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Consciousness structure of the nuclear power generation location inhabitants after the Fukushima nuclear plant accident - Shimane Nuclear Power Plant and Matsue citizen in an example -

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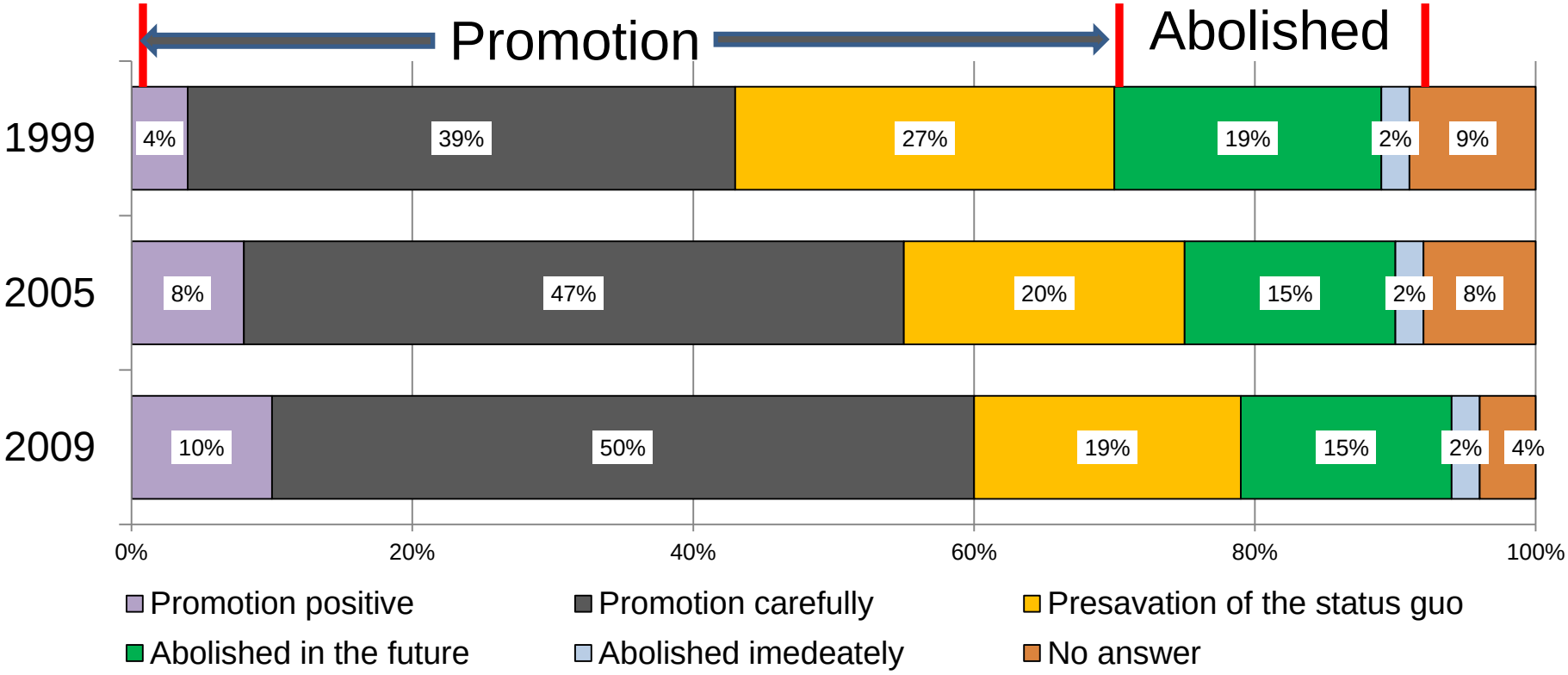
Before Fukushima nuclear plant accident, the majority of Japanese supported nuclear power generation promotion

◆How do you promote the nuclear energy?

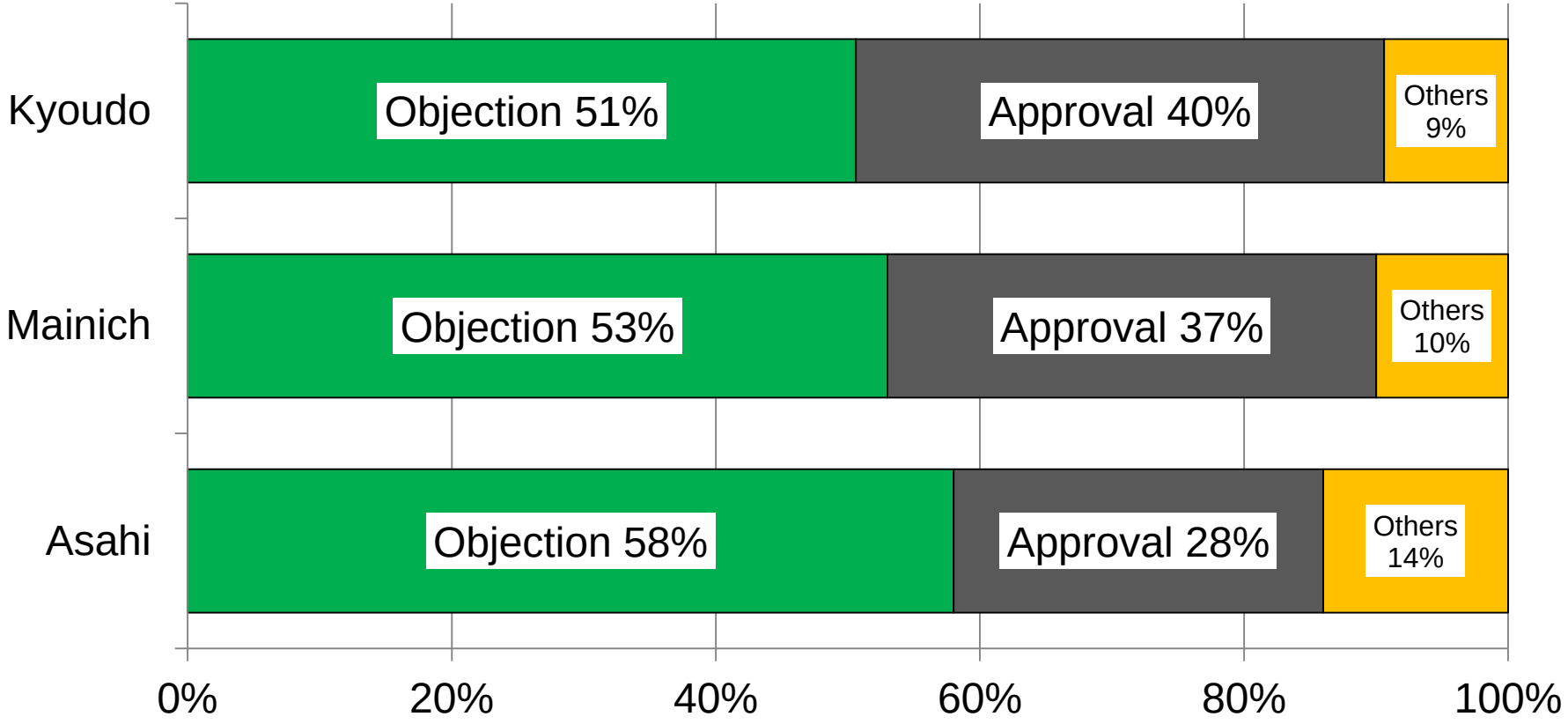


Source: Cabinet Office (2009) "special public opinion poll about the nuclear energy"

- According to the Cabinet's public opinion poll in 2009, 79% supported the promotion or preservation of nukes, in the other hand, only 17% supported the denuclearization.

After Fukushima accident, the majority of Japanese opposed re-operation of the nuclear power generation

◆ Do you approve the nuclear power plant operation certified safety measure?



➢ Three newspapers performed an attitude survey for 13-14 days in July, 2013, and the results were announced on July 15 in front of the election of the upper House.

1. Purpose of this presentation

- **Before Fukushima accident, the nuclear power plants location inhabitants supported predominantly the nukes promotion to receive a big benefit of the nukes.**
  - The benefit of the nukes shows handing out favors such as a large amount of subsidy, property tax and the nuclear fuel tax to the local government located nuclear power generation
  - Job creation by construction, check and operation of the nuclear power generation

- **After Fukushima accident, how did the nuclear power generation location inhabitants change consciousness for the nukes?**
  - The attitude survey mainly focused on (1) yes or no for nukes operation, (2) trust for the safety measures, (3) recognition for economic benefit, (4) uneasiness for the nukes, (5) saving electricity action

2. Summary of "the attitude survey about the Shimane Nukes"

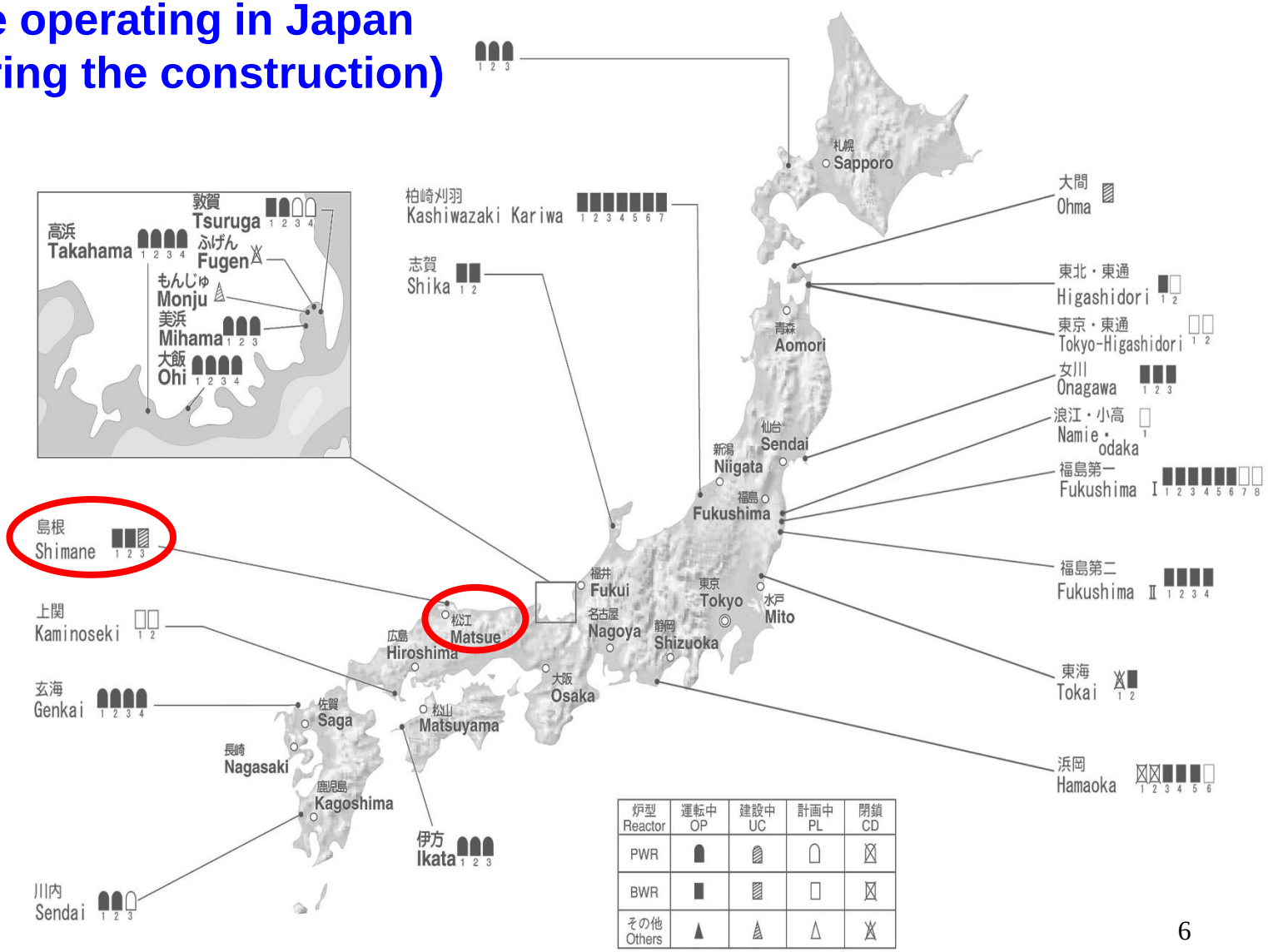
- Survey period from the end of May, 2012 to June 15
- Send a question vote by mail and collect it
- 2000 Matsue citizen electors (approximately 200000 Matsue citizens) were extracted by the random sampling method with the electoral list
- A recovery rate was 65.49% (= 1296/1979)
- 65 Choice-type questions and a freedom description column

■ Further information of the findings

Uezono.M, Eguchi.T, Seki.K (2012) “Consciousness structure of the Matsue citizen to Shimane Nuclear Power Plant operation", Journal of San-in study, No.5, Shimane University San-in research center, pp.1-18 (in Japanese)
<http://albatross.soc.shimane-u.ac.jp/src/kiyo/kiyobase/zzz005/01_uezono2012.pdf>

Location point of the nuclear power plants in Japan

50 plants are operating in Japan
(2 plants during the construction)

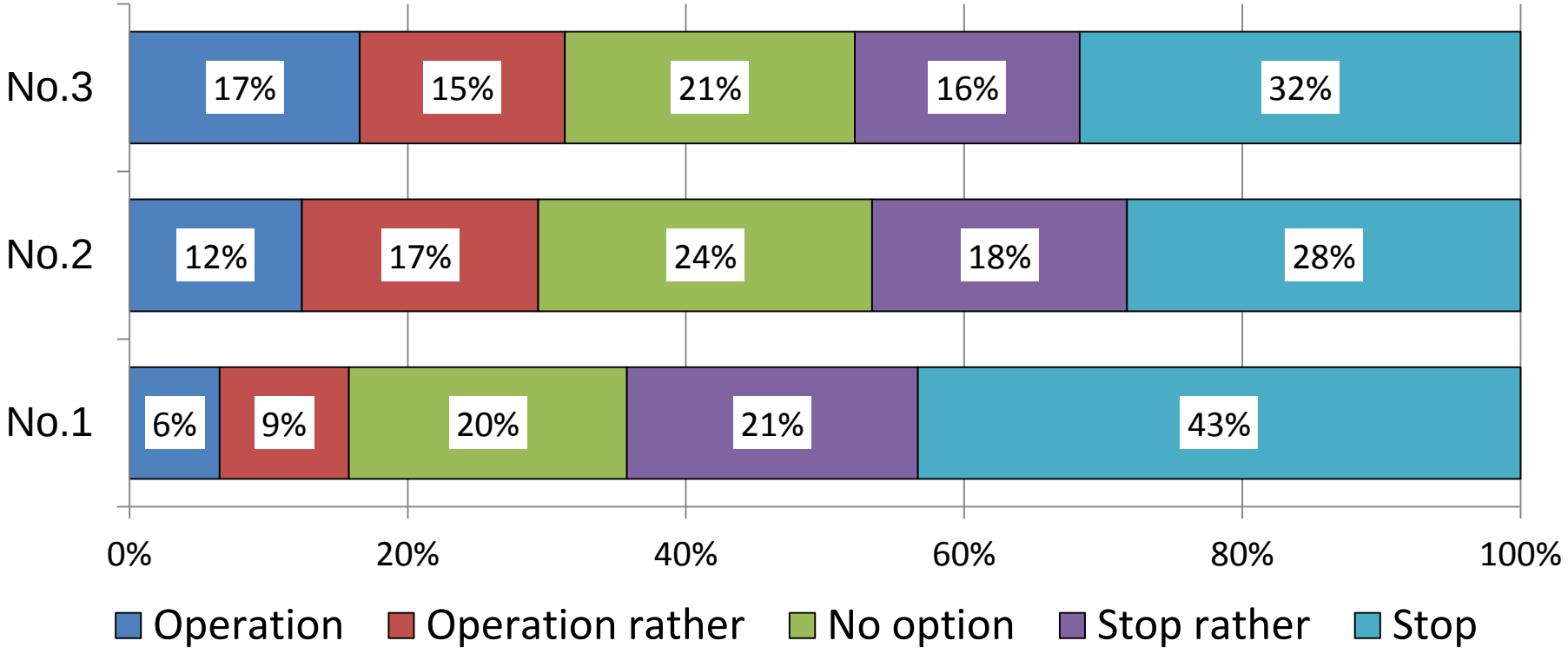


Summary of the Shimane Nuclear Power Plant

	No.1 unit	No.2 unit	No.3 unit
Reactor type	BWR, mark type I	BWR, mark I improvement model	ABWR
The rating electricity output	460MW	820MW	1373MW
Startup	March 29, 1974	February 10, 1989	During construction

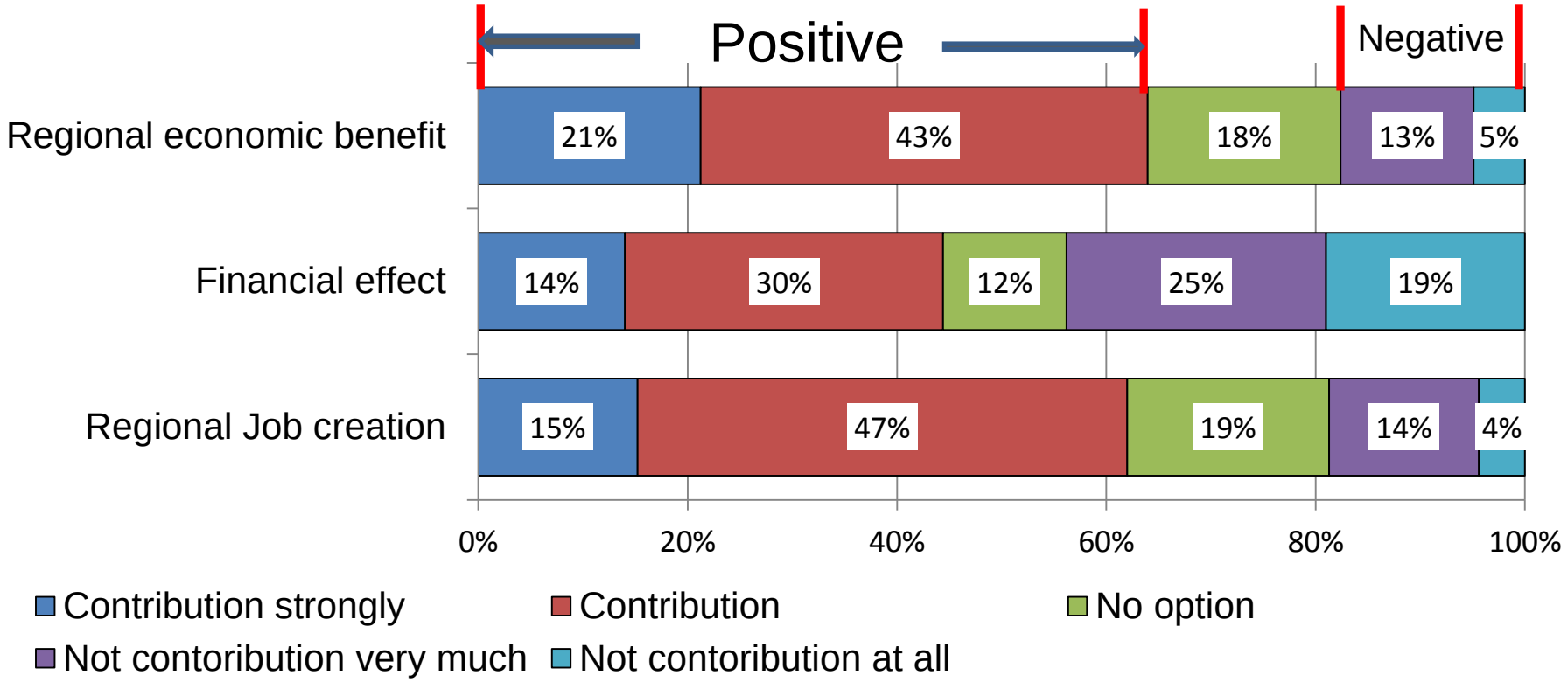
- The Shimane No.1 unit is a small superannuation reactor of 39 years after operation and Mark 1 type as the same as Fukushima first Nuclear Power Plant
- No.2 unit is a medium-sized reactor of 24 years after operation and the improved Mark 1 type
- No.3 unit is the latest large-sized reactor, but a startup is undecided

3-1 Should operate Shimane Nuclear Power Plant?



- Most objection of re-operation of No.1 unit is effected by a question to safety by the facilities deterioration in greeting 40 years after operation
- Why is there many objection for the latest No.3 unit?

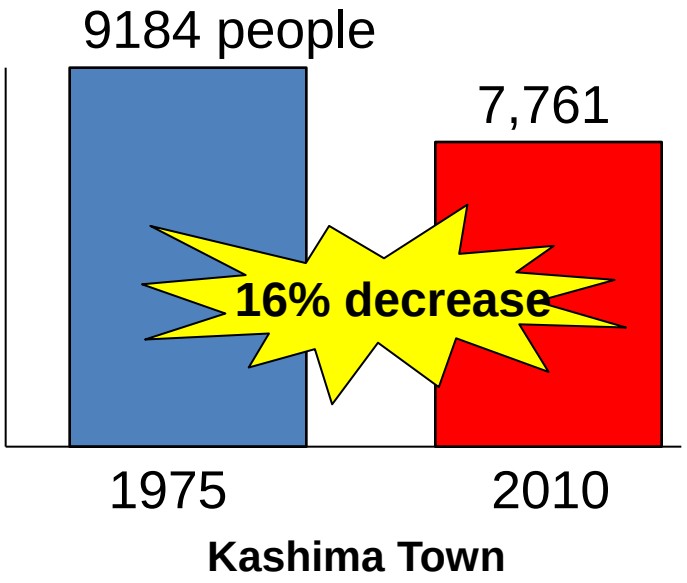
3-2 How feel economic effect by the Shimane Nukes?

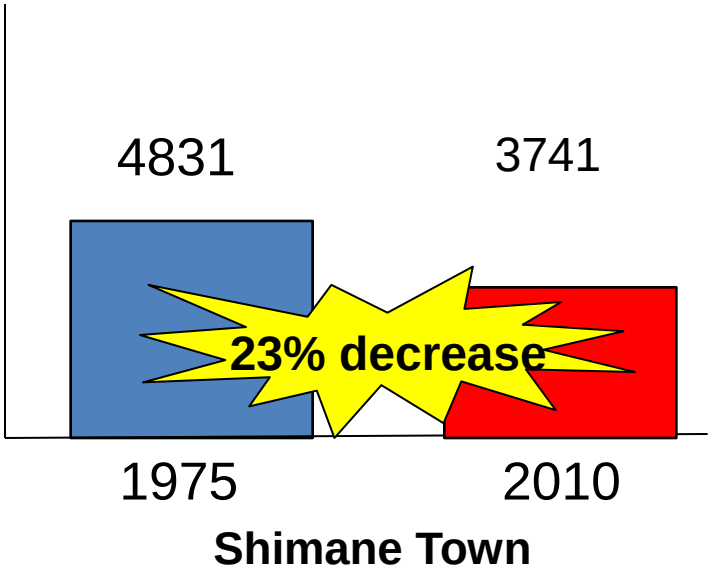


- For Shimane Nuclear Power Plant, most citizens feel that contribution to regional economy and job creation is high. However the financial effect such as subsidy are not realized very much

Population decline continues after Shimane Nuclear Power Plant invited

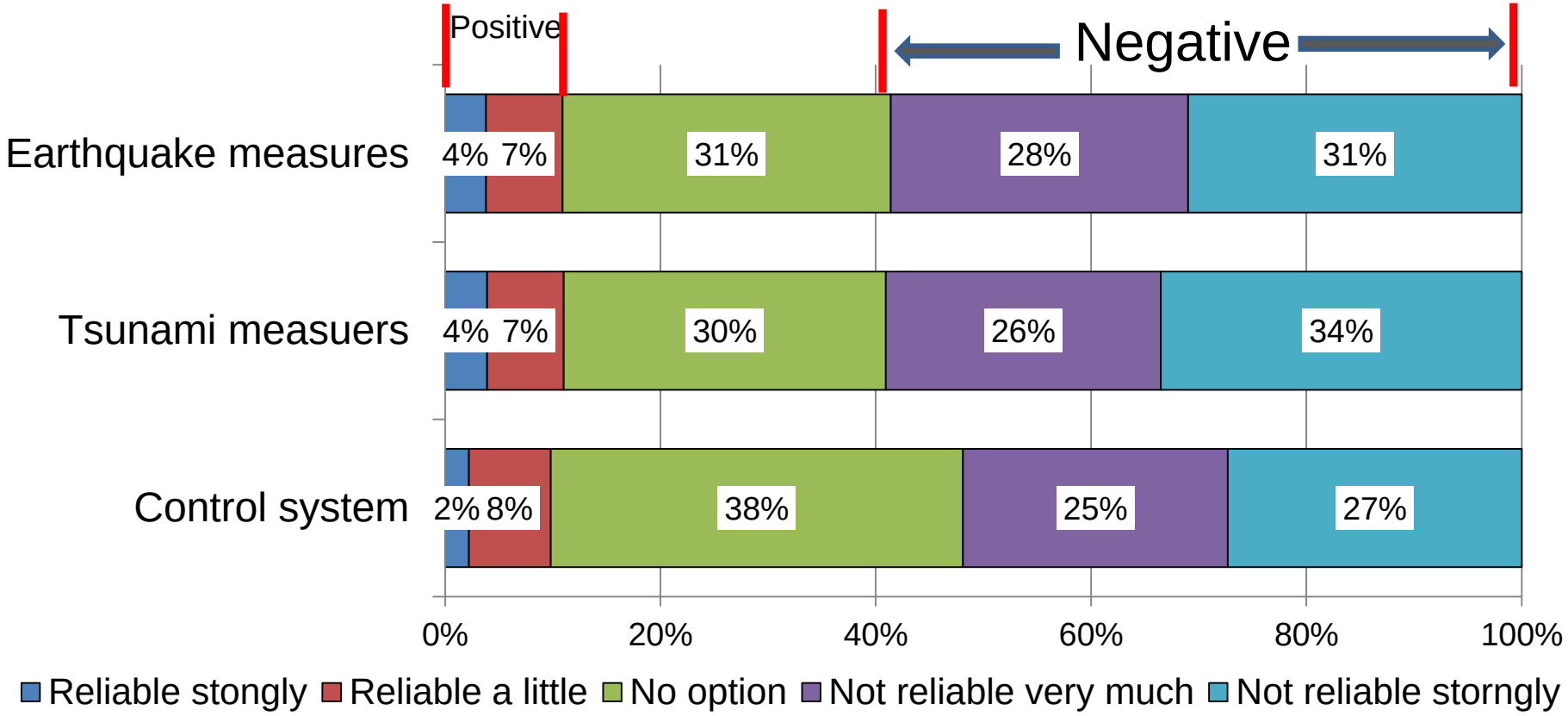
◆ population decline (Kashima & Shimane Town)





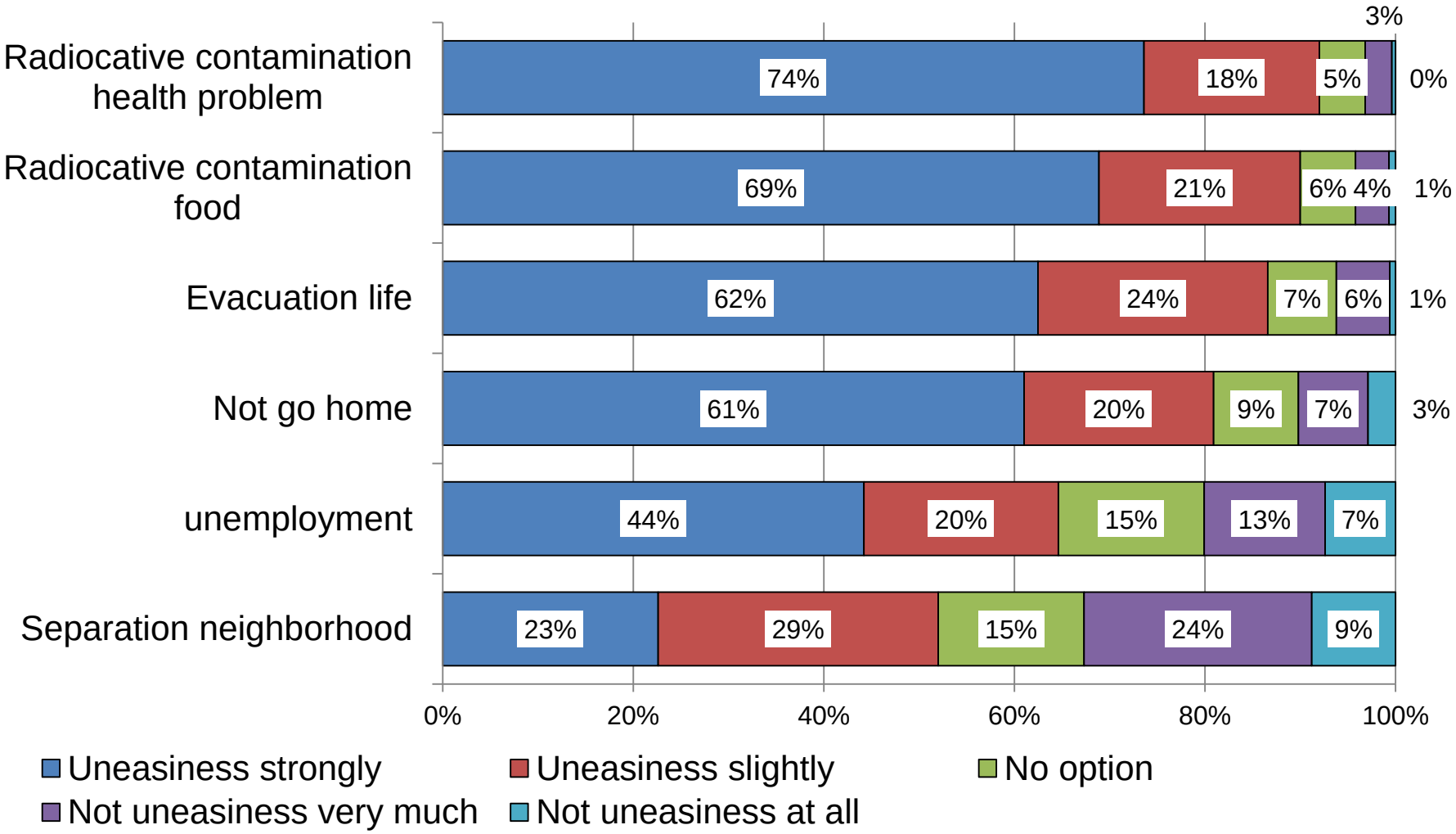
- It has been explained that regional economy would be developed and regional life would be improved if the local government invited nuclear power generation
- 39 years pass after the Shimane No.1 unit started commercial operation, but the population decreases greatly (population of the whole Shimane prefecture decreases 7% from 1975 to 2010)

3-3 Are safety measures of Shimane Nukes enough?



- The distrust of earthquake measures, tsunami measures, control system is strong
- There is much “No option“ because of lack of information on these measures contents

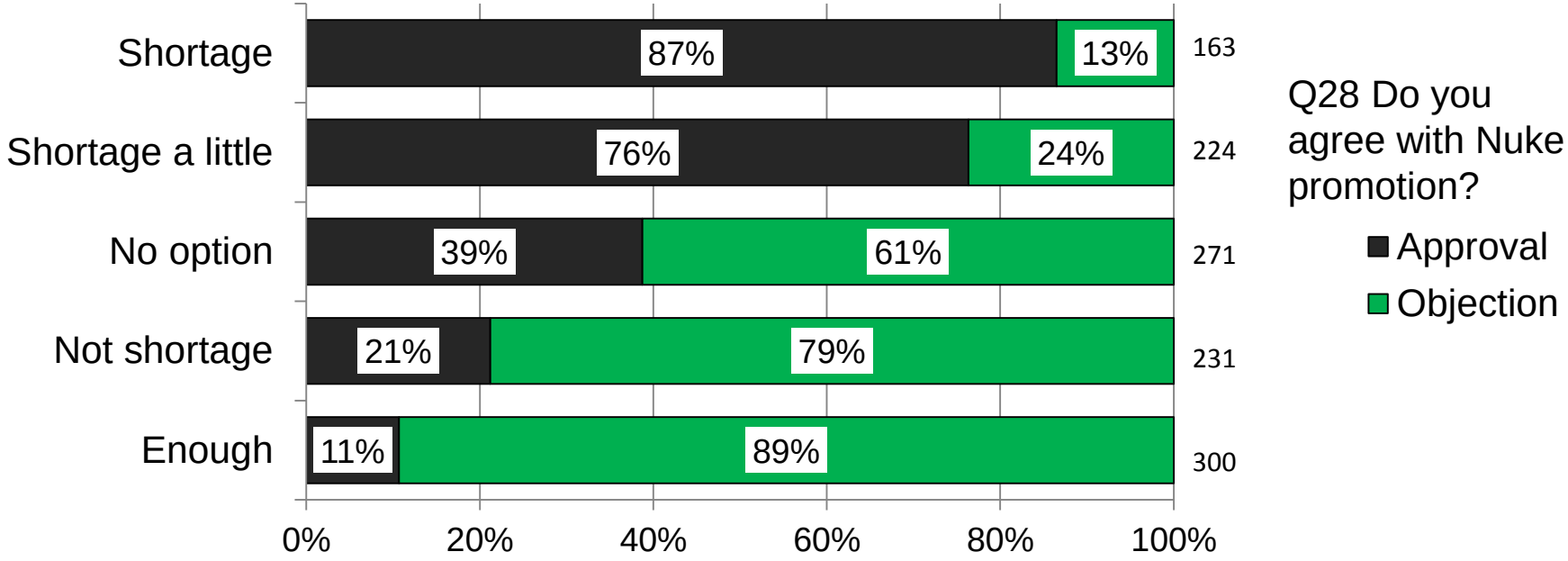
3-4 Uneasiness to nuclear plant accident occur



- Health problem caused by the radioactive contamination is particularly high.

3-5 Is the electricity enough by the nukes stop?

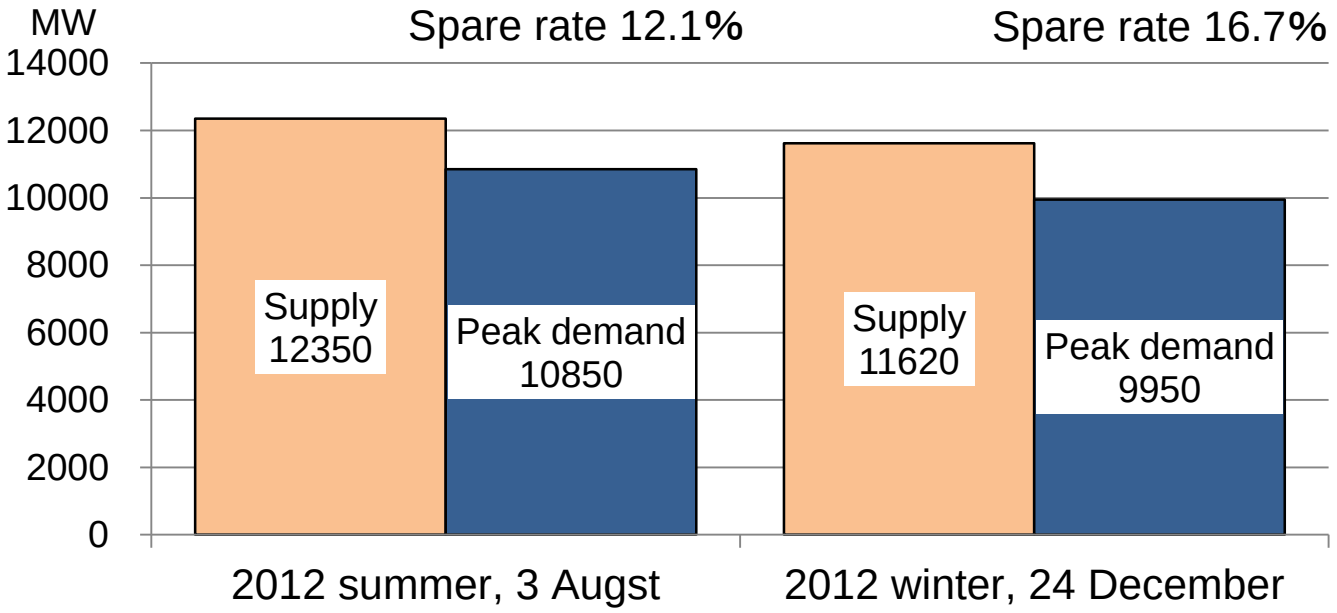
Q29. Even if all domestic nuclear power generation are stopped, do you think that the electricity is enough by saving electricity action? (n=1189)



- When nuclear power generation is stopped, the nuclear power generation promotion group thinks that electricity becomes shortage, on the other hand, the de-nuclear group thinks that electricity is enough
- The de-nuclear group is effected by information that power supply reserve force is enough in 2011 summer & winter, and the Japanese society spend electricity consumption wastefully

The electricity is enough if Shimane Nuclear Power Plant is abolished (Chugoku Electric Power district)

◆Electricity supply and demand in the peak of Chugoku Electric Power district

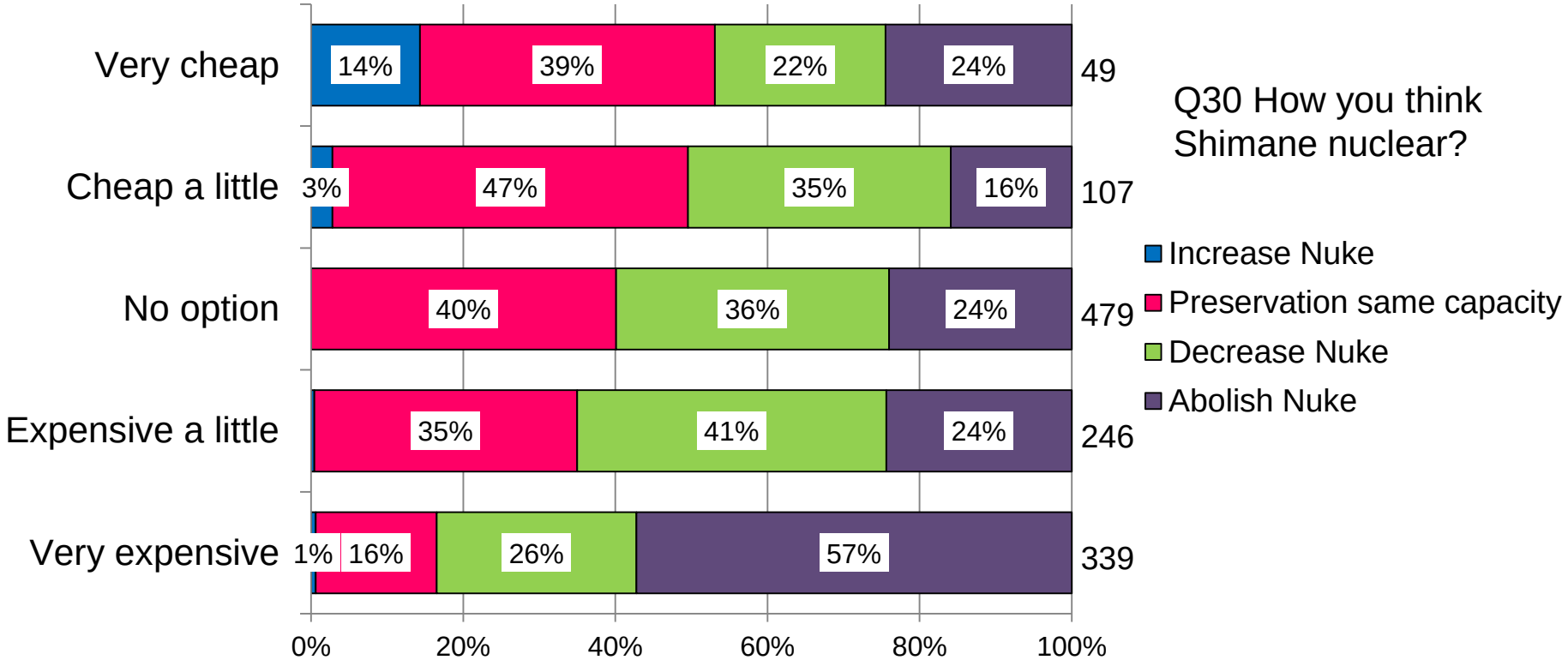


Source: Energy environment meeting / electricity supply and demand examination meeting (2012) "supply and demand inspection committee's report"

➢ 2012 summer was intense heat, but the Chugoku Electric Power district spared 1500MW (1.2 times for two Shimane Nuclear Power Plant) by the biggest electricity demand. As the reason, saving electricity consumption action, investing energy saving, and the thermal power generation increased as the substitute power supplies

3-6 The cost of the nuclear power generation is high

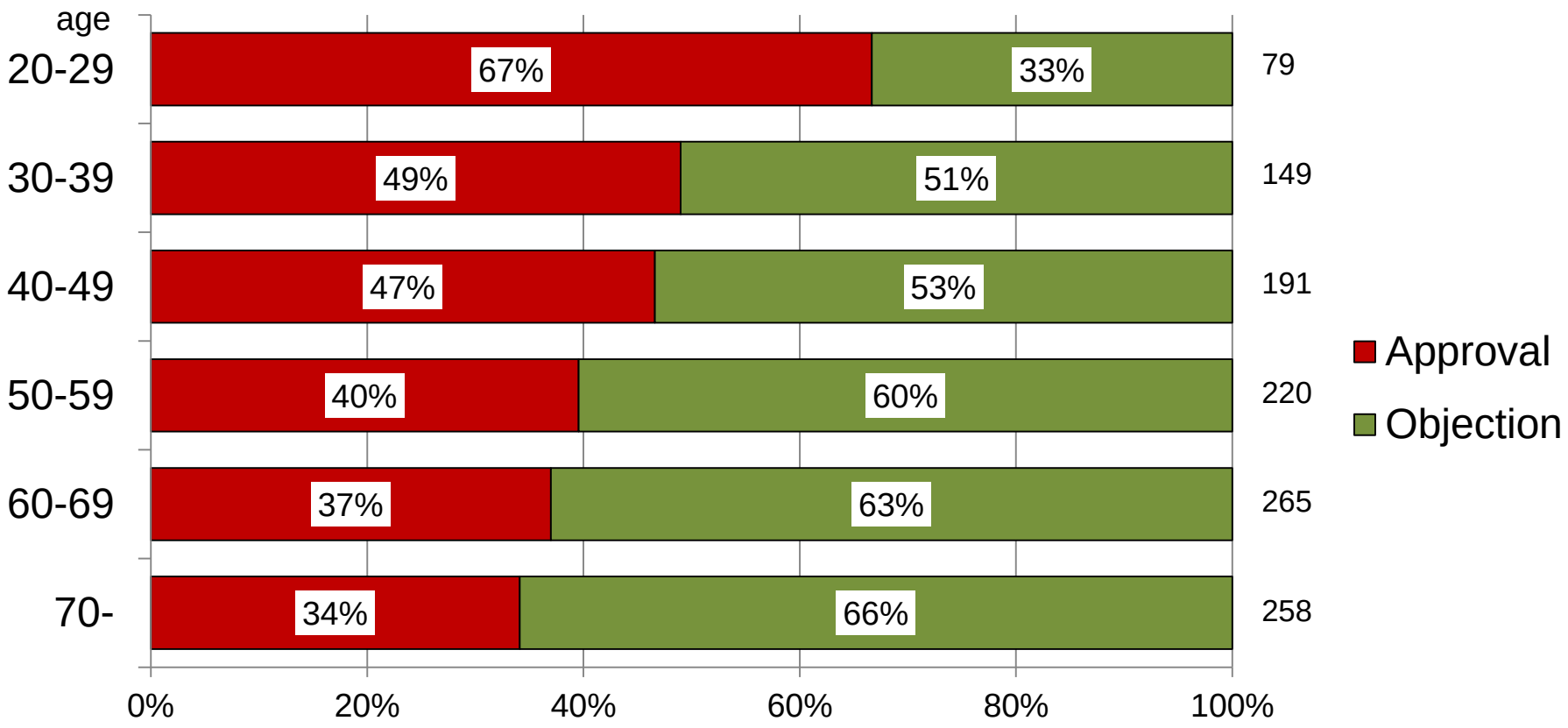
Q25. Do you think that the cost of the nuclear power generation is high? (n=1229)



- Majority people thinks that cost of the nuclear power generation is high, but “No option” occupies one-third.
- As the cost of the nuclear power generation is high, Shimane nuclear power plant is abolished.

3-7 Young people supports Nukes promotion

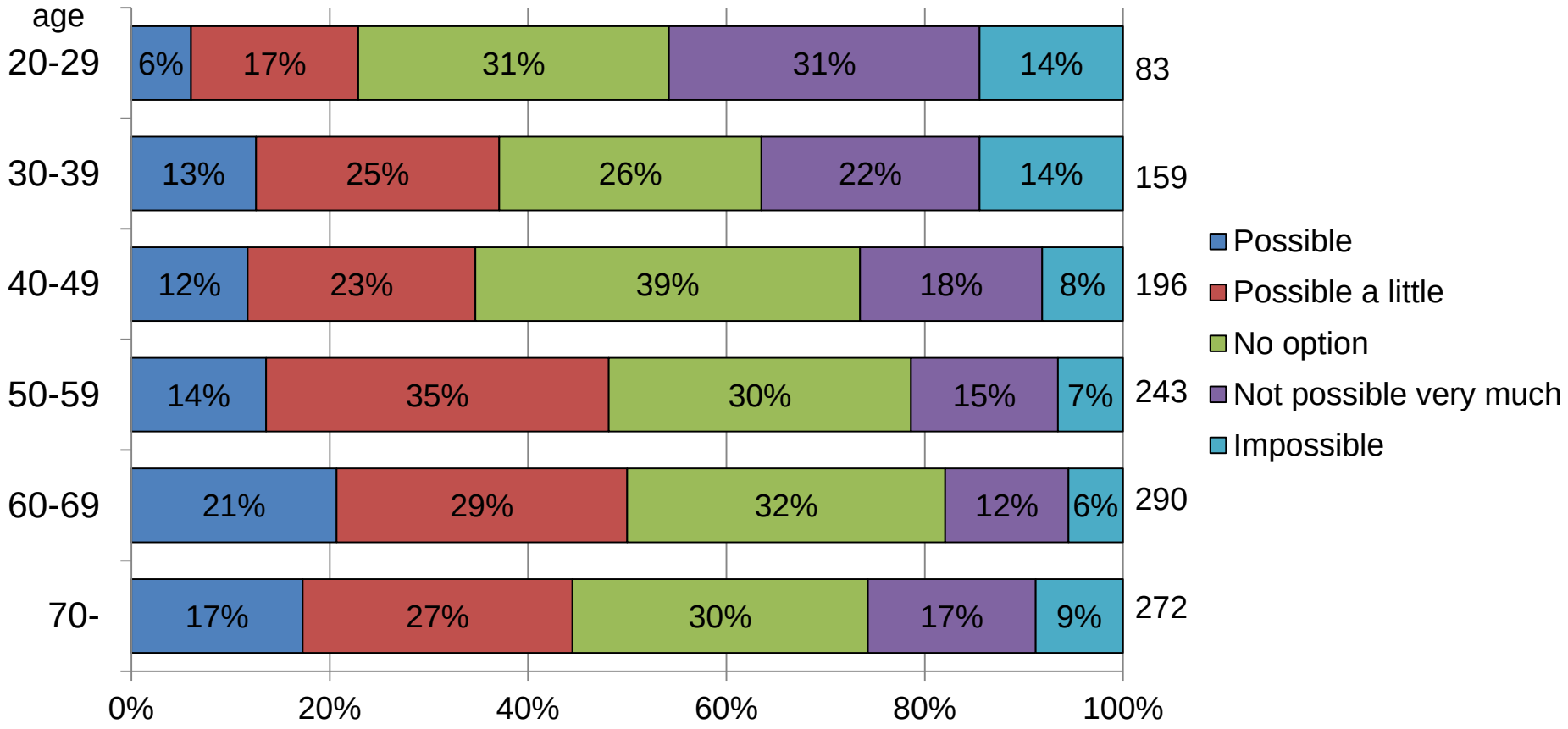
Q28. Do you agree using nuclear power generation? (n=1234)



- As for the young generation, affirmative for nuclear power generation promotion (like with operation, the need of the Shimane Nuclear Power Plant)

3-8 Young people doesn’t want to reduce energy use

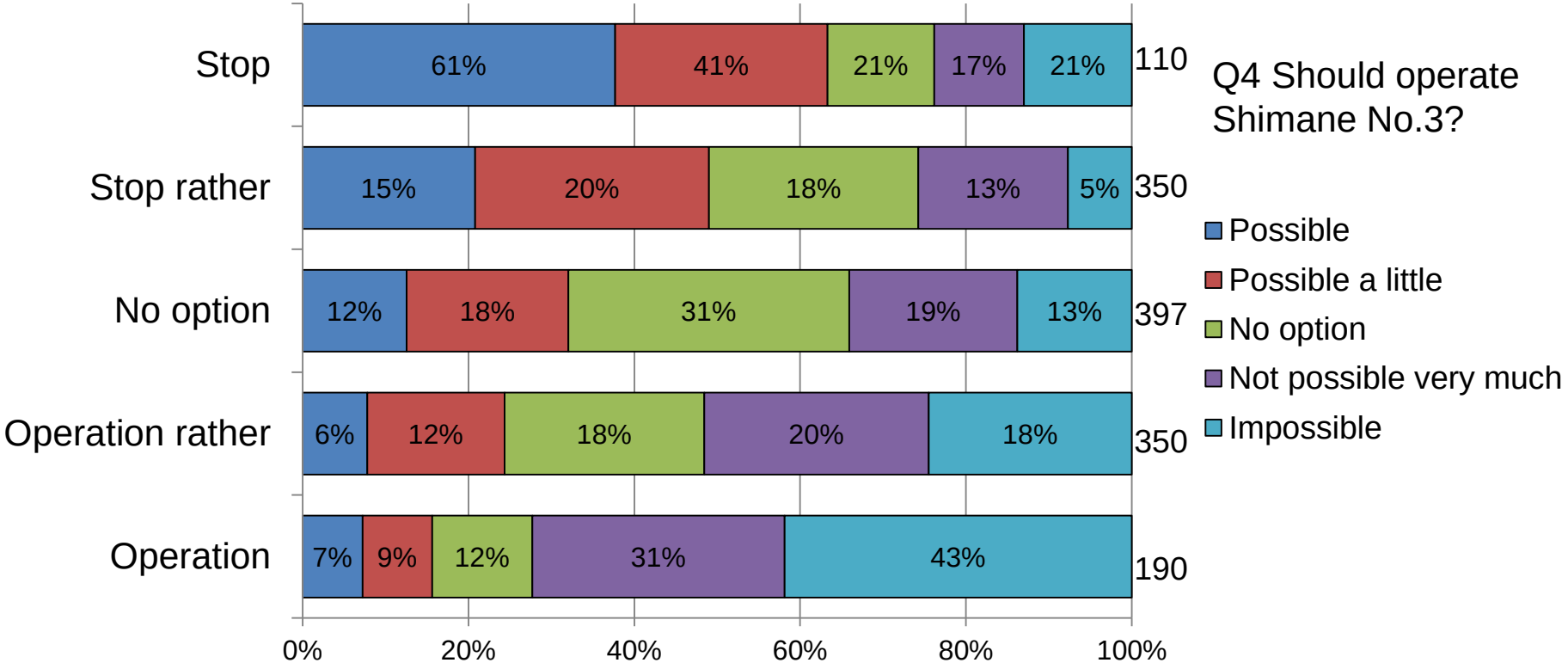
Q41. Can you reduce energy consumption even if lower the standard of living ? (n=1243)



- Young people doesn’t change the present standard of living, and concern to the electricity shortage.

3-9 Nuke promotion group cannot believe zero nuke society

Q41. Do you want to reduce energy consumption even if lower the standard of living ? (n=1243)



- The supporters of the operation of No.3 unit do not want to lower the standard of living, and do not want to energy saving action. So they think that they need not to save electricity without lowering the standard of living if a nuclear power plant operates.

4. Conclusions

1. "The nuclear power generation is dangerous"

- By the attitude survey after the Chernobyl accident, the person who regarded nuclear power generation as danger occupied 50% or more. After Fukushima accident, the person who regards nuclear power generation as danger occupies 80% or more.

2. Many people wary whether “No problem for Japanese society zero Nuke"

(1) Lack in electricity/ energy?

- ✓ How much possibility of renewable energy supply introduced?

(2) Bad effect for Japanese economy and regional economy?

- ✓ Competitiveness of the Japanese company decline, electricity bill up when ‘cheap’ nuclear is not operated

- ◆ Profit instruction energy system hinders suitable judgment for energy select
- ◆ Correct information about nuclear power generation and the energy is too short