

MOTIVATIONAL ASPECTS OF ENERGY TRANSITIONS IN JAPAN: SOME EMPIRICAL FINDINGS

Hidetoshi Yamashita, Hitotsubashi University, Phone +81-42-580-8519, E-mail: hide@econ.hit-u.ac.jp
Shinichiro Okushima, University of Tsukuba, Phone +81-29-853-5226, E-mail: okushima@sk.tsukuba.ac.jp

Overview

In the age of sustainability, energy transitions have become the center of attention globally. Based on the informative examples like in Germany (e.g., Engelken et al., 2016), Austria (e.g., Schmidt et al., 2012) or Switzerland (e.g., Müller et al., 2011), it is well known that municipalities play a significant role in energy transitions. These studies show that the motivation and performance of municipal governments are quite essential to realize locally-initiated energy transitions, and that there are large varieties of objectives and benefits municipalities pursue. Nonetheless, little empirical literature on this topic exists in Japan, as well as even in European countries (Engelken et al., 2016; Müller et al., 2011).

Methods

This study conducted an original nationwide questionnaire survey of all of the 1,741 municipalities in Japan in 2014. There were responses from 1,372 municipalities, for a response rate of 78.8%. The study specifies the characteristics of municipalities which encourage renewable energy by means of correspondence analysis. Correspondence analysis plots two categories which are selected simultaneously by many respondents close to each other. Categories with few responses appear in the periphery of the scatter plots, while categories with many responses tend to be located around the origin.

Results

The survey asked if municipalities themselves are encouraging the use of renewables. Over half (744 municipalities) said “we encourage their use under explicit written guidelines such as ordinances, plans, targets, or new energy visions.” The study labels such municipalities as “Renewables Encouraging Municipalities”(REMs). Fig. 1 shows REMs’ reasons for encouraging the use of renewables.

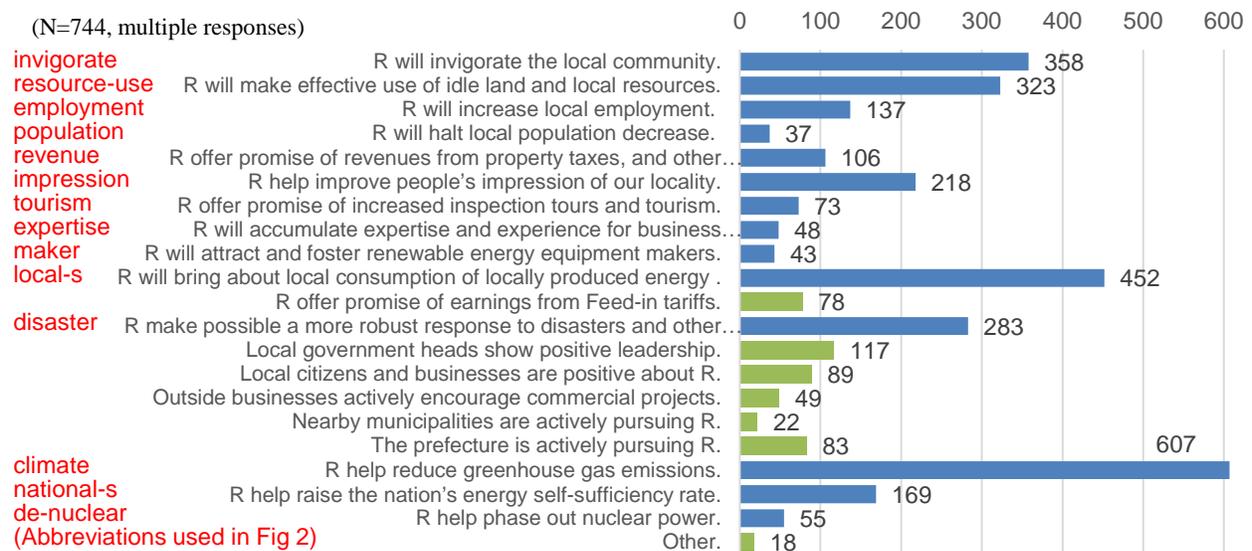


Figure 1 Reasons for encouraging the use of renewables

Note: “R” means “Renewables.”

The study then performs the correspondence analysis and examines whether there are any tendency of municipalities regarding the selection of the reasons. In Fig. 2, the category of “climate,” the most selected reason, is located in peripheral position. This is because there are 101 municipalities which only select the reason of “climate.” And the reasons of “climate,” “local-s” and “disaster” are closely located, which implies they are likely to be selected simultaneously. The result can be interpreted that those municipalities which select these reasons have “environmental” motivation to encourage the use of renewables. Likewise, municipalities which select “de-nuclear” and/or “national-s” have “concern on national energy policy,” as well as municipalities which select other reasons have “socio-economic” motivation.

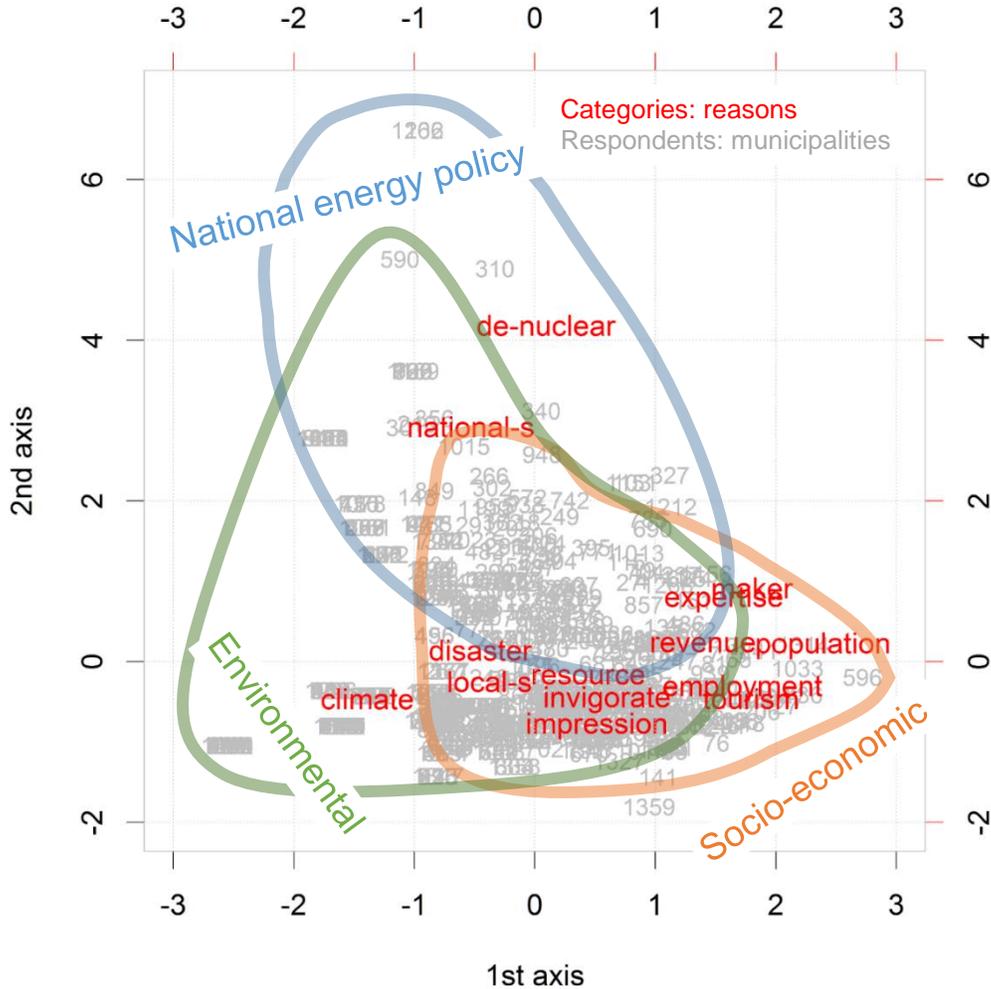


Figure 2 Scatter diagram from the correspondence analysis

Conclusions

The result of correspondence analysis clarifies the motivation of REMs as the three types: environmental, socio-economic, and concern on national energy policy. It also shows social and economic motivation may be weakly separable. A task for the future is to analyze the factors for proceeding locally-initiated energy transitions in Japan.

References

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