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KNOWLEDGE ON NUCLEAR WASTE REPOSITORY IN THE SWEDISH PARLIAMENT

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ABSTRACT

In 2011 the Swedish Nuclear Fuel and Waste Management Company (SKB) applied for a permit to construct a disposal facility in Östhammar. The Swedish government is expected to make a decision in 2019. The Swedish National Council of Nuclear Waste did a survey to investigate how informed the Swedish Parliamentary Members were in these issues. The first study was done with Members of Parliament (MP) in 2013 and the second with the MPs in 2016. The results of these surveys is discussed in this paper.

Most MPs were aware of the ongoing application process. Rather surprisingly, there were more politicians who knew about the suggestions to use copper canisters, than knew that it is the government that will take a final decision on the matter.

Keywords: nuclear waste, repository, Sweden, Member of Parliament, survey

NONMENCLATURE

Abbreviations	
MP	Member of Parliament
SKB	Swedish Nuclear Fuel and Waste Management Company
SSM	The Swedish Radiation Safety Authority

1. INTRODUCTION

In Sweden, the high-level waste is at the moment stored in an intermediate storage of spent nuclear fuel at Simpevarp in Oskarshamn municipality (CLAB) in anticipation of a final repository. It is the nuclear industry that is responsible for finding a place and a method that entails a safe repository. For this the industry has formed the company Swedish Nuclear Fuel and Waste Management Company (SKB). In 2011, SKB applied for a permit under the Environmental Code and the Nuclear Activities Act to construct a disposal facility in Östhammar municipality. The method propose is the so called KBS-3. KBS-3 is based on three protective barriers: copper canisters, bentonite clay and the bedrock. The plans are subject to approval by the Swedish Government.

The Swedish National Council for Nuclear Waste decided to know more about what information the Members of Parliament (MP) had about the nuclear waste issue and in which areas there are gaps in knowledge [1]. Previous studies have analyzed party political cleavages in parliament [2-6], local political controversies [7-10] and experts vs. politicians' influence in the process [11-13]. However, there are no previous studies on what information individual MPs have on issues relating to the disposal of nuclear waste. The purpose of the study was therefore to study the MP's knowledge of the nuclear waste issue. The results from the surveys will be discussed below.

2. METHOD

The survey to the MPs started with that we sent an email to all members where we informed that SKB applied to the Land and Environment Court for permission to construct a final repository. The surveys were conducted through telephone interviews done by a consultant company AB Samhällsinformation in November 2013 and November 2016. The target group was MPs and the same questions were asked both times.

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Gross sample was 349 people and both times we reached 200, i.e. we had around 60% response rate each time. The significance level 95% has been used.

Both times the party affiliation of the respondents in the survey, reflected the composition in the parliament very well.

3. RESULTS

The first question was about the MPs' awareness of the ongoing application process.

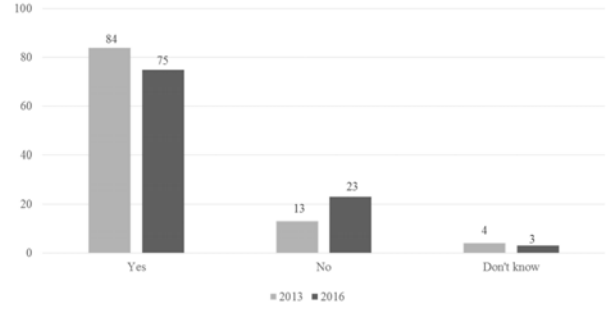

Fig 1 Are you aware that SKB applied to the Land and Environment Court and the Swedish Radiation Safety Authority for permission to plant for the disposal of high level nuclear waste?

It appears that there was a relatively good knowledge of the current process among the MPs, see figure 1. There was no significant difference between the parties or between the sexes. The knowledge seems to be less 2016 compared to 2013. The decline remains however within the margin of error. No deviations with regard to gender but on party affiliation. Significantly more Swedish Democrats (SD) didn't know or were uncertain.

The MPs thought on if Sweden would manage and dispose nuclear waste is presented in figure 2.

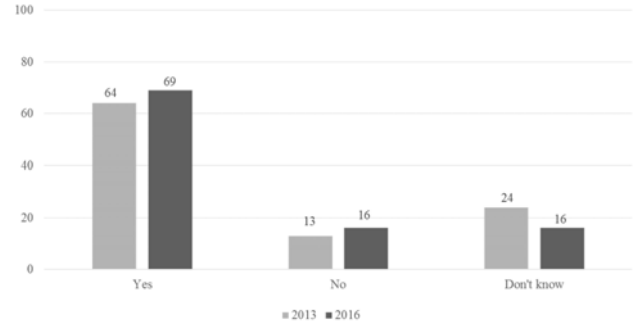

Fig 2 Do you think that we in Sweden can manage and dispose nuclear waste safely or not?

In 2016, 69% believed that Sweden safely can handle the waste. Three years earlier 64% thought so. In both measurements, the women were more doubtful about this.

Next question concerned what method SKB has suggested in their application, the responses are shown in figure 3.

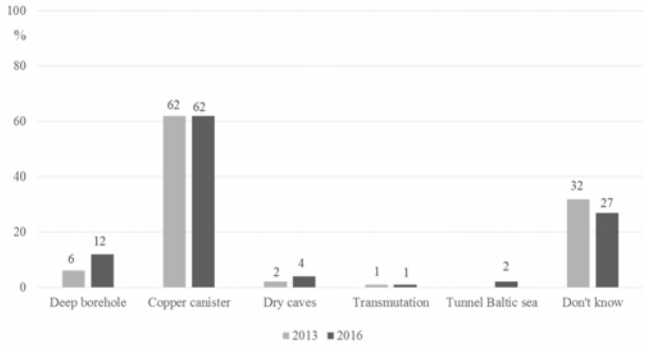

Fig 3: which solution for final repository does SKB suggest in its application concerning spent nuclear fuel?

In the question concerning what solution SKB has suggested in their application the results are quite similar both times. There were no differences between how the parties answered. Most MPs answered the copper canister (which is correct) or that they didn't know.

We asked which municipality that was proposed for localization of the repository, see figure 4.

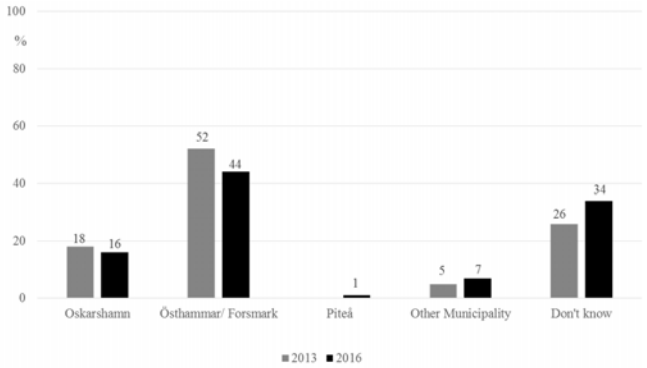

Fig 4 Do you know which municipality that is suggested for localization of the repository?

As shown in figure 4, in 2013, 52% responded Östhammar or Forsmark, which both are correct. Forsmark is the name of the nuclear plant located in the municipality of Östhammar. In 2016 this figure was down to 44%. In 2016 responded 34% that they didn't know, in 2013 was that figure 26%. Women responded to a higher degree "Don't know" compared to the men.

Next question concerned if the MPs thought the disposal of spent nuclear fuel is an important political question. The responses are shown in figure 5.

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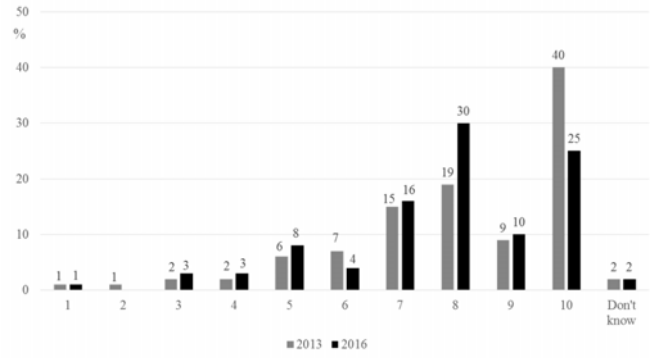

Fig 5 How important political issue do you think the final disposal of spent nuclear fuel?
(Scale of 1-10, where 10 stands for very important political issue and 1 for not at all important political issue)

All respondents considered that final repository of spent nuclear fuel is an important political issue. The average total level was 8.2 (2013) and 7.8 (2016) on a 10-degree scale where 1 means "not at all important political issue" and 10 means "very important political issue". Women as well as sympathizers to the Green Party (mp) more strongly thought that this was a very important political issue.

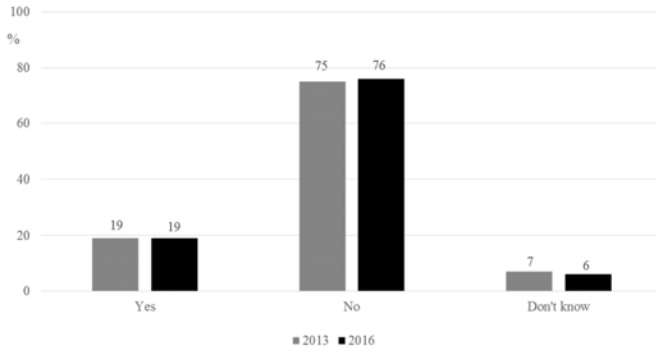

Fig 6 Do you think we should leave it to the experts on nuclear waste to decide about how we should manage our nuclear waste?

We asked the MPs if they thought we should leave to the experts to decide on how to manage nuclear waste. The results are shown in figure 6. At a total level, 75% and 76% responded that it should not be left to the experts to decide on the issue. No differences with respect to gender. The Social Democrats (S) was more negative to "expert opinions" than others. Among the Swedish Democrats (SD) significantly more believed that the decision should be transferred to experts (37% vs. 19% at total level).

One question concerned if the MPs believed that Sweden should construct a final disposal in a manner that allows for reuse in the future, see figure 7.

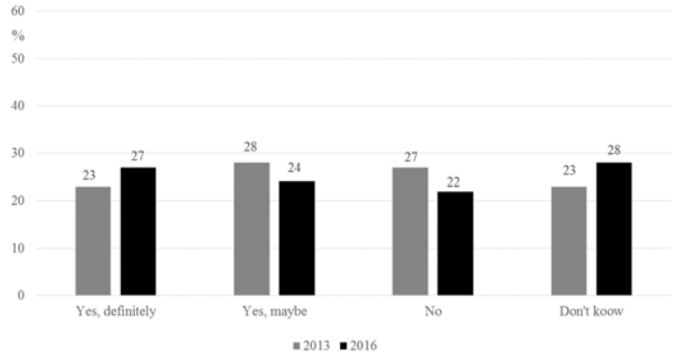

Fig 7 Do you think nuclear waste to be disposed of in a manner that allows it to be readmitted for example, to be reused in new types of nuclear reactors?

Approximately half of the respondents believed that one should construct a final disposal in a manner that allows for reuse in the future. The Moderate Party (M), the Liberal Party (L) and the Swedish Democrats (SD) were most positive, while the Green Party (mp) and the Left Party (V) were the most skeptical. No gender differences were detected.

4. CONCLUSIONS

In the surveys, we both times received an even distribution of respondents that well reflected the composition of the parliaments. Most MPs were aware of the ongoing application process. A partial explanation for this could be that in our introductory letter to the MPs before the telephone interviews we informed about the ongoing application process.

In both surveys, over 60 percent knew that the copper canisters was suggested for the storage. It is somewhat surprising that so many MPs knew what material to use. There were more politicians who knew the capsule material than knew that the municipality Östhammar was suggested as location for the final repository. These results mirror the results we received in 2018/2019 when asking Swedish citizens about their knowledge and attitudes to nuclear waste (see [14]). This indicates that technical issues have been given too much space on the political agenda as well as in the public debate.

Another surprising result was that more MPs in 2013 compared to 2016 knew that Östhammar was the suggested location. The location is an issue that should be high on the political agenda and where we thought

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more politicians would be informed, especially when coming closer to a decision in the matter. Among the citizens it was even less that knew the location, only 27 % responded Östhammar or Forsmark [14]. This should at least lead to consideration of how the nuclear waste issue is framed and presented in the public debate. This also indicates a need to make room for more actors than just the technical expertise.

An overwhelming majority of the MPs believed that Sweden can dispose the waste in a safe manner.

The issue of retrievability is a question that is not on the agenda in Sweden. It is not discussed by SKB or in the public debate. We asked the MPs about their views on retrievability and it was unexpectedly large number, over half, which meant that the repository would be designed so that the withdrawal of nuclear waste can be done. This means that even this issue should be given access to the public debate and be up for discussion.

The majority of the MPs considered that nuclear waste is an important political issue and only 20 per cent thought that the issue would be left to experts. This indicates a potential for thriving discussions in the future, but it also demands someone eager to initiate a discussion. So far this has not been the case in Sweden.

ACKNOWLEDGEMENT

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