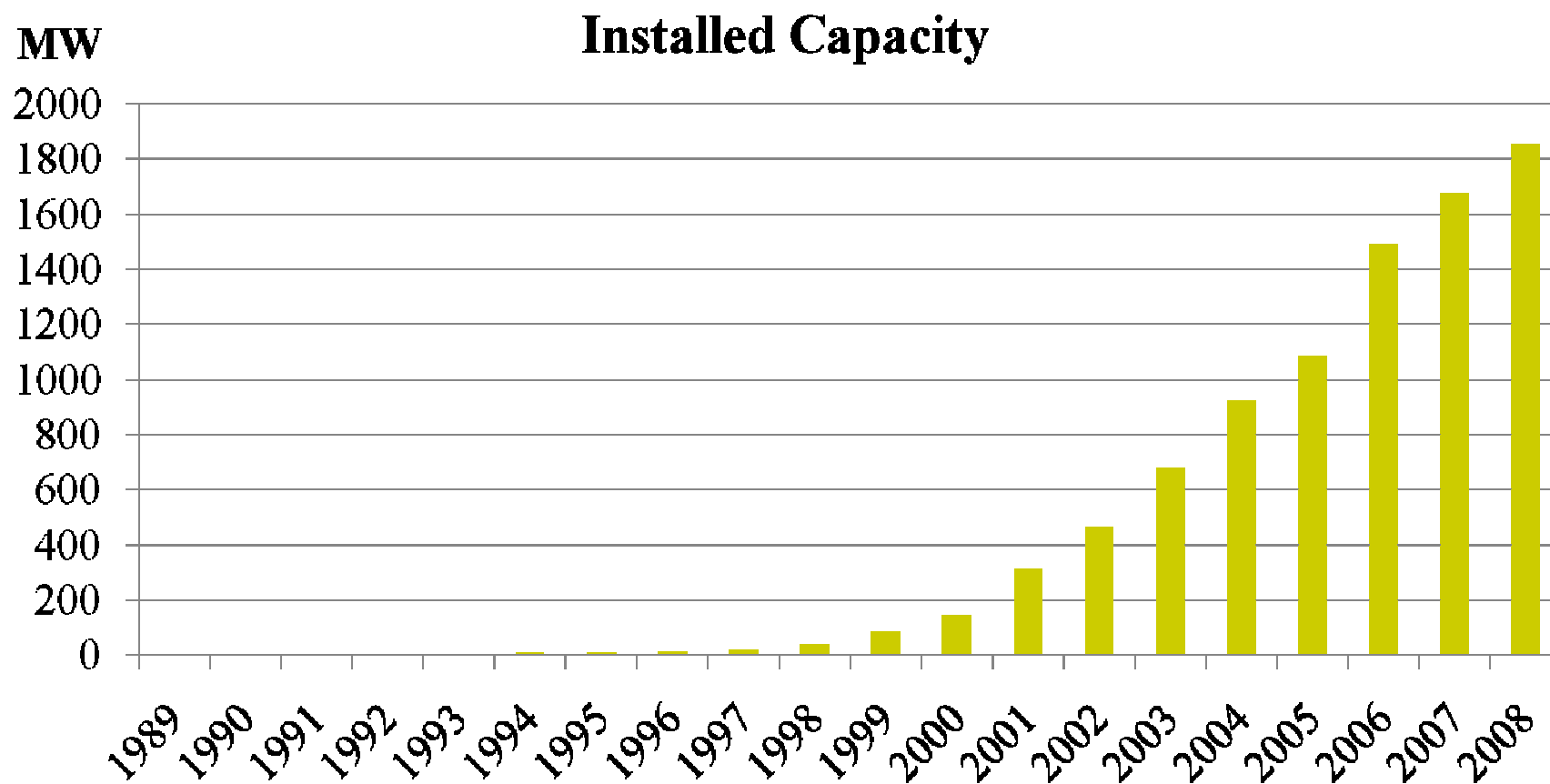




# BACKGROUND

# Background;

## Installation Achievements of Wind Power in Japan



Source: NEDO(2009)



# Background;

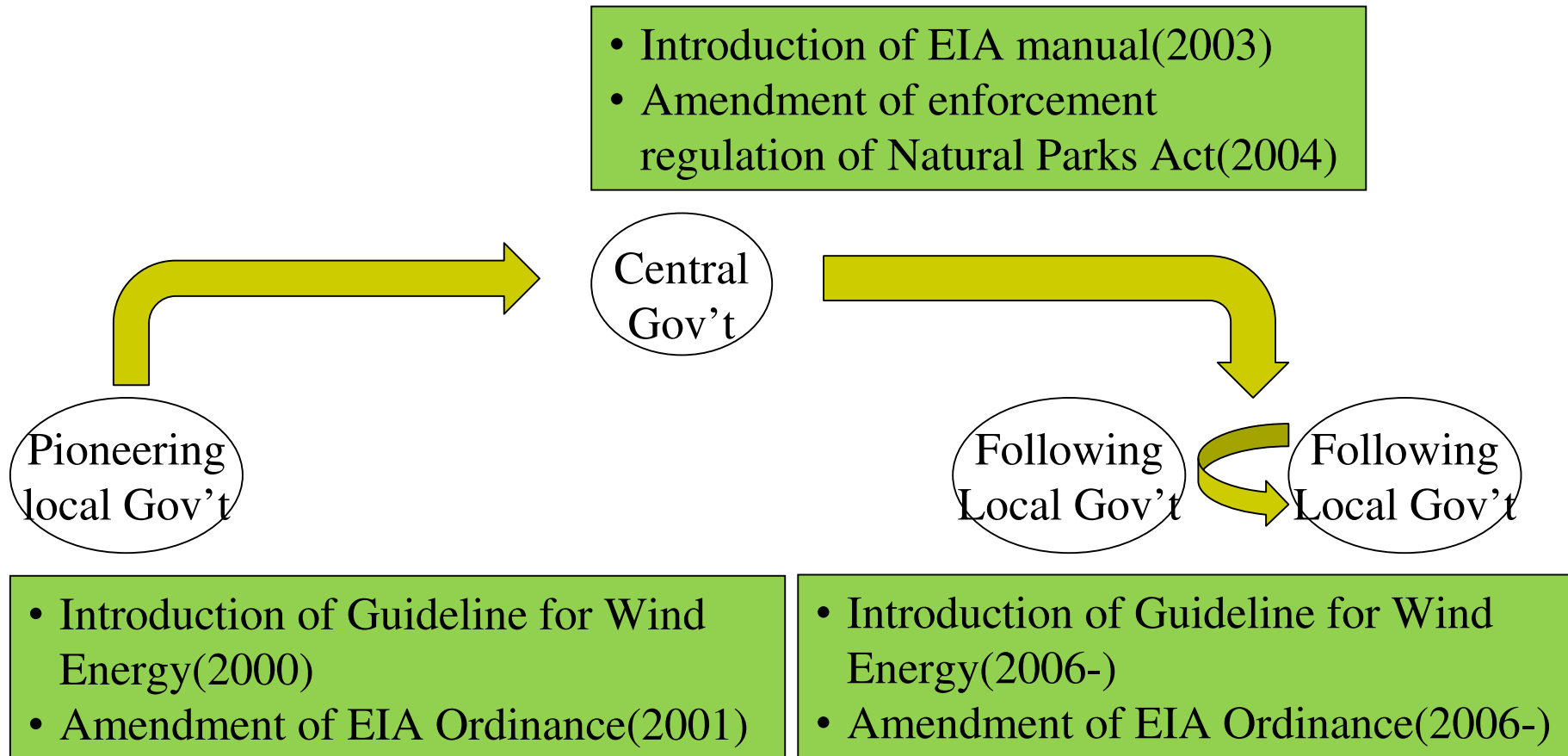
## Situation of Wind Energy Industry

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- Limited suitable site
- Unstable business environment
- Voluntary EIA (Environmental Impact Assessment)

# Background;

## Regulations and Guidelines in Governments





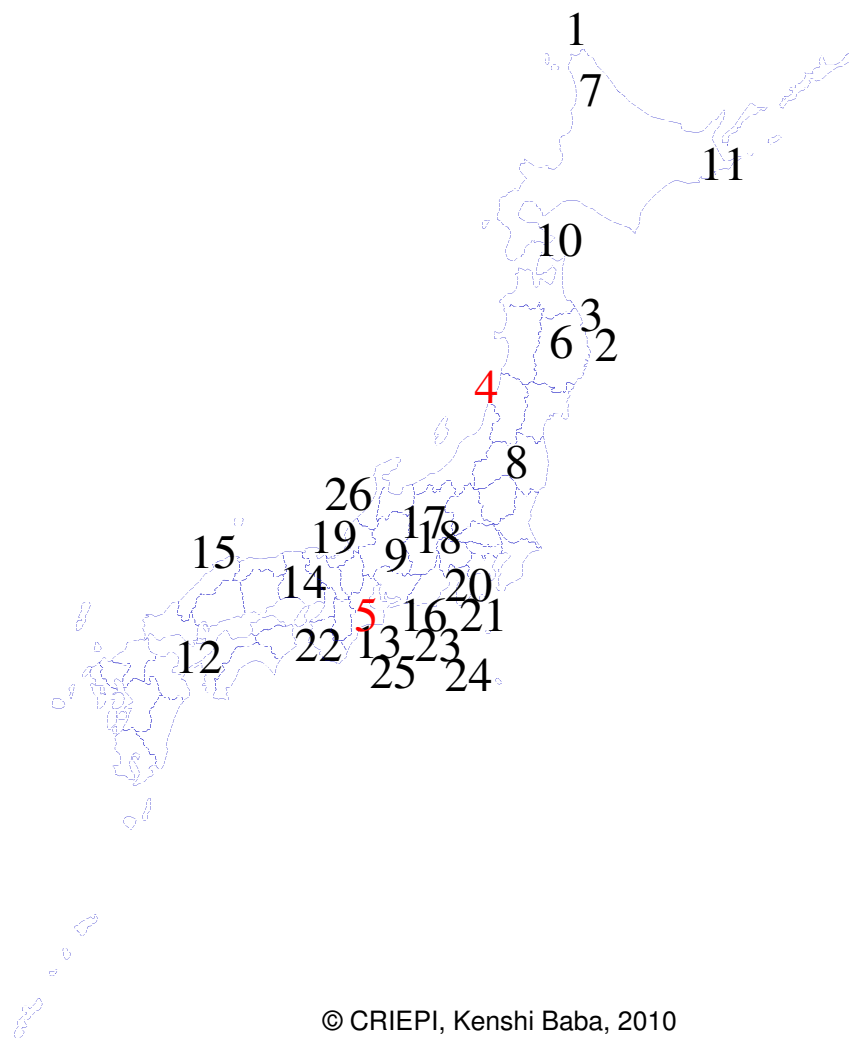
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# OVERVIEW

# Overview;

## Examples of Environmental Disputes

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# Overview;

## Examples of Environmental Disputes

No.	Year	City	Developer	Size	Land use	Issues
1	1997	Wakkanai	Private	400kW*3	No regulations	wild bird /landscape
2	1999	Kamaishi	Private	1MW*43	No regulations	wild bird
3	2000	Sanriku	Private	1MW*10	Pref. natural park	wild bird
4	2001	Sakata	Private	1.5MW*20	Pref. natural park	landscape
5	2001	Hisai	Semi-pub.	750kW*20	Semi-national park and protection forest	Landscape /wild bird
6	2002	Kuzumaki	Private	1750kW*12	National forest	wild bird
7	2003	Wakkanai	Private	1MW*57	No regulations	wild bird
8	2003	Kohriyama	Private	1MW*55	No regulations	wild bird



Suspended or Abandoned



# Overview;

## Examples of Environmental Disputes(Cont'd)

No.	Year	City	Developer	Size	Land use	Issues
9	2005	Takayama/Gero	Private	2MW*10	Pref. natural park/protection forest	Wild bird
10	2005	Hakodate	Private	2MW*7	No regulations	Wild bird
11	2006	Nemuro	Private	2MW*15	No regulations	Plant/Wild bird
12	2006	Seiyo	Private	2MW*20	Pref. natural	Landscape +Wild bird
13	2006	Toba	Private	3MW*3	National natural	Wild bird
14	2006	Asago/Shisou	Private	2.5MW*12	No regulations	Wild bird
15	2006	Izumo	Private	3MW*26	No regulations	Landscape/ Wild bird



Suspended or Abandoned

# Overview;

## Examples of Environmental Disputes(Cont'd)

No.	Year	City	Developer	Size	Land use	Issues
16	2006	Iwata	Private	3MW*5	No regulations	Wild bird
17	2006	Suzaka	Private	1670kW*16	No regulations	Wild bird
18	2006	Ina	Private	1MW*30	No regulations	Wild bird
19	2006	Awara	Private	2MW*10	No regulations (Nearby Semi-national park)	Wild bird
20	2006	Higashi-izu	Private	1.5MW*10	No regulations (Resort villa)	Noise/Landscape/Property value
21	2006	Higashi-izu/Kawau	Private	1.5MW*4+21(reduced to 21)	No regulations	Moorland

Not Yet started at the time of study (Jun 2008)

# Overview;

## Examples of Environmental Disputes(Cont'd)

No.	Year	City	Developer	Size	Land use	Issues
22	2007	Yura	Private	1.5MW*10 (reduced to 5)	No regulations	Noise/Vibration/Landscape
23	2007	Kakegawa	Private	2MW*10+9	No regulations	Landscape
24	2007	Hamamatsu	Private	2MW*10	No regulations	Wild bird
25	2007	Tsu/Iga	Private	2MW*19	No regulations	Wild bird
26	2007	Uchinada	Private	2.5MW*32	Nationally-owned land	Usage permission /Landscape



Not Yet started at the time of study (Jun 2008)

\* All the cases are from searching newspaper articles and interviewing with the person in charge of local governments



# Overview;

## Three Patterns of Social Decision Making

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- Voluntary coordination; No. 2, 6, 11, 20, 23 etc.
- Individual regulation; No. 4, 5, 10, 14, 16 etc.
- Comprehensive regulation; No. 8, 9, 18, 19, 24, 25 etc.



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# COMPARATIVE CASE STUDY

# Comparative Case Study;

## Selecting Cases

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- Voluntary coordination; No. 2, 6, 11, 20, 23 etc.
- Individual regulation; No. 4, 5, 10, 14, 16 etc.

- *Although both have similar conditions on scale, land use regulations, and requested formal process, their outcomes clearly contrast each other!*

*Hisai; completed*

*Sakata; suspended*

# Comparative Case Study;

## Outline of the Advisory Committee as a Formal Process

	4. Sakata	5. Hisai
N of times	Once during 30 days	Twice during a half year
Diversity of involved actors	6 (academic expert, branch office of Forestry Agency, private company ...)	19 (academic expert, forestry coop., fisheries coop., tourist agents, nature conservation group, lawyer ...)
Agenda	Focused on landscape in spite of requests for discussion on natural resource valuation	Focused on landscape basically, but expanded to wild bird study in practice
Inputs	DEIS; not necessarily informative to judge	DEIS (modified during two committee) and the result of the questionnaire for citizen and tourists (75% is positive)
Report	Pros and cons	Acceptance
Decision	Not permitted and suspended	Permitted and completed



# Comparative Case Study;

## Why different outcomes have been yielded?

	4. Sakata	5. Hisai
Developer	Private	Semipublic
Regulations	Pref. Natural Parks Ordinance	Natural Parks Law
Decision maker	Governor (judge without precedents)	Governor (required to obtain MOE's consent)
Informal process	Making a reference to city office (Got a prospect for city office's cautious attitude)	Prior consultation with MOE (Got a prospect for MOE's consent)
Other factors	Time limit of deliberation according to the ordinance	Instituted "new energy vision" (to promote renewable energy introduction as public interest)

# Comparative Case Study;

## Summarizing the Observations

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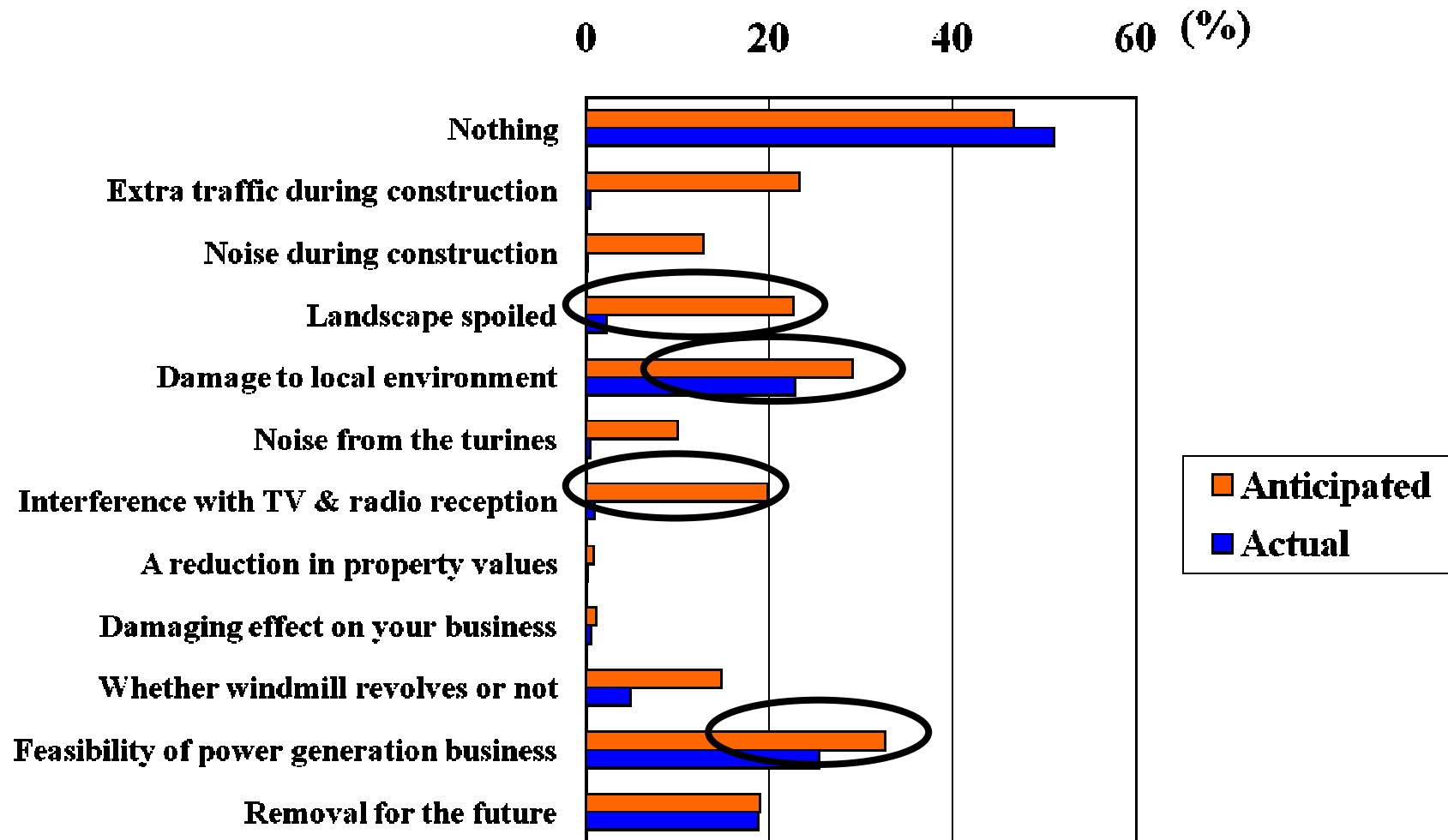
- Flexibility of agenda setting would cause...
  - improving actors' perceptions of procedural justice
  
- Flexibility of agenda setting depends on ...
  - Target setting of wind energy = Definition of public interest by the local government on the project
  - Inputs from the informal process = integration of local knowledge and expert knowledge



# **QUESTIONNAIRE DATA ANALYSIS**

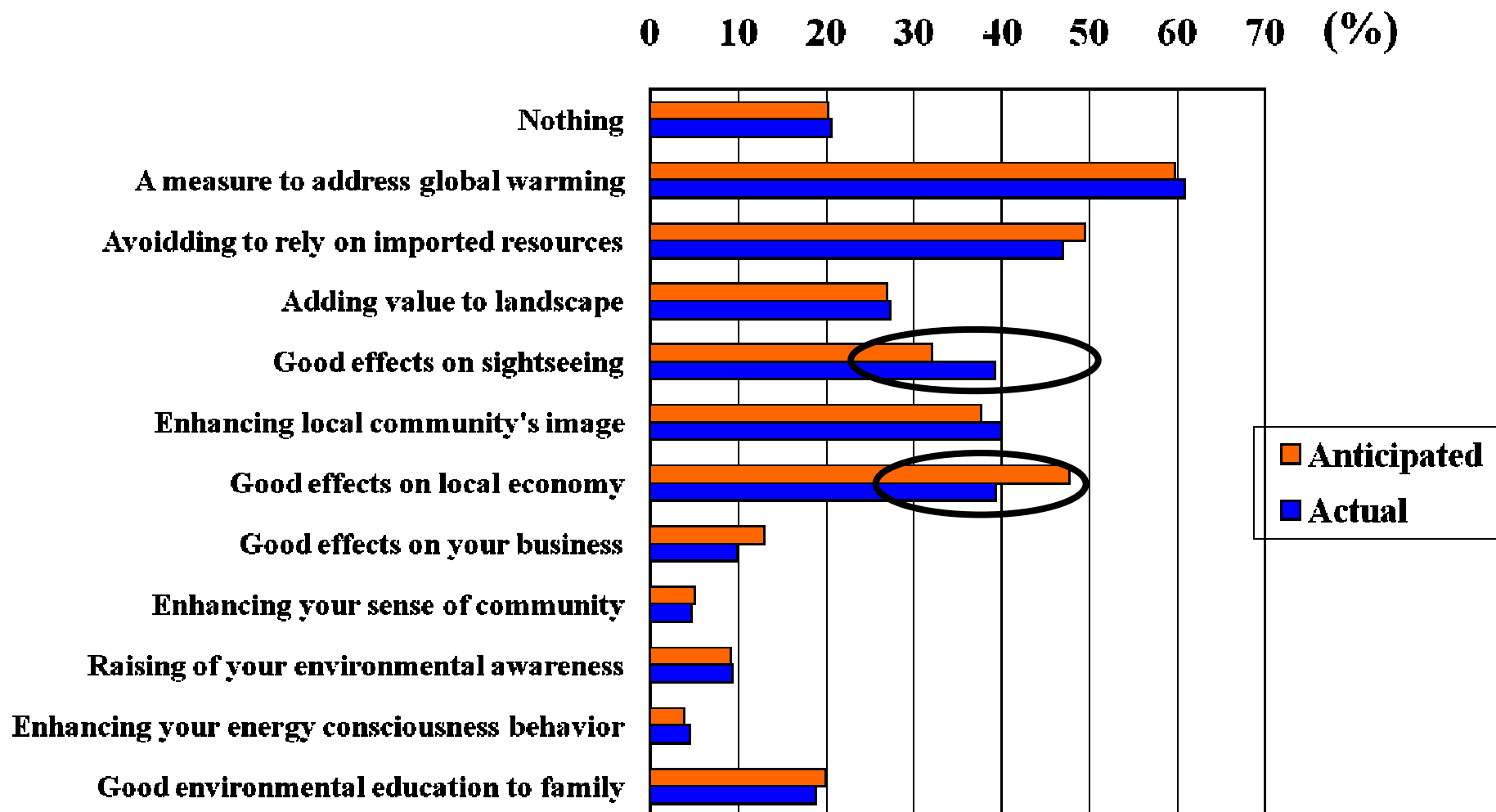
# Questionnaire Data Analysis;

## Anticipated and Actual Concerns of Local Wind Farms



# Questionnaire Data Analysis;

## Anticipated and Actual Expectations of Local Wind Farms



# Questionnaire Data Analysis;

## Willingness to Be Involved in the Future Siting Process

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<div>General term</div> <div>Particular case</div>	Need the opportunity to be involved	Don't need the opportunity to be involved
Willing to participate in the process	Active participants (26%)	Potential participants (2%)
Unwilling to participate in the process	Observer (40%)	Unconcerned public (32%)

# Questionnaire Data Analysis;

## Willingness to Be Involved in the Future Siting Process

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General term \ Particular case	Need the opportunity to be involved	Don't need the opportunity to be involved
Willing to participate in the process	Active participants (26%)	Passive participants (2%)
Unwilling to participate in the process	Observer (40%)	Unconcerned public (32%)

***Silent Majority!***





# Questionnaire Data Analysis;

## Reasons for Unconcerned and Observation

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	Unconcerned public	Observer
Developer and local government should make a decision by themselves	24.1	6.9
Developer and local government never abuse citizen's trust	1.6	3.4
A lack of knowledge about this matter	32.6	39.8
Results would be never changed even if be involved	20.3	40.4
To avoid having a conflict with others in the community	15.0	6.2
Too busy to be involved	6.4	3.2
Total(N)	374	465

# Questionnaire Data Analysis;

## Which is Important, Global or Local Environment?

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	Strongly prioritizin g local	Slightly prioritizin g local	Neither local nor global	Slightly prioritizing global	Strongly prioritizing global	N
Unconcerned public	23.4%	21.3%	44.4%	8.3%	2.7%	376
Observer	70.5%	15.8%	11.2%	2.3%	.2%	482
Potential participant	40.7%	29.6%	22.2%	7.4%	.0%	27
Active participant	40.3%	33.3%	17.2%	9.2%	.0%	303
Total	40.7%	22.3%	23.5%	6.1%	.9%	1188

# Questionnaire Data Analysis;

## Reaction to the future Development

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	NIABY	NIMBY	For MBY	All for	N
Unconcerned public	31.6%	40.6%	4.9%	22.9%	376
Observer	14.2%	66.3%	7.4%	12.1%	472
Potential participant	14.8%	40.7%	3.7%	40.7%	27
Active participant	11.2%	45.9%	5.1%	37.8%	294
Total	19.0%	54.4%	5.9%	22.7%	1160



# **TOWARDS BEST PRACTICE**



# Towards Best Practice

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- What is “best”?
  - Process/outcome/for whom
- What is drivers for consensus building
  - Each solution of technological/procedural justice/distributional justice and its integration
- Comparative observation
  - Both of completed cases and suspended cases





*Thank you for listening!*

ありがとうございました！