International Institute for Carbon-Neutral Energy Research

Public understanding on CCS in Japan

日本におけるCCSへの市民の理解

Kenshi Itaoka
International Institute for Carbon-Neutral Energy Research
Kyushu University

February 12, 2015

CCS Symposium
低炭素社会の構築に向けた二酸化炭素回収・貯留（CCS）国際シンポジウム

KYUSHU UNIVERSITY

wpi
A World Premier Institute

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Contents

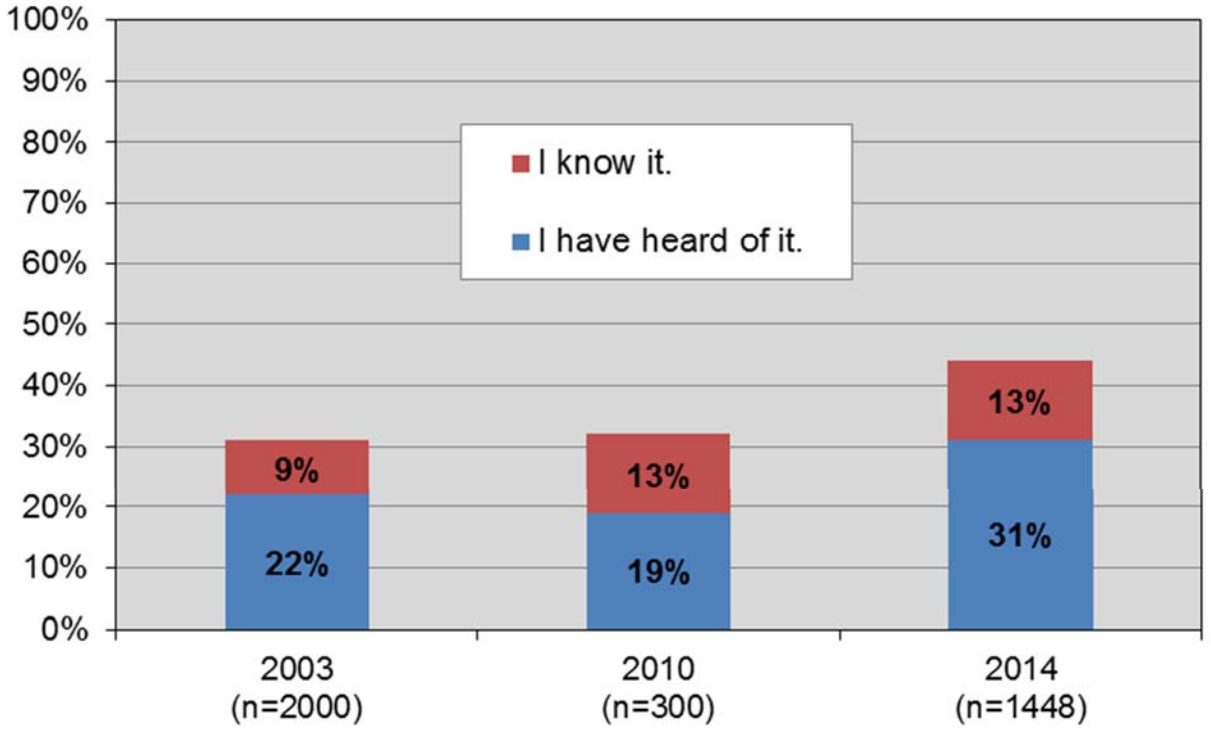
- Awareness and perception
- Potential opinion
- Does risk of CCS matter?
- Communicating CCS
- Conclusion

Awareness and perception of CCS
CCSについての認知状況

Awareness about CCS

Do you know about CCS?

Q：あなたはCCSについて知っていますか？



- In 2003 survey[1)] and 2010 survey[2)], random samplings from population were conducted, and in 2014 survey[3)], a random sampling from panel of Macromill (an Internet research company) was conducted.

1) Itaoka, K., Saito, A., & Akai, M. (2004). Public acceptance of CO2 capture and storage technology: a survey of public opinion to explore influential factors. Proceedings of the 7th International Conference on Greenhouse Gas Control Technologies, volume 1: Peer-reviewed Papers and Plenary Presentations. IEA Greenhouse Gas Program, Cheltenham, UK.

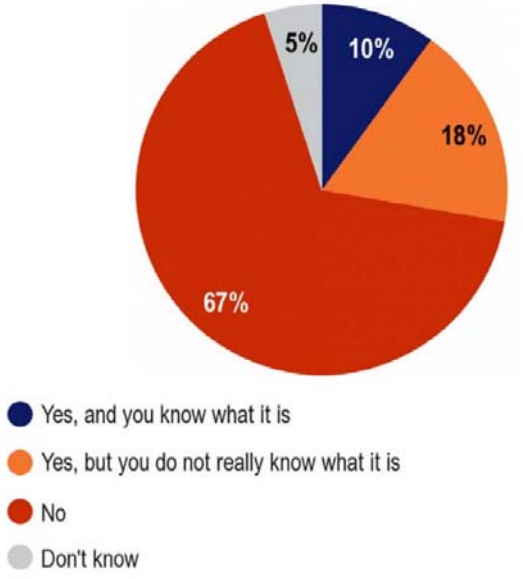
2) Mizuho Information & Research Institute (2010). Study on communication for social acceptance of demonstration project, submitted to Japan CCS Co., Ltd. in Japanese.

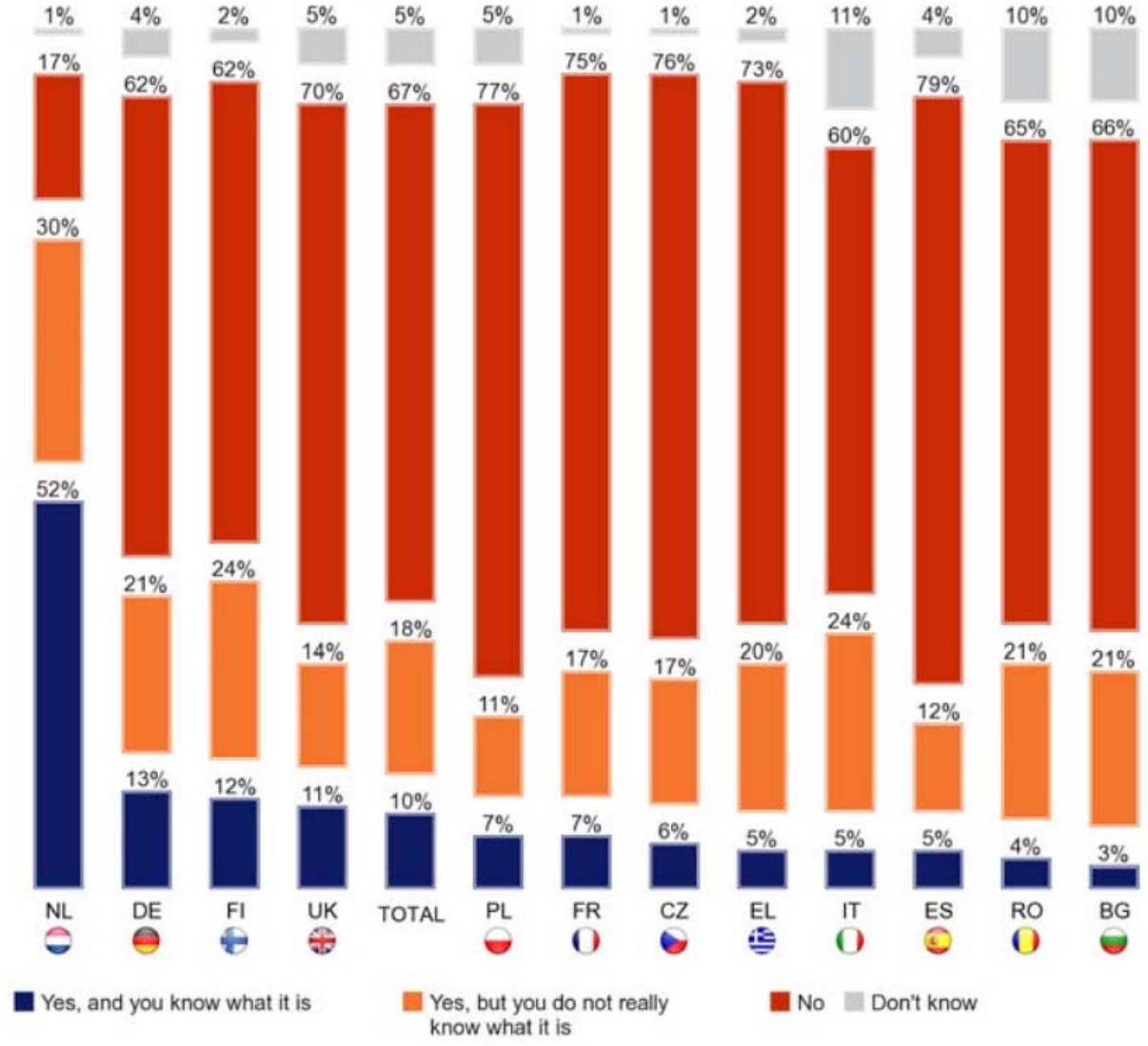
3) Conducted by International Institute for Carbon-Neutral Energy Research, Kyushu University

Awareness about CCS: EU

- **Do you know about CCS?**

Q：あなたはCCSについて知っていますか？





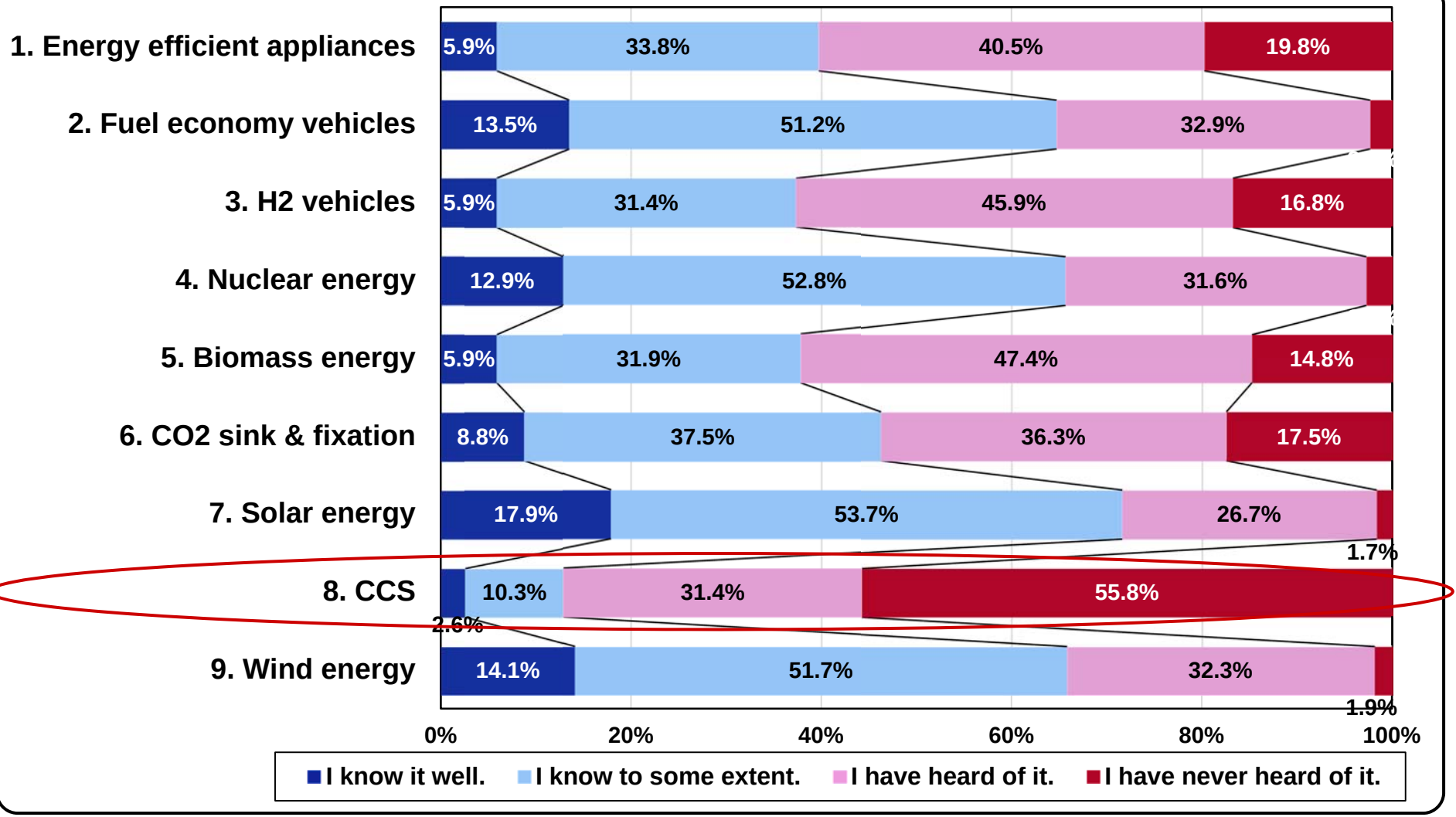
Source: European Commission, 2011 “Public Awareness and Acceptance of CO2 capture and storage”, SPECIAL EUROBAROMETER 364

Awareness about CCS

(2014 survey)

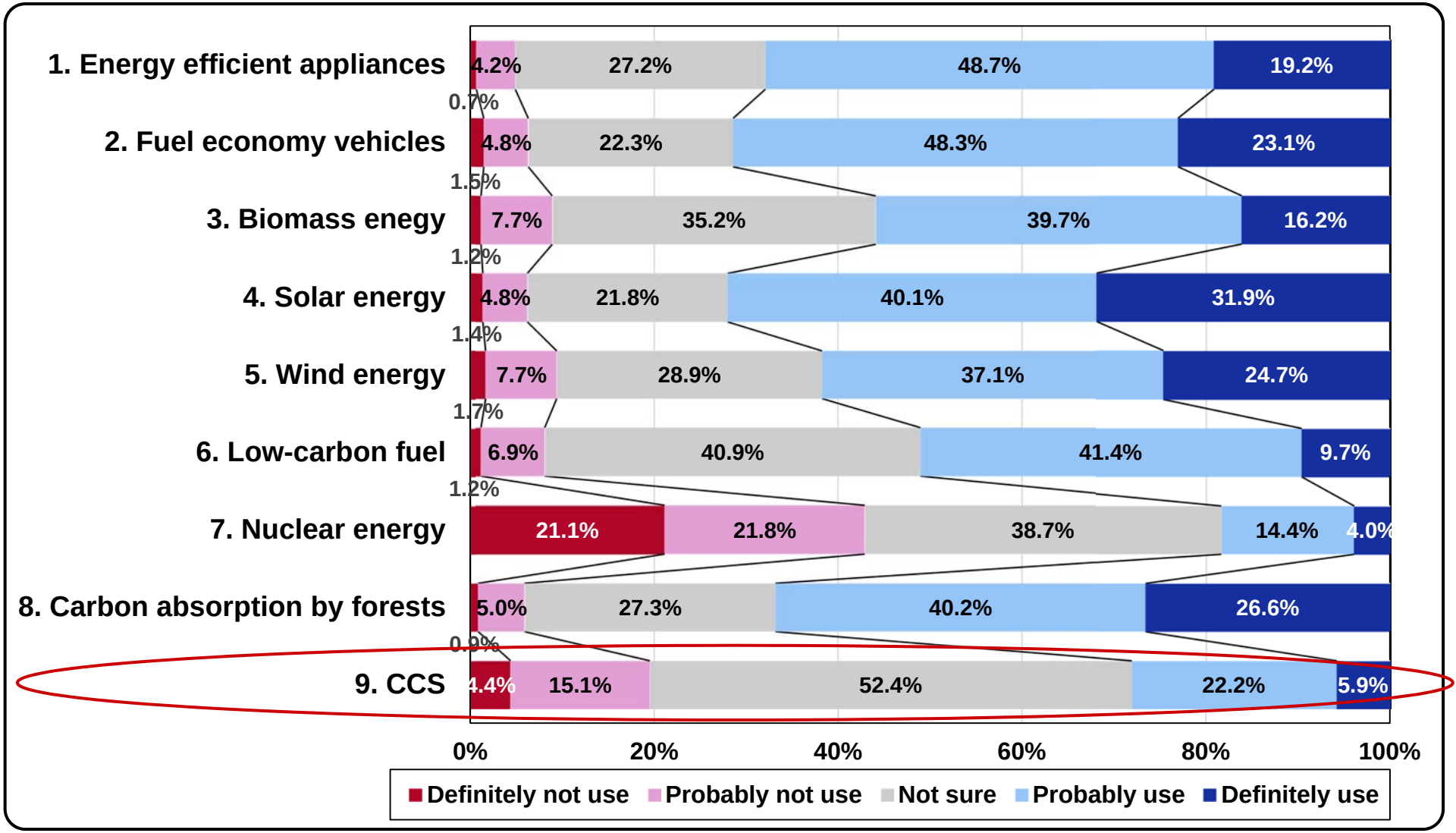
Do you know about climate mitigation measures?

Q:あなたは、以下の温暖化対策技術について知っていますか？



If you are responsible for climate policy in your country, do you use …..? (2014 Survey)

Q：以下の技術は、温暖化対策として提案されているものです。もしあなたが日本政府の温暖化対策計画の責任者であるとしたら、以下の技術を使いますか？



Potential opinion
潜在的な意見

Potential pros and cons for CCS of public

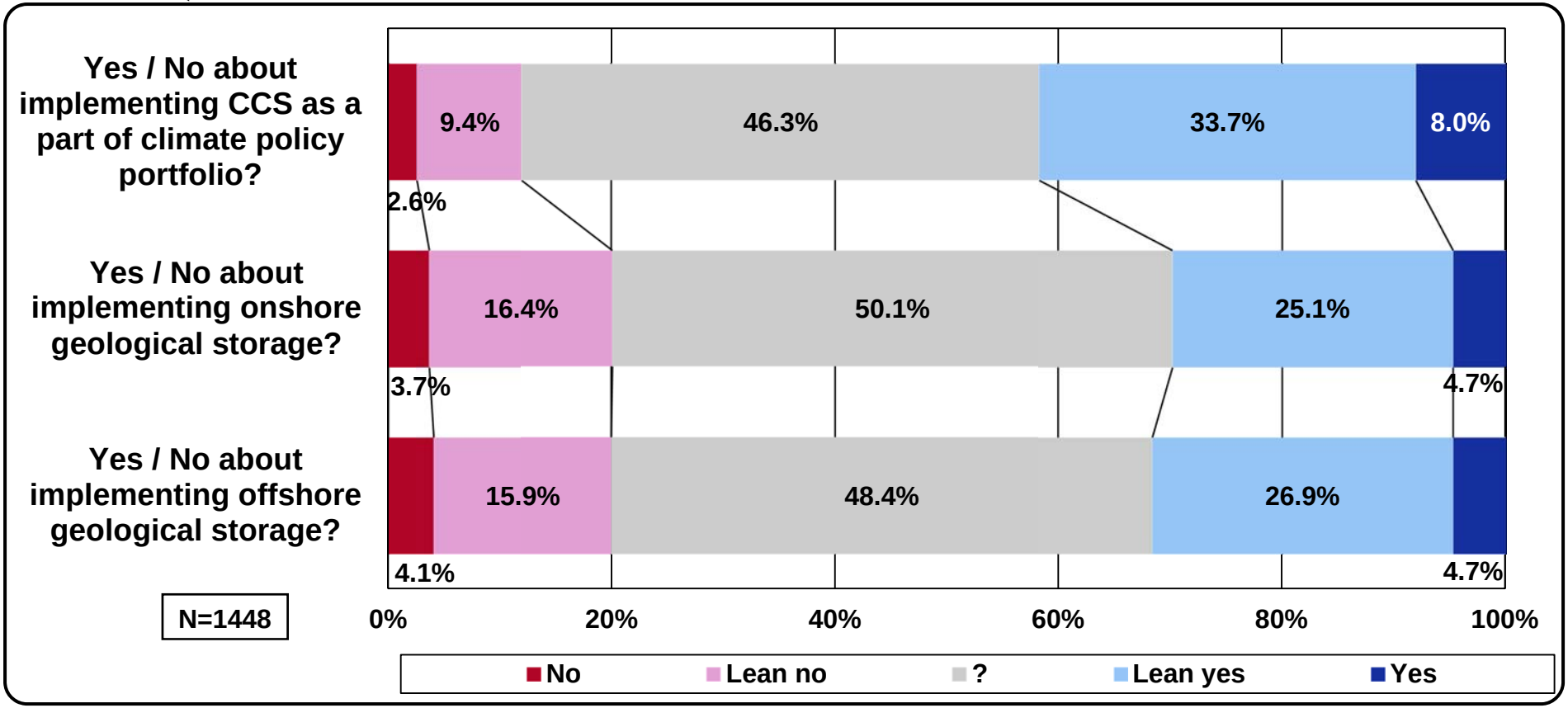
（2014 survey）

- **What is your opinion on implementing CO2 capture and storage in Japan as a part of climate policy portfolio?**

Q:日本が二酸化炭素の回収貯留技術を他の温暖化対策と併行して推進していくことについてどのような意見ですか？

- **What is your opinion on implementing onshore (offshore seabed) CO2 capture and geological storage in Japan?**

Q陸地(海底）の地下の地層に貯留の実施について、どのような意見ですか？

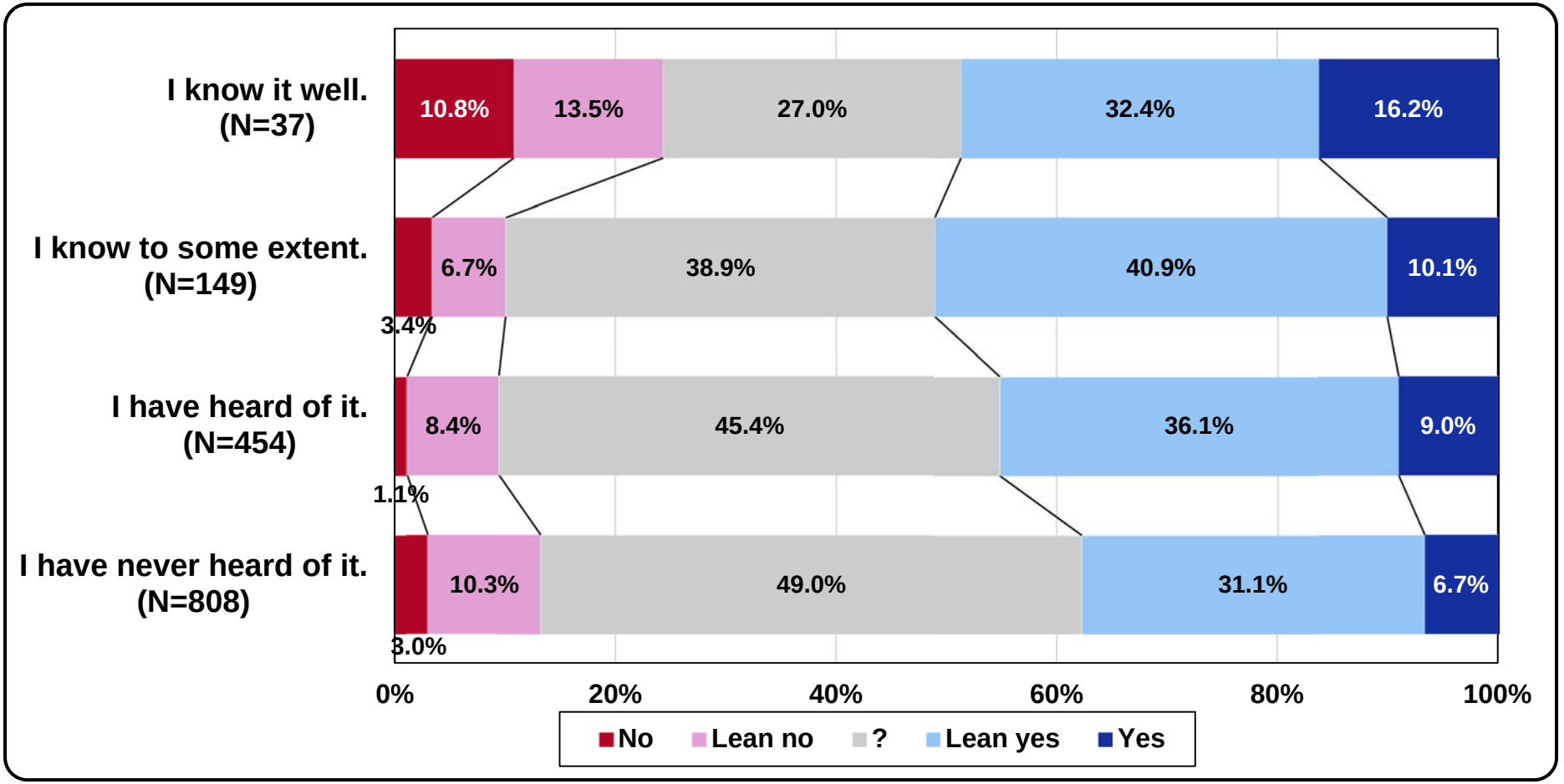


Potential pros and cons for CCS of public

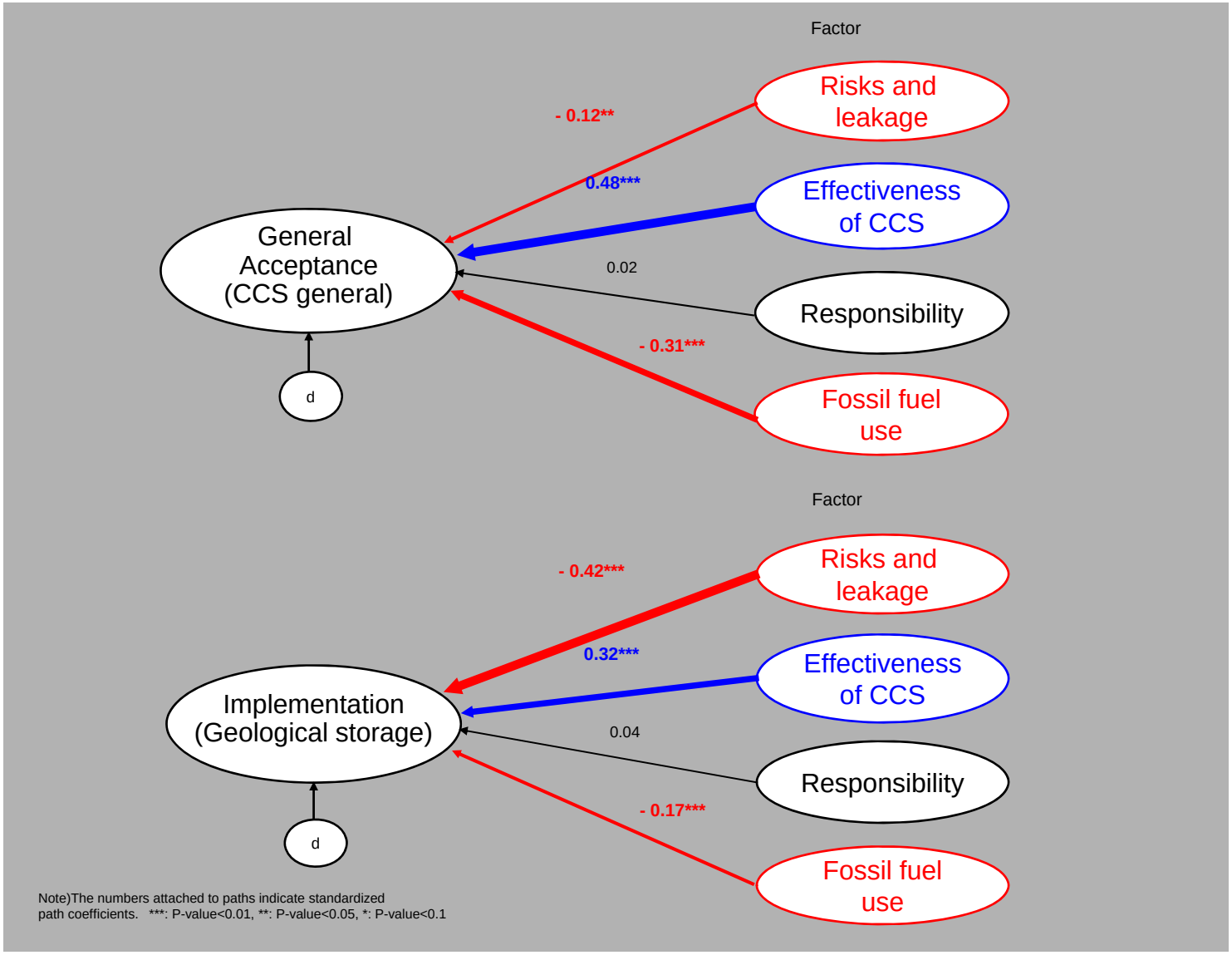
（2014 survey）

- **What is your opinion on implementing CO2 capture and storage in your country as a part of climate policy portfolio?**

Q 日本が二酸化炭素の回収貯留技術を他の温暖化対策と併行して推進していくことについてどのような意見ですか ？（CCSについての認知度別）



Influence of the factors on public acceptance of CCS

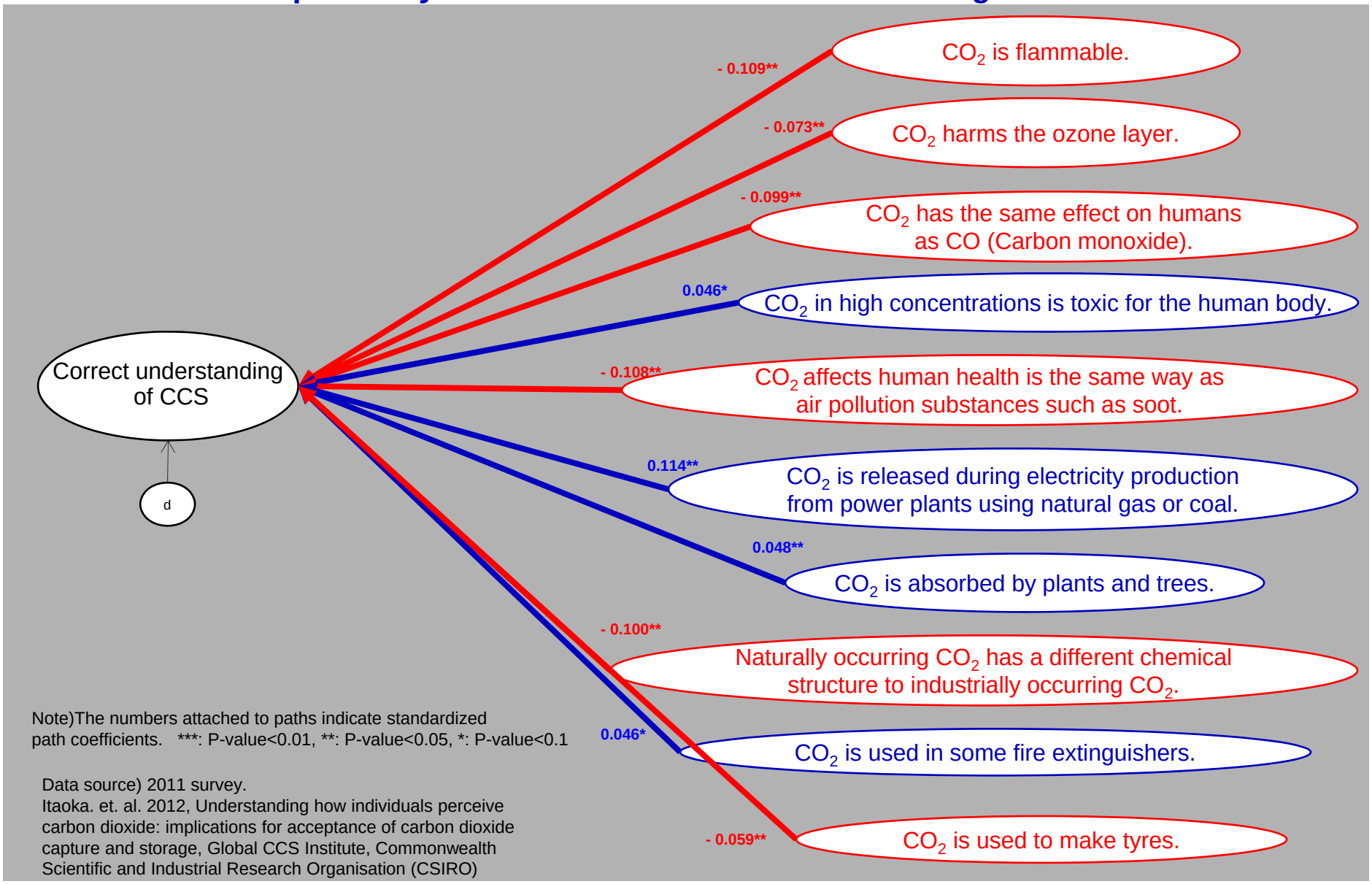


Does risk of CCS matter?
リスクが問題か？

What is CO_2?

- **Property**
  - **Not flammable**
  - **Not explosive**
  - **Non toxicity in low concentration.**
- **CO_2 exist around us.**
- **CO_2 is used in....**

Almost all misperceptions about CO_2 correlated with misperceptions about CCS and some correct understandings of CO_2 were positively correlated the correct understanding of CCS



Note)The numbers attached to paths indicate standardized path coefficients. ***: P-value<0.01, **: P-value<0.05, *: P-value<0.1

Data source) 2011 survey.
Itaoka. et. al. 2012, Understanding how individuals perceive carbon dioxide: implications for acceptance of carbon dioxide capture and storage, Global CCS Institute, Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Characteristics of CCS risk

- Low probability and small hazard (CO2)
- Very long-term risk with uncertainty (geological storage)
- Manmade risk + Natural risk
  - Intrinsic uncertainty and unknown of the geological systems

- Need information (education) kits to address benefit and risks of CCS.
- Need credible information providers in Japan (scientific and independent)

Communicating CCS

CCSのコミュニケーションをどうするか？

Public Outreach / Public Relations

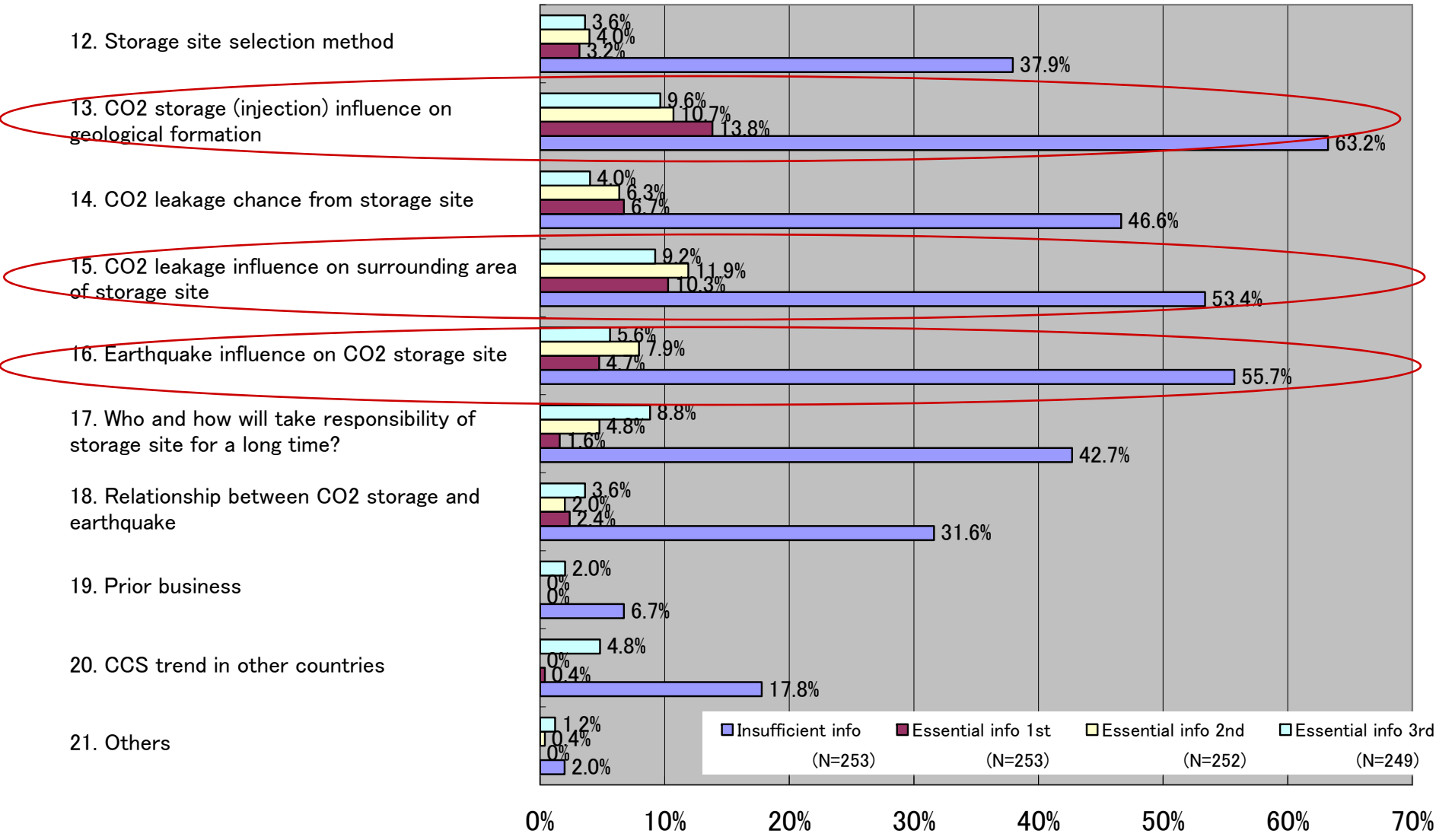
- Bottom up / Top down
- Not decided / Decided
- Empower / Persuade
- Public engagement / Public acceptance

Needs of information (continued)

(2010 survey)

■ あなたが必要と思う情報について、ほしい順番に番号を3つまで選んでください。

Q: Select 3 kinds of information you want to receive the most in order of your preference.

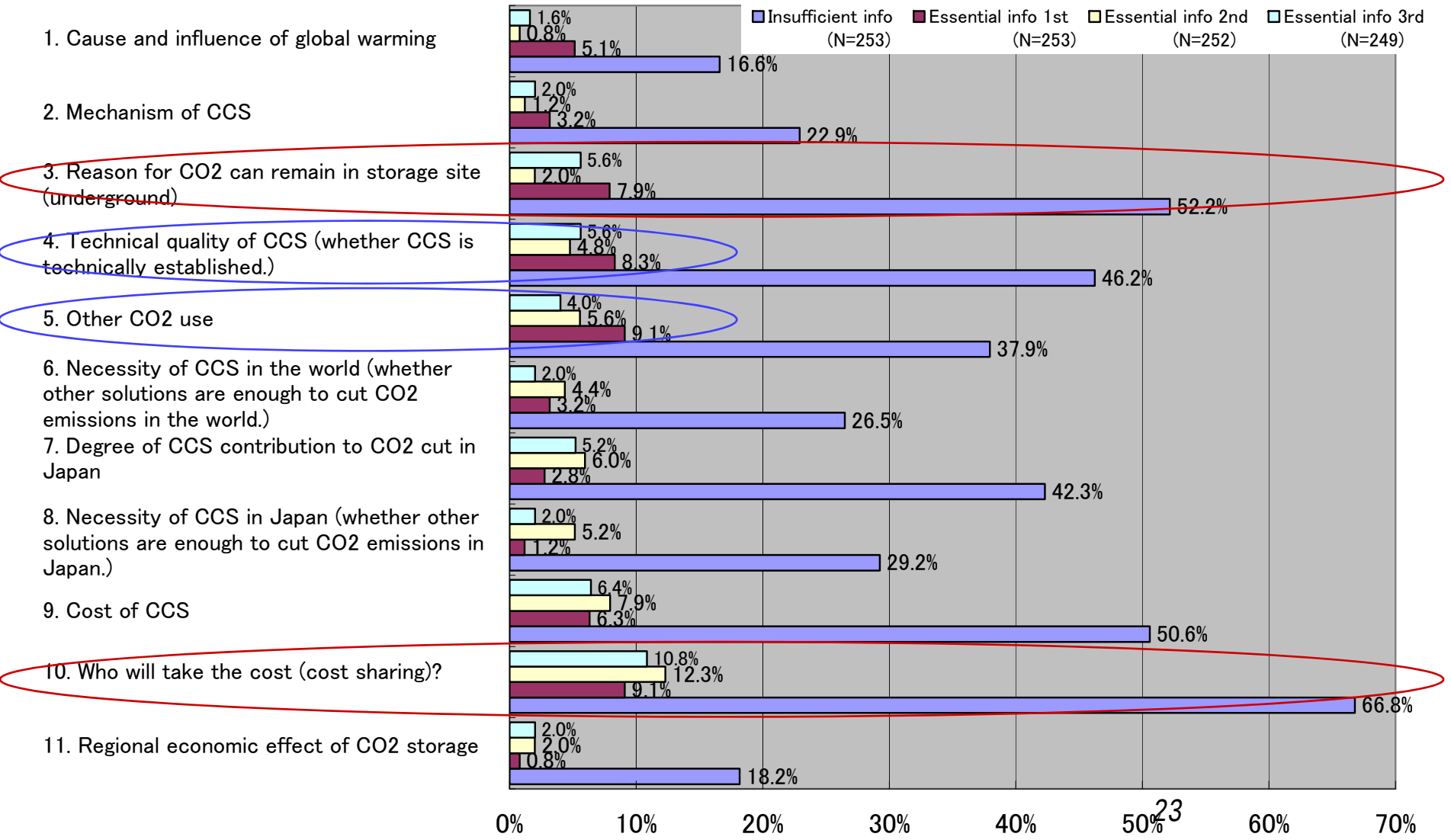


Needs of information

（2010 survey）

■ あなたが必要と思う情報について、ほしい順番に番号を3つまで選んでください。

Q: Select 3 kinds of information you want to receive the most in order of your preference.



Conclusion

- **Awareness and perception of CCS**
  - Most of Japanese public is still not aware about CCS but knowledgeable people about CCS might be increasing.
  - Japanese public are rather positive toward promoting CCS in general as a part of climate portfolio but neutral toward real implementation.
- **Opinions for implementation**
  - “Concern about risks and leakage” and “Understanding of effectiveness” would influence public opinions.
  - Favorable only if they are well informed through credible information sources including media coverage to understand that CCS would cause no local environmental impacts
  - Transparency of project is prioritized.
- **Implication**
  - Need coordinated and elaborated communication program of CCS
  - Need credible information providers in Japan (scientific and independent)
  - Need information (education) kits to address benefit and risks of CCS.