Coordination project

Enhancing EducAtion, TrainiG and Communication Processes for Informed Behaviors and Decision-making ReLatEd to Ionizing Radiation Risks

Grant agreement no: 604521

DELIVERABLE (3.1)

Annex 2

Report on public views on education and information in the post-Fukushima context in Slovenia

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Project Context

http://eagle.sckcen.be

In Europe today, institutions, media and the general public exchange information about ionising radiation (IR) and associated risks. The 2011 Fukushima accident has demonstrated the need for further improving this communication. EAGLE is a coordination project under FP7-EURATOM that aims at clarifying information and communication strategies to support informed societal decision-making.

Education, training and information to the public are key factors in the governance of ionizing radiation risks, as are opportunities for dialogue and stakeholder involvement in decision making. EAGLE will engage stakeholders in assessing the current dissemination of ionizing radiation information to the public and provide practical guidance tools for good practice to support the ideal of a participative, citizen-centred communication.

To achieve these objectives, EAGLE will bring together representatives of nuclear actors, users of ionizing radiation, authorities, mass and social media, and informed civil society, from a range of European countries employing nuclear power or not.

EAGLE Work Package 3analyses the results of the education, training and information (ETI) materials and activities from the point of view of the final recipients of information and knowledge - that is the general public. The research for all EU member states will be performed based on opinion polls, interviews and outcomes of workshops conducted in selected countries. In addition, potential differences in forming social and cognitive representations of ionizing radiation risks by professionals and lay public will be analyzed by applying the mental model approach. This will identify means to improve the informed public participation in decision-making.

The present report contains the results for Slovenia to be included into Deliverable 3.1. It is based on public opinion poll from December 2011 (after Fukushima accident) and visitors of Information Centre of Nuclear Training Centre at Jozef Stefan Institute, mainly 14-16 years old school children. The report will be further supplemented by the opinion poll in autumn 2014.

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I. Introduction

Slovenia has been measuring the attitude towards nuclear energy, radioactive waste management and disposal and nuclear safety issues for the last 20 years. The public opinion polls have been made by ARAO (Agency for Radioactive Waste Management), Nuclear training Center at Jozef Stefan Institute, and in the last period also by GEN Energija. Different target groups were included in the surveys: members of general public from all regions of Slovenia, members of general public from local communities near nuclear installations, students, members of environmental non-governmental organizations, journalists, politicians on local and national level.

ARAO used to make a public opinion poll every year. Due to the reduction of funds in the years 2012 and 2013 thus was not possible any more. For the 2014 a joint public opinion poll with GEN Energija is planned and it will include the questions as decided in the context of EAGLE project. The results of this joint public opinion poll will be available later in the year. Nuclear Training Center is regularly surveying the attitude of visitors of Information center (ICJT) that are mostly teenagers - primary and secondary school pupils.

In this report we present the results of ARAO survey in 2011 and ICJT survey in 2013. Objective of the survey in 2011 was to evaluate and compare the attitudes towards nuclear energy and radioactive waste present in the adult population of general public on whole Slovenian area and in communities close to NPP Krško, members of environmental non-governmental organizations, journalists and politicians. The objective of the survey in 2013 was to evaluate the understanding of basic concepts of nuclear energy, radiation and radioactive waste and the opinions about the impacts of radiations and associated risks.

II. Methodology

II.1 ARAO survey

The survey was carried out between the end of November 2011 and middle of January 2012 by Ninamediad.o.o., a company that is specialized for market and public opinion survey. CATI (computer-assisted telephone interviewing) technique was applied to get the answers from the respondents.

II.1.1 Sample

Five respondent groups were defined:

Group 1:

General public in Slovenia. All statistical region of the country were included and ratio of population of a respective region corresponded to the ratio of the sample in the survey. Survey took place from November 29 2011 till December 12 2011. 4305 randomly selected phone numbers were called. Out of this number 701 persons (16.3 %) were suitable and willing to participate in the poll.

Group 2:

Inhabitants of local communities near NPP Krško. Municipality Krško and municipality Brežice were included. Survey took place from December 3 2011 till December 11 2011 in Krško and from December 12 till December 20 in Brežice. 5934 randomly selected phone numbers were called. out of this number 401 persons from Brežice (6.7 %) and 400 persons from Krško(6.7 %) were suitable and willing to participate in the poll.

Group 3:

Members of environmental non-governmental organizations. Survey took place from December 7 2011 till December 13 2011 and 21 persons were participating.

Group 4:

Journalists. Survey took place from December 7 2011 till December 19 2011 and 50 persons were participating.

Group 5:

Politicians. Survey took place from December 13 2011 till January 13 2012 and 65 persons were participating. Members of Slovenian parliament, members of Slovenian government, leaders and secretaries of main political parties, members of local political party committees and mayors were participating. Mayors represented most of the respondents (51 out of 65).

Table 1: Socio-demographic characteristics of the sample of group 1 and group 2. (relatively great % of older respondents is the consequence of polling strategy – respondents are available by stationary telephony and are at home).

		Group 1 – general public	Group 2 – residents near NPP krško	
			Krško	Brežice
Total No.		701	400	401
Sex	Female	51.8 %	52.3 %	48.4 %
	Male	48.2 %	47.8%	51.6 %
Age	18 – 30	6.7 %	8.1 %	6.2 %
	31 – 45	16.9 %	15.4 %	14.0 %
	46 – 60	39.3 %	33.0 %	37.9 %
	61 +	37.1 %	43.6 %	41.9 %
Education	Primary	9.0 %	16.7 %	9.0 %
	Lower secondary	11.7 %	13.9 %	14.5 %
	Secondary	41.6 %	43.2 %	44.6 %
	College or University	37.6 %	26.3 %	31.9 %
Habitat	Rural	71.3 %	67.9%	72.6 %
	Small town	14.8 %	32.1 %	27.4 %
	Larger town	13.6 %	0 %	0 %
	Ljubljana or Maribor			

II.1.2 Formulation of questionnaire items

The original questionnaire had 15 questions concerning radioactive waste management, nuclear energy, radiation safety and risk perception, and trustworthiness. No questions were addressing Fukushima accident, use of information sources and knowledge about radiation and nuclear energy. Some questions about radioactive waste and nuclear energy were specific for Slovenian situation and are not included into the analysis for this report. Selected questions are presented in Annex 1 of this document. They deal with risk perception and with trustworthiness of nuclear actors.

II.2.1 Sample

Survey was made on population of schoolchildren who visited Information Centre of Nuclear Training Centre at Jozef Stefan Institute**. This is a specific population and the results of the poll can't be directly extrapolated to the general public** but it reflects the results of basic science curriculum about ionizing radiation and radioactivity.

In order to get unbiased opinions and knowledge based on previous experience with radioactivity and ionizing radiation the poll was performed before visiting the exhibition and listening to the lecture in the Information Centre.

The number of visitors is around 8000 per year and they come from all region s of Slovenia. The survey took place between April 25 and June 12 2013. A sample of 1044 visitors was selected, most were of the age 14 – 16 and more than a half were male. Other socio-demographic characteristics of the sample were not taken (Table 2).

Table 2: Basic characteristics of the sample of visitors of the Information Centre.

		Visitors from schools
Total No.		1044
Sex	Female	44.0 %
	Male	56.0 %
Age	<13	0.7 %
	13	16.6 %
	14	34.7%
	15	25.2 %
	<15	22.8 %

II.2.2 Formulation of questionnaire items

The questionnaire consisted of 10 questions and no questions about Fukushima were included. Questions cover four aspects of radioactivity, nuclear energy and associated risk perception:

- relative perception of risks and environmental dangers,
- knowledge and understanding of several basic facts of nuclear energy and radioactive waste,
- acceptability of building new NPP in Slovenia and awareness about the limitations of other sources of electricity,
- opinion about nuclear energy and sources of information.

Questions that addressed risk perception, knowledge and understanding of nuclear domain and trustworthiness of nuclear actors are included into the analyses. They are presented in Annex 2 of this document.

III. Results

III.1 ARAO survey

III.1.1 Risk perception

Tell the first word that comes to your mind when you think about the repository for radioactive waste.

Words associated to risk, e. g. danger, accident, harmful, health problems, environmental pollution, were declared as first reaction to repository or disposal of radioactive waste in about 40 % of the respondents, only the group of journalists declared much lower percentage of negative associations. Also politicians had slightly more positive associations than general public, local communities near NPP and NGOs (Table 3).

It was also found that NGOs also stressed societal aspects like governmental responsibility or burden for the next generation, and politicians mentioned public opposition.

Table 3: Associations to "repository of radioactive waste" in different respondent groups.

	General public	Local communities near NPP	NGO	Journalists	Politicians
% risk associations	41.7 %	42.3 %	38.3 %	16.0 %	34.0 %

We are going to tell you different types of power plants. Evaluate the safety of particular type of power plant.

From 43 % to almost 70 % of respondents in respective groups evaluated NPP as being not safe or not safe at all. The % was the highest in the group of general public and the lowest in the group of politicians of which more than 50 % think that NPP is safe (Table 4). Safety of NPP is more problematic for respondents from rural environment, with lower education, middle aged and unemployed. More people from local communities near NPP Krško think that NPP is rather safe than in the general population.

It is worth mentioning that about 60 % of respondents from NGOs and journalists evaluated also thermal power plants as being "not safe or not safe at all", that is a similar % as in their evaluation of nuclear power plants. Thermal power plants were evaluated as "not safe or

not safe at all" also by 53.8 % of politicians, that is even higher % than for nuclear power plants.

Table 4: Perception of safety of nuclear power plants.

	General public	Local communities near NPP	NGO	Journalists	Politicians
% of not safe/not safe at all	69.6 %	52.9 %	61.9 %	60.0 %	43.1 %
Average score	2.03	2.45	2.43	2.36	2.58

Is it possible to achieve absolute safety of low and intermediate level radioactive waste and of spent fuel disposal?

There are considerable differences in evaluation of feasibility of safe disposal of LILW and SF by different groups but all of them consider that spent fuel disposal is more risky than disposal of LILW (Table 5).

The prevailing opinion of general public is that safe disposal of LILW and SF is very difficult or even impossible, and almost 50 % of respondents say that safe disposal of SF is impossible. This % is lower other groups and even more than 30 % of politicians think that safe LILW disposal is absolutely possible. Almost half of them think that safe disposal is possible or rather difficult. A great deal of respondents from NGO also evaluated safe disposal of LILW and SF as being rather difficult and safe disposal of SF as impossible in 28.6 %.

Table 5: Opinion on the possibility to safely dispose low and intermediate level radioactive waste and spent fuel.

	General public	Local communities near NPP	NGO	Journalists	Politicians
% of not possible and very difficult to achieve safety of LILW disposal	63.9 %	50.45 %	38 %	44.0 %	18.5 %
% of not possible and very difficult to achieve safety of SF disposal	73.5 %	64.15 %	48.1 %	56.0 %	32.3 %
Average score for safety of LILW disposal	2.27	2.70	3.0	2.96	3.63
Average score for safety of SF disposal	1.94	2.25	2.65	2.62	3.16

We are going to tell you some impacts of radioactive waste repository. Rank them from the most important (1) to the least important one (5).

Results from all groups of respondents are very similar (Tabler 6). Health and environmental impacts are evaluated as the most important and they received the rank 1 and 2 respectively. Ranking of other three impacts varied a little between the groups, increasing anxiety was slightly more important for NGOs and local communities near NPP, and community development was slightly more important for journalists and politicians.

Table 6: Prevalent ranking of impacts of the RW repository (rank 1 – most important, rank 5 – least important)**.**

	General public	Local communities near NPP	NGO	Journalists	Politicians
Health impact on rank 1	29.5 %	30.15 %	29.5 %	30.8 %	31.6 %
Air, water and soil impacts on rank 2	26.1 %	26.65 %	27.9 %	28.1 %	27.5 %
Increasing anxiety on rank 3	15.9 %	16.1 %	17.5 %	13.1 %	14.1 %
Community development impacts on rank 4	14.9 %	13.15 %	12.7 %	15.2 %	14.6 %
Life standard impacts on rank 5	13.6 %	13.95 %	12.4 %	12.8 %	12.2 %

We are going to tell you some eventual impacts of constructing a radioactive waste repository in your community. Evaluate the likelihood of each impact.

Evaluation of likelihood of potential consequences of constructing repository for radioactive waste is rather variable and reflects the basic standpoints of respective groups (Table 7). 40 – 50 % of respondents from general public and local communities living near NPP Krško evaluate most of the impacts as being moderately to rather likely. They give the highest scores to increased health problems and decreased economic conditions for the community. It is interesting that NGOs, and politicians stress also positive impacts, e. g. new investments, increased radiation safety and attribute smaller impacts on human health.

Table 7: Mean scores of likelihood of RW repository potential impacts(1 – not likely, 5 – very likely)**.**

	General public	Local communities near NPP	NGO	Journalists	Politicians
Increased investments in infrastructure	3.08	3.29	4.05	3.41	4.0
Emigration of local population	3.41	3.04	3.1	2.66	2.8
New working opportunities	2.86	2.98	2.52	3.04	3.62
Decreased touristic activities.	3.83	3.4	5.0	3.08	3.17
Increased radiation safety	3.15	3.37	3.52	3.14	3.77
Radiation will increase health problems	3.75	3.49	2.8	2.71	2.71
Loss of market for agricultural products	3.68	3.21	2.9	2.76	2.57

III.1.2 Trustworthiness of nuclear actors

What is the name of the organization that takes care for radioactive waste in Slovenia?

About half of the members of NGOs and of journalists know ARAO as an organization for radioactive waste management (Table 8). Local communities near NPP Krško are also rather good informed because ARAO was the main actor of siting the LILW repository in this region.

Table8: Share of respondents which know the role of ARAO.

	General public	Local communities near NPP	NGO	Journalists	Politicians
ARAO	14.7 %	36.0 %	47.6 %	52.0 %	23.1 %

Evaluate the quality of information about radioactive waste and that you get from ARAO, municipality and the government regarding LILW repository siting and licensing procedure.

In general all groups about 1/3 of respondents more or less agreed that the information provided by ARAO as understandable and accessible (Table 9), and even 40 % of respondents local communities near NPP Krško and about 50 % of NGOs declared the information to be understandable. The respondents have some doubts about the trustworthiness and not telling all the facts but the score is still above 2 (out of 5) in all groups. 40 % - 50 % of respondents from all groups do not agree that ARAO tells all the truth.

Table 9:Evaluation of different aspects of information provided to stakeholders by ARAO.

	General public	Local communities near NPP	NGO	Journalists	Politicians
Information is accessible.	2.93	3.18	3.0	3.09	3.15
Information is clear and understandable.	2.91	3.22	3.11	3.13	3.39
Information tells all the truth.	2.16	2.45	2.53	2.6	2.86
Information is trustworthy and unbiased.	2.54	2.77	2.72	2.85	3.0
Information is concise and not too long.	2.97	3.1	3.0	3.05	3.23

In case that siting for a radioactive waste repository would be taking place in your community how much would you trust the information provided by the following actors?

Most trust is expressed for scientists (Jozef Stefan Institute) and medical doctors, professionals who are expected to have objective knowledge and no direct benefits related to providing information about the repository (Table 10). Environmental NGOs also have rather high scores while the trust in politicians is lower, especially in the group of NGOs, general public and journalists.

Table 10: Evaluation of levels of trust in different information sources.

	General public	Local communities near NPP	NGO	Journalists	Politicians
journalists	2.74	3.0	2.62	3.56	2.63
Minister competent for the environment	2.37	2,51	2.43	2.78	2.91
Agency for Radwaste Management (ARAO)	2.85	3.03	2.62	3.10	3.54
Environmental NGOs	3.13	3.19	3.86	3.78	3.52
Jozef Stefan Institute	3.72	3.99	3.86	4.2	4.26
Mayor	2.48	3.16	2.25	2.49	3.65
Local community council	2.39	2.84	2.33	2.4	3.44
Local medical doctor	3.25	3.62	3.24	3.4	3.89

Countries which already have LILW repository hide the information that some radioactive substances and ionizing radiation leak into the environment.

The highest trust in validity of information about operation of LILW repositories is among journalists and politicians. Other three stakeholder groups express much lower trust and only less than 1/5 of the respondents believe that all the truth is told and most of them think that some of the truth is always hidden.

Table 11: Evaluation of levels of trust in different information sources (1 – complete trust, 5 – complete mistrust).

	General public	Local communities near NPP	NGO	Journalists	Politicians
% strongly disagree and disagree	16.9 %	21.95 %	19.1 %	48.0 %	35.4 %
Average score for trusting information	3.71	3.44	3.33	2.49	2.87

How much do you agree with the statement: Slovenian experts are capable to build a repository for radioactive waste that will not represent danger for the environment and the population?

Trust in professional capability of experts in Slovenia is rather high and more than 172 of respondents are convinced that knowledge is sufficient to construct a safe repository. Again the trust is higher in the group of politicians and journalists than in the group of general or local population and NGOs.

Table 12: Opinion on the capability of Slovenian experts to build a safe LILW repository (1 – not capable, 5 – completely capable).

	General public	Local communities near NPP	NGO	Journalists	Politicians
% strongly agree and agree	46.6 %	53.2 %	52.3 %	62.0 %	72.3 %
Average score for trusting information	3.25	3.48	3.60	3.81	4.03

III.2.1 Risk perception

Rate the following human activities according to the risk they represent (10- most risky, 1 – least risky).

Nuclear energy is evaluated as most risky and it is consistently rated as much higher risk that LLE indicates (Figure 1). The risk of skiing and commercial aviation was also overestimated while the risk of smoking, alcohol, overweight, construction works and motor vehicles was considerably underestimated. These results indicate that teenagers are influenced by the adult population in risk evaluation of activities that they are not so much familiar with but don't accept the warnings of adults for the risks that are still culturally acceptable in the adult population.

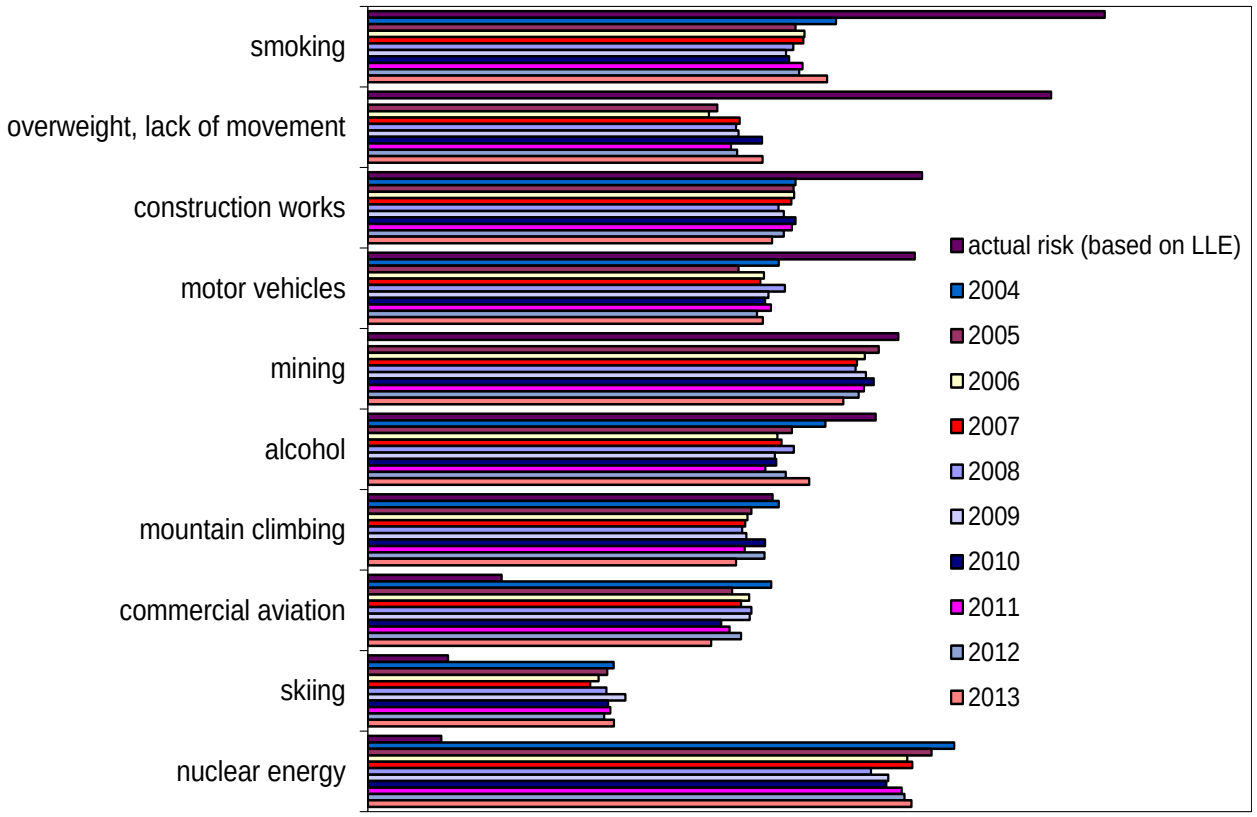

Figure 1: Perception of risk of different activities in population of teenagers in years 2004-2013. Results are compared with actual risk evaluation based on loss-of-life expectancy (LLE).

What is a reason against using nuclear energy?

The opinion changes from year to year but the possibility of the accident and disposal of spent fuel are two most important issues for opposing the nuclear energy (Figure 2). Spent fuel disposal can also be considered as kind of risk. Radiation from NPP is not considered as risk in normal situation.

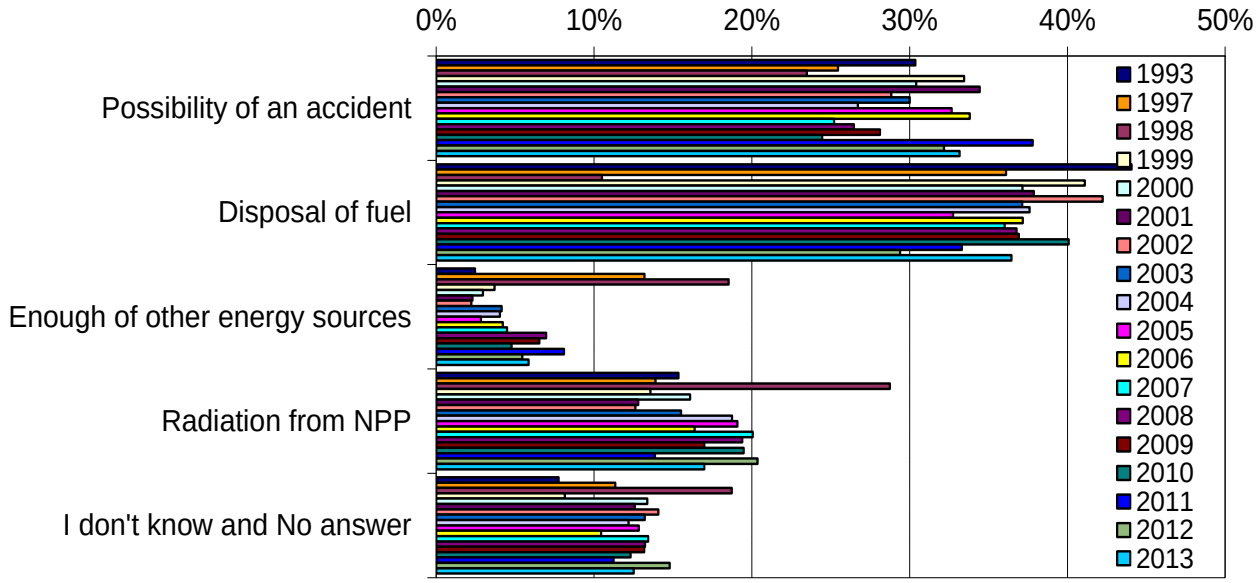

Figure 2: Main reasons for opposing nuclear energy.

III.2.2 Knowledge and understanding of nuclear domain

Mark whether the following statements are true or false.

Some results are rather disappointing and do not change much over the years (Figure 3). It reflects the situation in schools and rigidity of school curricula. Almost 50% of respondents believe that radiation from RW repository can be detected 1 km from the site, 30% think that NPPs cause acid rain. Positive aspects of environmental effects of nuclear power are poorly understood. A likely explanation is that in the primary school curriculum there is practically nothing about nuclear energy and radioactivity.

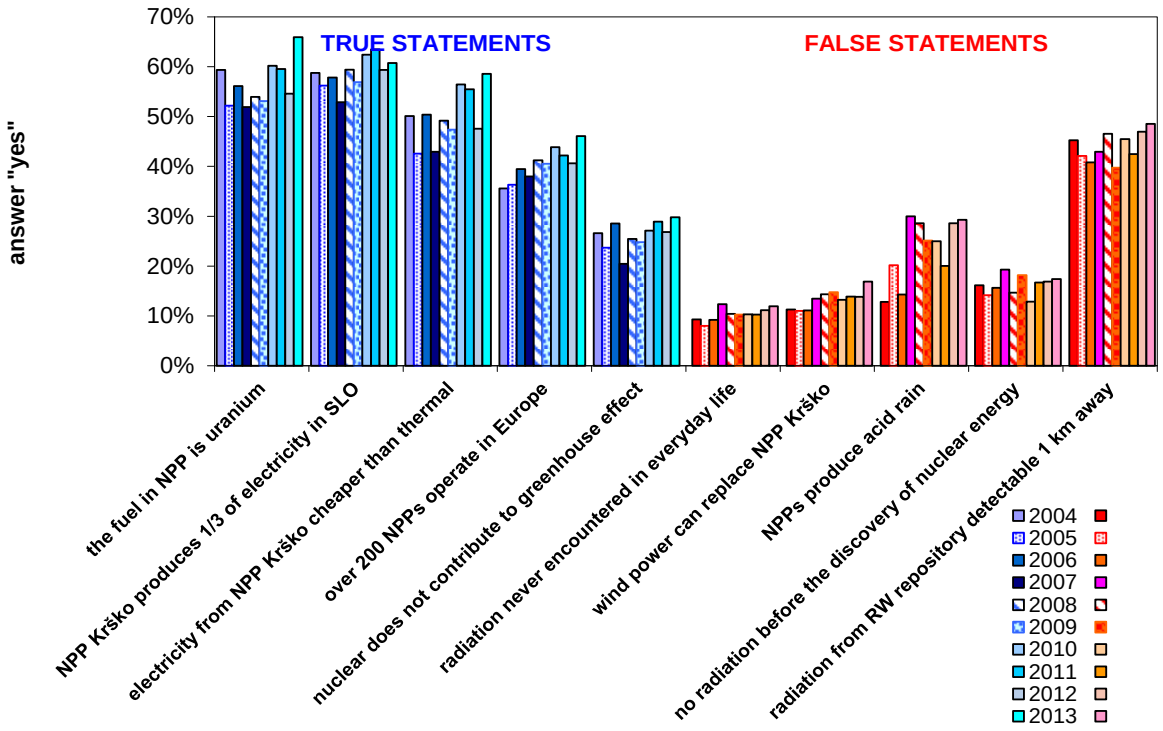

Figure 3: Confirmation of statements regarding nuclear energy and radiation..

Do you believe that other sources, e.g. renewables, can replace Krško NPP?

Almost half of respondents think that it is very difficult to replace NPP Krško with some other energy source (Figure 4). At the same time more than ¼ of respondents think that this could be done without major problems.

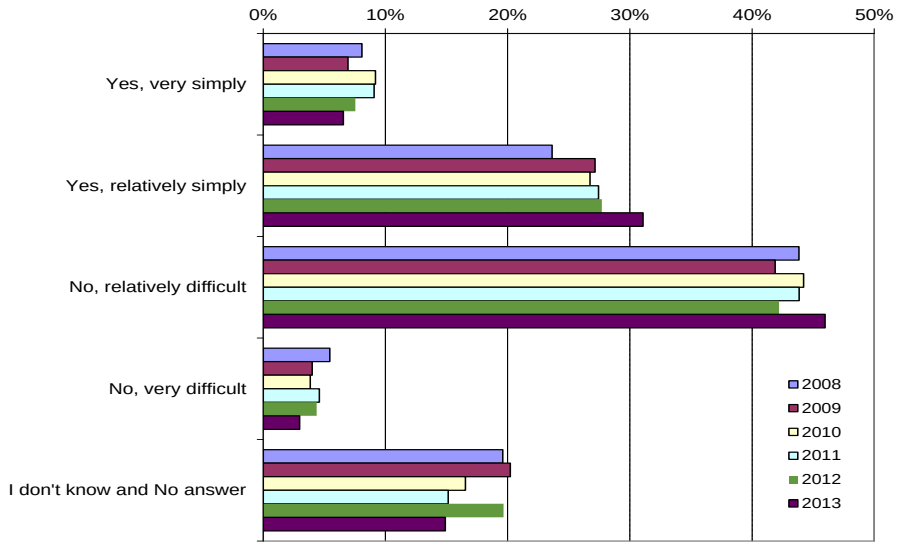

Figure 4: Opinion about renewable energy sources for replacing nuclear energy in Slovenia.

III.2.3 Trustworthiness of nuclear actors

Mark three nuclear actors that give you most trustworthy information about nuclear safety.

Results show that about half of teenagers trust scientists and professional international organization. This population has very low trust in politics, e. g. government and EU andabout 1/4 do not trust anybody or don't know who they trust. This attitude is probably very typical for this age group.It is interesting that only about 10 % trust journalists.

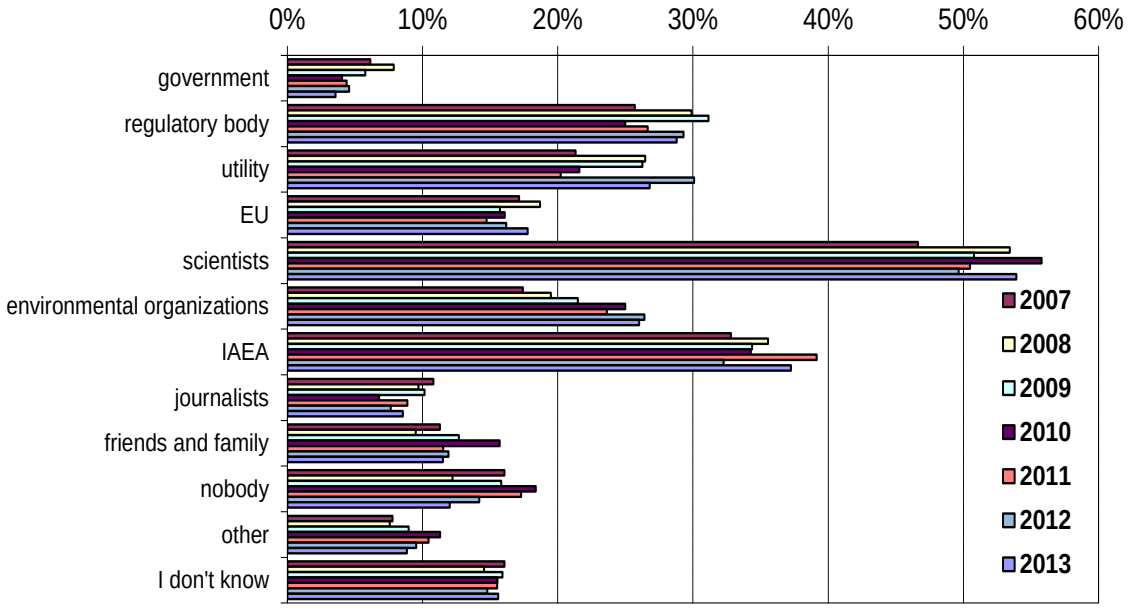

Figure 5: Results showing the truth worthiness of different nuclear actors for teenage population in Slovenia.

IV. Conclusions

Public opinion poll in 2011 and survey of teenage population which visited Information Centre of Nuclear Training Centre at Jozef Stefan Institute in 2013 showed similar results although the populations in each survey were different.

All groups included in the surveys think that nuclear energy and radiation represent specific **risk.** Issues related to **health and environmental risks** were pointed out in the opinion poll made in 2013 on general population, local communities near NPP Krško, environmental NGOs, journalists and politicians. The respondents also think that safety of radioactive waste and spent fuel management is in principle very unlikely or even impossible. Risks associated with nuclear energy and spent fuel disposal were pointed out also by the population of teenagers.

In adult population politicians show higher acceptance for nuclear energy than general population. Even NGOs are not completely opposing it. At the same time teenage and adult population express little trust in politicians. All groups of respondents declare that they have the **highest trust in information provided by scientists**.

No data are available for now about the sources of information that represent the basis for the public opinion presented in this opinion poll. The questionnaire for adult population included only a question about information materials produced by ARAO and they were evaluated as average.

V. References

[1] RAOPIS - periodical of Agency for Radwaste Management) No. 8, 2008, eds. M. Kralj and I. Mele (in Slovene): http://www.arao.si/uploads/datoteke/raopis-16.pdf

[2] Reports on public opinion polls 2006 – 2011 (in Slovene): http://www.arao.si/sodelovanje-z-javnostmi/raziskave-javnega-mnenja

[3] R. Istenič, I. Jenčič: Public Opinion about Nuclear Energy – Year 2013 Poll. 22nd International Conference Nuclear Energy and New Europe, NENE 2013, September 9-12, 2013, Bled, Slovenia.

Annex 1: Questions related to the EAGLE issues in ARAO survey

Risk perception

Tell the first word that comes to your mind when you think about the repository for radioactive waste.

……..

We are going to tell you different types of power plants. Evaluate the safety of particular type of power plant.

Hydro power plant	1 -not safe at all 2 -not safe 3 -rathersafe 4 -safe 5 -very safe 6 - don't know
Thermal power plant	
Nuclear power plant	
Solar and wind power plant	

Is an absolute safety of low and intermediate level radioactive waste disposal possible?

- not at all
- it is very difficult
- it is rather difficult
- it is possible
- it is absolutely possible
- I don't know

Is an absolute safety of spent nuclear fueldisposal possible?

- not at all
- it is very difficult
- it is rather difficult
- it is possible
- it is absolutely possible
- I don't know

We are going to tell you some impacts of radioactive waste repository. Rank them from the most important (1.) to the least important one (5.).

Air, water and soil impacts	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
Health impacts	
Increasing anxiety	
Life standard impacts	
Community development impacts	

We are going to tell you some eventual impacts of constructing a radioactive waste repository in your community. Evaluate the likelihood of each impact.

Investments in infrastructure will increase.	1 - not likely 2 - less likely 3 -moderately likely 4 -rather likely 5 -very likely 6 -I don't know
People will leave the place.	
There will be new working opportunities.	
The place will be less attractive for tourists.	
Radiation safety will increase due to monitoring.	
There will be more health problems because of radiation.	
Crops from this region will not be sold and the farmers will not be able to survive.	

Trustworthiness of nuclear actors

What is the name of the organization that takes care for radioactive waste in Slovenia?

- Agency for Radwaste Management
- I don't know
- Other

Evaluate the quality of information about radioactive waste and that you get from ARAO, municipality and the government regarding LILW repository siting and licensing procedure.

Information is accessible.	1 - strongly disagree 2 - disagree 3 - neither agree nor disagree 4 - agree 5 - strongly agree 6 - I don't know
Information is clear and understandable.	
Information tells all the truth.	
Information is trustworthy and unbiased.	
Information is concise and not too long.	

In case that siting for a radioactive waste repository would be taking place in your community how much would you trust the information provided by the following actors?

Journalists	1 -not at all 2 -little 3 -moderately 4 -rather 5 -strongly 6 -I don't know
Minister competent for the environment	
Agency for Radwaste Management (ARAO)	
Non-governmental environmental organizations	
Jozef Stefan Institute	
Mayor	
Municipality council	
Medical doctor from local Health Community Centre	

Countries which already have LILW repository hide the information that some radioactive substances and ionizing radiation leak into the environment.

- strongly disagree
- disagree
- neither agree nor disagree
- rather agree
- strongly agree.

How much do you agree with the statement: Slovenian experts are capable to build a repository for radioactive waste that will not represent danger for the environment and the population?

- strongly disagree
- disagree
- neither agree nor disagree
- rather agree
- strongly agree.

Annex 2: Questions related to the EAGLE issues in ICJT survey

Risk perception

Rate the following human activities according to the risk they represent (10- most risky, 1 – least risky).

	road traffic		smoking
	overweight and lack of physical activity		commercial aviation
	drinking alcohol		skiing
	mountain climbing		mining
	nuclear energy		construction works

What is a reason against using nuclear energy?

- possibility of the accident,
- disposal of spent fuel,
- enough of other energy sources,
- ionizing radiation from NPP,
- I don't know.

Knowledge about the nuclear domain

Mark whether the following statements are true or false.

Electricity produced in NPP Krško is cheaper that electricity from thermal power plants in Slovenia.	TRUE	FALSE
The wind field that is planned in Slovenia can replace NPP Krško.	TRUE	FALSE
There are more than 200 NPP operating in Europe.	TRUE	FALSE
Ionizing radiation from radioactive waste repository can be detected in the radius of 1 km around the repository.	TRUE	FALSE
We have no contact with ionizing radiation in everyday life.	TRUE	FALSE
Producing nuclear energy does not contribute to greenhouse effect.	TRUE	FALSE
NPP Krško produces about 1/3 of electricity in Slovenija	TRUE	FALSE
Acid rain is one of the environmental impacts of NPPs.	TRUE	FALSE
There was no ionizing radiation in the environmental before discovery of nuclear energy.	TRUE	FALSE
The fuel in NPP Krško is uranium.	TRUE	FALSE

Do you believe that other sources, e.g. renewables, can replace Krško NPP?

- yes, it is very simple,
- yes, it is relatively simple,
- no, it is relatively difficult,
- no, it is very difficult,
- I don't know.

Trustworthiness of nuclear actors

Mark three nuclear actors that give you most trustworthy information about nuclear safety.

- government,
- Slovenian Nuclear Safety Administration,
- owner of NPP Krško (GEN Energija),
- institutions of European Union,
- scientists,
- environmental non-governmental organizations (e. g. Greenpeace),
- International Atomic Energy Agency (IAEA),
- newspapers, radio, TV,
- friends and family,
- nobody,
- other,
- I don't know.