

Actual Implementation of a Spent Nuclear Fuel Repository in Sweden: Seizing Opportunities

Synthesis of the FSC National
Workshop and Community Visit

Östhammar, Sweden
4–6 May 2011



NUCLEAR ENERGY AGENCY

Radioactive Waste Management Committee**ACTUAL IMPLEMENTATION OF A SPENT NUCLEAR FUEL REPOSITORY IN SWEDEN:
SEIZING OPPORTUNITIES****Synthesis of the FSC National Workshop and Community Visit
Östhammar, Sweden
4-6 May 2011**

Actual Implementation of a Spent Nuclear Fuel Repository: Seizing Opportunities” was the subject of the Forum on Stakeholder Confidence’s 8th National Workshop and Community Visit (May 2011). The workshop was held in Östhammar, the municipality that will host the planned Swedish geological repository. Representatives of local, regional and national government, civil society organisations and environmental groups, as well as the regulator SSM and implementer SKB, illustrated the siting history and aspirations for the future. Discussed were the experience and history of the Swedish programme, the Swedish funding system that supported stakeholder involvement throughout the Environmental Impact Assessment process, and the Added Value programme that benefits the two municipalities involved – Oskarshamn and Östhammar. This document provides a synthesis of all the workshop presentations, accounts of round table discussions among the 90 participants representing 13 countries, and an International Perspective essay.

Please send any queries regarding this document to Claudio.pescatore@oecd.org

JT03318731

Complete document available on OLIS in its original format

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

FOREWORD

The 8th Forum on Stakeholder Confidence (FSC) National Workshop and Community Visit was held 4-6 May 2011 in Gimo (Östhammar), Sweden. The Swedish National Council for Nuclear Waste, Östhammar municipality, the Swedish Nuclear Fuel and Waste Management Company (SKB) and the Swedish Radiation Safety Authority (SSM) assisted the FSC in the organisation and logistics and provided financial support for the event. The central theme of the workshop was “Actual Implementation of a Spent Nuclear Fuel Repository: Seizing Opportunities”. The three day event took place in Gimo, a locality of Östhammar. There were 90 participants from 13 countries who included representatives of local, regional and national government, civil society organisations and environmental groups, universities, waste management agencies and regulatory authorities. In all, 63 persons participated from Sweden.

The workshop provided an overview of the different aspects involved in the Swedish nuclear waste management programme from different viewpoints, mainly those of the implementer SKB, the regulator SSM, the two municipalities involved – Oskarshamn and Östhammar – and civil society organisations. The visions for the future of the two municipalities were presented by local representatives on the first evening. The second day, after a brief historical overview of waste management, the Swedish funding system and how it contributes to the participation of local and regional stakeholders was addressed as well as the role and perspective of different actors in the new licensing phase for the repository. After a session on the role of dialogue, information exchange and transparency throughout the process, participants at eight round tables discussed the concept of transparency and how it could be affected in the repository licensing phase. The third day, presentations and round table discussions addressed the specific aspects of consultation through the Environmental Impact Assessment (EIA) and economic development through the Added Value Programme. The workshop also included a tour of the area (which was traditionally a mining region), an architectural presentation about the planned above ground buildings, and a dinner in Östhammar municipality the second day.

This document provides a synthesis of all the workshop presentations and accounts of round table discussions by assigned delegates.

TABLE OF CONTENTS

FOREWORD	2
INTRODUCTION TO THE WORKSHOP	4
VISIONS OF OSKARSHAMN AND ÖSTHAMMAR MUNICIPALITIES	5
THE SWEDISH NUCLEAR WASTE MANAGEMENT PROGRAMME: LOOKING BACK, LOOKING FORWARD	6
Overview of the Swedish Nuclear Waste programme.....	6
The Swedish funding system and how it contributes to the participation of local and regional stakeholders.....	7
Questions and comments.....	7
Perspectives from key actors on entering the new licensing phase.....	8
DIALOGUE, INFORMATION EXCHANGE AND TRANSPARENCY IN THE NEW PHASE	10
The role of dialogue, information exchange and transparency in the Swedish NWM decision making process.....	10
FSC short member survey on transparency.....	11
Reflections from different actors on dialogue, information and transparency	11
Questions and comments.....	14
Communities of practice – the case of the Swedish planning and decision making process for final disposal of spent nuclear fuel	14
Round table discussions	14
COMMUNITY VISIT	17
ACHIEVING DEEP CONSULTATION THROUGH THE EIA.....	18
EIA as an “umbrella” process for Swedish consultation.....	18
Reflections from local NGOs.....	18
Round table discussions	19
THE ADDED VALUE PROGRAMME AND LOCAL ECONOMIC DEVELOPMENT	21
The Swedish Added Value Programme	21
Questions and comments.....	22
A parallel experience from Belgium: The Local Fund.....	23
Round table discussions	23
RAPPORTEUR’S OBSERVATIONS AND CLOSING.....	25
INTERNATIONAL PERSPECTIVE	27
APPENDIX 1. FSC WORKSHOP PROGRAMME.....	30
APPENDIX 2. LIST OF PARTICIPANTS	34

INTRODUCTION TO THE WORKSHOP

The opening session of the workshop took place in the evening of Day 1 (May 4, 2011). Mrs. **Janet Kotra**, the FSC Chair, thanked the assembly and pointed out key observations arising from the seven previous workshops:

- Technical soundness is a part of a well-meaning process but it is not enough. Procedural fairness is important.
- Stakeholders need access to understandable information. Some tools and methods may be site-specific, but in other cases, what works for one country might work for others and have universal value.
- Stakeholder confidence is never established once and for all. It needs continuous work and upkeep.

There is a need to improve the quality of interactions with stakeholders and provide better and more opportunities for participation. Mrs. Kotra reviewed the concept of stakeholder provided by the FSC as “any actor—institution, group or individual—with an interest or with a role to play in the radioactive waste management process”. She observed that the FSC interpretation of “stakeholder” is broad and inclusive, although not everyone is comfortable with this term.

Mrs. **Holmfridur Bjarnadottir**, Administrative Director of the Swedish National Council for Nuclear Waste, talked about the Workshop as an opportunity to present what has been done in the Swedish context and reflect on the next steps in the licensing phase. The core issues in this Workshop and for the Swedish programme have been dialogue, transparency and consultation. She briefly introduced the Swedish National Council for Nuclear Waste.

Mrs. **Martine Huraut**, Andra, talked about the experience of the last FSC Workshop in Bar-le-Duc in France in 2009. In that workshop, local stakeholders understood that Andra’s commitment to a consultation approach was real. Members of Local Information Commissions participated actively in the discussions expressing their points of view on the disposal project in France.

VISIONS OF OSKARSHAMN AND ÖSTHAMMAR MUNICIPALITIES

The next session of the workshop, also in the evening of Day 1, allowed participants to gain understanding of the involved municipalities' view of the process to come and their objectives. (A municipality in Sweden is the local government entity. It is smaller than a county yet incorporates several distinct communities in cities or villages. Östhammar municipality is part of Uppsala county and the 2010 census counted 21,389 residents. Oskarshamn municipality in Kalmar county in 2010 counted 26,235 residents. They are situated respectively in the central eastern and south eastern part of Sweden and cover respectively 3,508 and 2,295 square kilometers. Each contains nuclear energy installations.)

Mr. **Andreas Lytter**, Östhammar municipality, presented the vision of the municipality for the next 10 years as “the best local community in the world”. In the 1970s, the construction of a nuclear power plant in Forsmark marked the beginning of a ten-year period in which the population increased by 15%. Since then, the population has been growing slightly. Mr. Lytter recognised that Östhammar needs new developments and they had to decide on a vision for the municipality. To develop this vision, the municipality first focused on what they have internally and then invited everyone to participate and develop their own local vision. Every community unit had the possibility to develop its own local vision and incorporate it into the municipality vision. Local development groups, political parties, schools, associations and individuals participated in the process to define the vision. In the end, there were many different local visions from the local communities and even some of them were not compatible. During this participatory process, the municipality realised that diversity is an opportunity and diversity of society is a prerequisite for any development. The 22 local visions that were received were all incorporated into the municipality vision “the best local community in the world”.

Mr. **Lennart Karlsson**, Head of Industry and Business Development in Oskarshamn municipality, presented the vision of Oskarshamn as “an international energy centre and a municipality with growth and high quality of life”. To implement the vision, the Development Programme has five priority areas: infrastructure and communications; diversified trade and industry; establishing a world-class research and development and demonstration centre for energy; competence availability; and attractiveness.

The vision itself consists of three elements: an international energy centre; a municipality with growth and a high quality of life. To build the international energy centre, the municipality relies on the energy industry, the NOVA platform studies – research and business incubator, UBC energy commission and the Added value contract with the power industry. In addition, Oskarshamn has plans for a Technology/Energy college, Research, Development and Demonstration (RD&D) arena for the nuclear cycle, a student reactor, partnership with European Institute of Technology (a network between universities and industry), a large resort based on sustainable technologies and even the possibility of a new nuclear power plant. In addition, Oskarshamn is developing the tourism and service industry to broaden the labour market, plans a Baltic ferry line and is working to improve local industry development.

THE SWEDISH NUCLEAR WASTE MANAGEMENT PROGRAMME: LOOKING BACK, LOOKING FORWARD

Overview of the Swedish Nuclear Waste programme

Mrs. **Ansi Gerhardsson**, Deputy Director at the Chemicals Division in the Ministry of the Environment, spoke about the history of nuclear waste through different time periods. After the Second World War, Sweden evolved into an industrial country and had high demand of electricity, which only nuclear could provide. Building nuclear power plants was not at all a popular decision at that time and led to demonstrations against nuclear. After Three Mile Island, an advisory referendum was held in Sweden leading to the decision to phase out nuclear power in 2010. Nevertheless, a law was enacted that stipulated that anyone using nuclear power to produce electricity had to manage and dispose of the waste. Thus, the nuclear industry in Sweden had to prove that they had a plan for the long-term management of radioactive waste and established the Swedish Nuclear Fuel and Waste Management Company (SKB). The company is owned by the nuclear power producers and is responsible for both the short and long term management of the waste. At present, Sweden, together with Finland, are at the forefront of long-term solutions for radioactive waste.

In the period 1985-1992, the regulatory system was partially established in Sweden. The licence holders had to define and develop their own solutions, and demonstrate the safety level achieved to the regulatory bodies. The interim storage facility for spent nuclear fuel, CLAB, was built near Oskarshamn. The Äspö hard rock laboratory outside Oskarshamn allows SKB to conduct research in order to understand long-term changes in a final repository at a depth of nearly 500 metres.

After having failed in the site investigations carried out in different regions across Sweden, from 1992, the siting process was built on voluntariness. Out of the eight municipalities selected as suitable for in-depth studies, only two municipalities, Oskarshamn and Östhammar, voluntarily announced that they were willing to host a repository provided the geological and safety requirements were met. Analysis and site investigations resulted in the selection of Forsmark in Östhammar municipality in 2009. On 16 March 2011, SKB submitted applications to the Swedish Radiation Safety Authority (SSM) and to the Environmental Court to build the final repository in Forsmark. If the Government grants the permission, SKB will start building the initial phase of the repository. Planning is also in progress for an encapsulation plant adjacent to CLAB in Oskarshamn.

The Swedish system is based on two basic principles: the polluters pay principle and the principle that the generation that has benefitted from nuclear power should solve the waste problem. In order to operate under these two principles, Sweden has a legal framework with a clear division of responsibilities between Government and power suppliers. The Government develops laws for financing the waste management programs and is managing the funds for the programs. The Government is also responsible for the audit and safety evaluations of the proposed plants, which is in fact one of the strengths of the Swedish nuclear waste programme. Other key elements for a successful programme include: legislation that sets targets, financing arrangements, a long-term strategy for the disposal of spent fuel and radioactive waste and public consultation and influence in the decision-making process. Regarding the latter, the Swedish model is based on transparency, participation and dialogue.

The Swedish funding system and how it contributes to the participation of local and regional stakeholders

Mr. **Björn Hedberg**, Head of Section Financial Control at the Radiation Safety Authority, stressed some of the financial aspects associated with nuclear activities in Sweden. According to the Financing Act, the owners/licensees of the nuclear power plants - through the jointly owned company SKB - make cost calculations regarding final management of spent fuel and nuclear waste (including decommissioning). SKB also performs a risk analysis involving evaluation of uncertainties. SKB allocates the costs among the four licensees. SSM is the responsible body for assessing the cost calculation from SKB. SSM then calculates the fees and guarantees and gives recommendations to the Government, who decides on the fees that should be paid to the Nuclear Waste Fund and the guarantees, that are handled by the Swedish National Debt Office. According to the Studsvik Act, the Parliament sets the fees after recommendation from Government and SSM. Finally, SSM approves the reimbursement from the Fund and is also responsible for performing audits and control of the use of fund assets.

The Nuclear Waste Fund in Sweden is managed by a Government Board. At the end of 2010, the assets of the fund were slightly over 5 billion Euro approximately. Nuclear power plant (NPP) owners build up funds for their future costs during their first 40 years of operation. The fund is similar to a pension system for NPPs in which money is set aside today for financing future expenses. The costs to be covered by the Fund include management and disposal of waste from nuclear activities, spent fuel management, construction of new facilities (i.e. final repository for spent nuclear fuel, encapsulation plant, final repository for long lived LLW and ILW), research and development, decommissioning and dismantling of all nuclear facilities, waste management, management of legacy waste and regulatory supervisions. The fund also covers costs for the involvement of local communities and non-governmental organisations (NGO) in the site selection process.

Questions and comments

In response to audience questions and comments, the workshop learned that:

- The Swedish government took the decision to set up a nuclear waste fund. There is a separate authority responsible for administering the fund (This authority is named the Nuclear Waste Fund). SSM is a governmental authority who calculates the fees based on the information from SKB. SSM suggests the fee to the government, who decides on the fee.
- National NGOs receive money to support their participation from the Nuclear Fund whilst local NGOs receive it from the municipality. The prerequisite to receive money is to participate in the Environmental Impact Assessment process. The decision on a budgetary request from an NGO – as well as for concerned municipalities – is taken by SSM.
- The current “final disposal project” (including decommissioning) - and also the existing financial system - considers the waste from existing NPPs. If new NPPs are constructed, then new/revised legislation for final disposal as well as financing must be in place.
- Spent fuel is not considered waste until it is stored in the repository and sealed. At present, the industry is responsible for the spent fuel but once the repository is sealed and closed, the responsibility should go over to the State.

Perspectives from key actors on entering the new licensing phase

Mrs. **Eva Simic**, Project Manager at SSM, stated that SKB submitted two license applications to SSM for the repository and the encapsulation plant and another one to the Environmental Court for the whole repository system. Therefore, during the licensing phase two parallel processes are in place and need to be coordinated. Both administrations will provide recommendations to government. SSM will stipulate conditions according to the Act of Nuclear Activities and Radiation Protection whilst the Environmental Court will make recommendations according to the Environmental Code.

In order to manage the review task, SSM has organised a project consisting of the following sub-projects: 1) post-closure repository safety; 2) operational repository safety; 3) encapsulation plant and 4) repository system and environmental impact assessment. The so-called Safety Integration Review (SIR) team takes strategic decisions on the review and deals with issues that cross cuts the sub-projects. The SIR team consists of the project manager, the project director, and the four subproject managers. The overall goal of SSM is to produce a defensible basis for a government decision on SKB's license application. For this, it is necessary to fulfil high demands on internal quality assurance. As such, the core values of the review strategy by SSM are integrity, reliability and openness.

The review method is mainly based on document review and supporting activities, such as independent modelling, dedicated review of SKB's quality assurance programme, external reviews from national and international organisations. The work is carried out in a phased iterative manner, which requires an extensive planning of resources. Other challenges involved in this review are the extensive material to be reviewed, the high demands on internal quality assurance for transparency and traceability and the need to arrive at definitive judgements on method and site.

Mr. **Erik Setzman**, Environment and Stakeholders Unit at SKB, spoke about the new role of SKB in the licensing phase. The site Forsmark and the method KBS3 are selected in order to both optimise safety and radiation protection and to avoid environmental impacts. SKB submitted the application for a final disposal of spent fuel in Forsmark to the Environmental Court and to the regulator. The leadership has now moved from the implementer to the regulator and the Environmental Court, who are now in charge of the process. The also necessary municipal land use plans (detailed construction plans) are already approved. Therefore, SKB needs approval from five organisations: the government (including the Parliament and the Swedish Council for Nuclear Waste), Environmental Court, SSM and the municipalities of Östhammar and Oskarshamn.

Mr. Setzman spoke about the different tasks undertaken by SKB during the review period. The Environmental Court and SSM announced that they need a year to complete the review. During this year, SKB presents the application to the different stakeholders, answers questions and undertakes complementary investigations. SKB has established an office close to the final storage for short-lived low and intermediate level waste (SFR) in Forsmark and reopened an office in Östhammar. In addition, the Swedish Environmental Protection Agency will conduct a consultation with Baltic Sea countries regarding transboundary environmental impacts. SSM is expected to send comments to the Environmental Court after 2 or 2.5 years. The Environmental Court then holds negotiations. Consequently, decisions from government are not expected before 4 or 5 years after the submission of the application.

Since 1984 SKB has worked with many leading universities and organisations in Sweden and internationally (like IAEA, NEA, the EU) and have cooperated with a number of countries. SKB has financed 120 scientific reports and has invested 0,8 billion Euro in the research project. The focus of SKB will change from R&D to construction, even if further research will be carried out, mainly focusing on copper corrosion, buffer erosion, impact of climate change, KBS-3-H, records of knowledge and memory,

etc. Continued stakeholder involvement, dialogue and transparency are vital tasks for SKB. It is important to keep up the confidence.

Mrs. **Marie Berggren**, Head of Unit of reviewing the repository license in the local municipality of Östhammar, presented the municipality and described the conditions for a trustworthy process. The paramount pre-condition is that the process is based on voluntary participation. In addition, she presented four cornerstones for a trustworthy process: a clear legal framework, a financing system in place, knowledge and awareness and openness and transparency. During the siting phase, Östhammar municipality reviewed its municipal organisation in order to increase information and hold a dialogue with the public regarding the final repository and to increase awareness and knowledge amongst politicians. For this reason the municipality established three different committees: the long-term safety committee, the environmental impact assessment committee and the consultative committee working party (which includes a pending consultative committee).

The new licensing phase involves that the municipality will have to review the application considering long term safety, environmental impacts, health effects and socio-economic aspects. In addition, the application for SFR and the R&D programme will also need review from the municipality point of view. Consequently, the review of the application does not only focus on the final repository but on the whole system. It is important to maintain trust, as it can be easily ruined. It has to be considered that as the formal process sharpens arguments, more and more experts come forward with their own arguments. The public needs knowledge to understand the questions raised by the experts' opinions. Within this new framework, the municipality has a difficult role to play and needs to find ways to inform and continue dialogue with the public and take decisions based on informed knowledge.

Mr. **Rolf Persson**, Head of the Local Competence Building project (LKO) in Oskarshamn, spoke about the role of the municipality of Oskarshamn in the new licensing phase. Oskarshamn municipality focuses now on the application for the encapsulation plant. For this task, they have set up a strategy group which coordinates all the work regarding nuclear issues, a review group focusing on safety and environmental issues of the encapsulation plant and a secretariat. The strategy group also focuses on social planning, including development possibilities, spatial planning and infrastructure. The review group does not only consider radioactive protection but also environmental issues like noise, transport emissions, regional aspects, surface water, etc.

DIALOGUE, INFORMATION EXCHANGE AND TRANSPARENCY IN THE NEW PHASE

The role of dialogue, information exchange and transparency in the Swedish NWM decision making process

Mr. **Torsten Carlsson**, former mayor of Oskarshamn and current chair of the Swedish National Council of Nuclear Waste, spoke about the role of dialogue, information exchange and transparency in the Swedish NWM decision making process or the so-called “Oskarshamn model”. In 1990, the Dialogue Project was a new initiative launched by the Swedish Nuclear Power Inspectorate (SKI) towards a more communicative approach. The project simulated a licensing process and recommended to the government that NGOs should be given financial support in order to empower them. This in fact was one of the core issues to stimulate a good discussion between industry and local authorities.

Mr. Carlsson pointed out that in 1992 Oskarshamn was selected by SKB as a preferred site for an encapsulation plant close to CLAB. The municipality informed the government and nuclear authorities that they intended to become a competent party in the nuclear waste discussion and therefore, needed financial support. In January 1994, the government decided to provide 200,000 dollars per year over four years to the municipality of Oskarshamn and this enabled the Local competence building project (LKO) to be launched. The main aims of the LKO project was to increase competence among decision makers and the public and to provide channels for dialogue. The mission of the working groups under the EIA Forum were to discuss the nuclear waste issue with neighbouring municipalities and citizens. Each working group had an experienced politician as a chairman with access to LKO experts. The working groups were composed of around 10-15 people representing local politicians, neighbouring municipalities, municipal civil servants, neighbours, members of community organisations, etc.

In October 1994, the EIA Forum was initiated with representatives from nuclear authorities (SKB and the regulatory authorities SKI and SSI), the County and the municipality. In May 1995, SKB requested the feasibility study in Oskarshamn and the municipality took a year to prepare the answer until it was accepted in autumn 1996. In 2000, SKB requested the site investigation. Each working group under the EIA Forum had to write a report to the council with its recommendations regarding the final decision on the continuation of the site investigations in Oskarshamn. In March 2002, the municipality agreed to the site investigation but put forward 13 conditions.

Mr. Carlsson pointed out the key factors that underlie the municipality’s successful strategy of competent influence. Municipalities in Sweden have a veto right in the process of siting nuclear facilities. They also have a strong position of independence in relation to central government. In addition, the municipality of Oskarshamn could get economic resources to participate in the decision making process through the Nuclear Waste Fund. The municipality required all the information be made available before taking a decision and this allowed them to influence the process. Oskarshamn also requested a formal reporting, extensive review of the programme disposal concept and a foundation for site selection, which was not considered in the Swedish legislation. The focus of the nuclear waste discussion moved from the central to the local level, where the radioactive waste was already located in CLAB. Nowadays, decision

making uniquely involving the top level is not accepted and the goal is to take decisions on a solid basis, taking into account the local level.

FSC short member survey on transparency

Mrs. **Jay Redgrove**, Nuclear Decommissioning Authority (NDA) in the United Kingdom, presented the survey on transparency undertaken by the FSC in 2010. Responses were received from ten countries and the findings showed that all of the participating organisations work actively with transparency. Nonetheless, most organisations lack a definition of transparency and its meaning varies not only across countries but also across organisations. In some cases, the concepts of openness and transparency are not distinguished. The purposes of transparency also vary. Transparency was interpreted as easy access to information, detailed technical publications, clarity of language, authenticity, a clear and open process with clear roles and responsibilities, no hidden agendas, opportunity for all interested parties to participate in the decision making process. As a consequence of the range of meanings, the ways to achieve transparency also vary from just publicising information to organizing extensive participation.

Mrs. Redgrove highlighted some of the definitions of transparency provided by different organisations, like the European Nuclear Energy Forum Working Group on Information and Transparency, the Swedish Council for Nuclear Waste, RAWRA, Posiva, ONDRAF/NIRAS, NAGRA or the NDA. In summary, the concept of transparency appears to be widely used among FSC members but is seldom defined in a rigorous manner. It is therefore important to be aware of the main driving force for transparency in a specific organisation or area of activities.

Reflections from different actors on dialogue, information and transparency

Mrs. **Josefin Päiviö Jonsson**, Head of Section for Disposal of Radioactive Waste, and Mr. **David Persson**, Swedish Radiation Safety Authority (SSM), reflected on how the need for dialogue, information exchange and transparent processes have changed during the past 30 years. SSM was formed in 2008 and is a merge of SKI and SSI that were the former responsible authorities for supervising radiation protection and nuclear safety in Sweden.

After recalling the role of SKB during the siting process, Mrs. Päiviö Jonsson spoke of the changes to SSM's regulatory approach as a result of the siting process in general and the increased number of stakeholders in particular. Prior to the site investigations, the authority's focus was on supervision, safety reviews and building of competence for the review of SKB's future licence applications for an encapsulation plant and a repository for spent nuclear fuel. At that time, communication and dialogue had a rather low profile. In the beginning of the siting process, i.e. when the feasibility studies were undertaken in Northern Sweden, the regulatory authority participated in information meetings. However, there were no procedures in place for regular interaction with the municipalities. SKI and SSI were concerned whether it was possible to take an active part in the siting process whilst maintaining the independence necessary for reviewing the future licence application. In the early 1990s, SKI initiated the Dialogue project. The results of the project showed that 1) regulators can and should participate in the early stages of a siting process and this would be possible without losing credibility as an independent reviewer of a licence application and 2) actors with conflicting interests and views can reach agreement on the basis for decisions.

The second break point for the regulator to change its view on communication and active participation occurred when an increasing number of municipalities became involved in the site selection process. The EIA Forum designed and implemented by Oskarshamn municipality allowed the authorities and municipalities to gain confidence in the process. Finally, the third break point for the regulator

stemmed from changes in the environmental legislation. The introduction of the Environmental Code in the late 1990s made the EIA clearer and the regulatory authority had to adjust to the new demands regarding participation.

From 2000, there was an increased interest in stakeholder involvement and new initiatives were launched, like Cowam, the FSC and RISCUM. SKI had a key role in developing the RISCUM model for transparency and tried to use this model in the Swedish process. Funding available for NGOs was also crucial as they could engage in the process and this had an impact on the work of the regulator.

In May 2011, SSM received the licence application and from that moment, there are a number of challenges ahead. In particular, during the review process, stakeholders will have expectations on the authority to have an opinion and adopt a standpoint. Even if SSM has to be open, it is not possible to have an opinion on an isolated part of the review before having conducted a review of all the issues. Furthermore, it will be difficult to keep the balance between openness and transparency whilst at the same time allowing the experts to conduct their review in an “undisturbed” environment. Mrs. Päiviö Jonsson stated that SSM has a mandate from government to conduct a critical and solid review of the licence application and it is important to emphasise that SSM is independent of the nuclear industry, environmental organisations and other stakeholders. Thus, it is important to undertake the review with great integrity. Even if the legislation does not provide opportunities for consultation during the review of the licence application, SSM will ensure that the public have opportunities for involvement in the process. SSM is developing a communication plan specific to the review project which includes input from the municipalities concerned and other stakeholders. In addition, Government requested an independent peer review by international experts from NEA in order to further enhance the review process. SSM will publish the results of the international peer review as well as all documents and supplementary information on the licensing review. The primary channel for information will be the website but information meetings will be organised when the review has passed specific milestones.

Mrs. **Marie Berggren**, from Östhammar municipality, spoke of the important milestones for the municipality with regards to high level radioactive waste history. In 1995, the municipality accepted the pre-investigation and established a consultative group. They also applied to the Nuclear Waste Fund. The second important milestone was in 2001 when the municipality accepted the site investigation. Östhammar required all the reports developed by SKB to be understandable. The Environmental Act formalised consultation meetings and opened up for municipalities to take an active part in the decision making process. In the current phase, when the consultation procedure is finalised, it is important for the municipality to find forums between authorities, SKB and the public to have an influence despite the fact that the application is being reviewed. Municipalities hold regular meetings but there are fewer participants than in previous phases. Mrs. Berggren stated that authorities need to find a way to foster transparency despite the review process and the municipality need to find a way to engage the young people. She raised the question on whether the internet is the only way and which is the best way forward. Mrs. Berggren concluded by listing the main conclusions and challenges ahead. Building trust takes time. For this reason, it is important to communicate and participate with openness and transparency. The process is as important as the content and it should be predictable, with a realistic timetable.

Mr. **Johan Swahn**, Director of the Swedish NGO Office for Nuclear Waste Review (MKG) said that MKG was created in 2004 by the largest Swedish environmental NGOs. The five organisations incorporated into MKG were the Swedish Society for Nature Conservation (SSNC) in collaboration with two regional branches of the society, an independent youth movement associated with the society and the local association of Östhammar, Oss. MKG was specifically created to work with nuclear waste issues. The reason for the creation of MKG was that the Nuclear Financial Act and the Nuclear Financial regulation in 2004 allowed environmental organisations to seek funding from the Nuclear Waste Fund. The regulation specified that a maximum of 3 million SEK (approximately 325,000€) could be made available

with one organisation being able to receive a maximum of 2,5 million SEK (270,000€). Since 2005, MKG has received approximately 2 million SEK (218,000 €) per year from the fund. The funding is provided for participation in the consultation process and the application review process for a repository for spent nuclear fuel, for building up knowledge and disseminating the information within the consultation process. Without the funding, the input from NGOs would not have been of the same quality as it was. Whether SKB has used this input to improve the final repository project, the Environmental Impact Statement (EIS) or the application can be questioned. MKG and SSNC have been critical of the way SKB has conducted the consultation process, specially of the lack of quality and incompleteness of the documentation produced.

Mr. Swahn commented that the funding system and the resulting activities were given a positive review and the system was extended to allow funding in the initial part of the review process after the application for the permit for a final repository was submitted on 16 March 2011. Both the SSNC and MKG will take an active part in the ongoing review process of the application. A review and judicial project has been set up under the auspices of the SSNC. He stated that MKG has concerns regarding the choice of method and site as well as the safety case of the KBS method. KBS relies on artificial barriers of copper and clay for isolation of the radioactive waste for hundreds of thousands of years.

Generally, NGOs are sceptical about receiving money for being involved in a consultation process. However, the fact that NGOs in Sweden receive money for their involvement in the consultation process on the repository for radioactive waste has been largely beneficial. Firstly, there are possibilities for changing things that can be wrong. Secondly, the Swedish National Council for Nuclear Waste provided an arena for discussion within society from 2006 through 2010. Issues which were considered important by some stakeholders were raised and discussed, such as the alternative method very deep boreholes, copper corrosion and siting. The resources available for participation were crucial to build up knowledge, undertake independent investigations and participate in meetings.

Mr. **Erik Setzman**, Environment and Stakeholders Unit at SKB, spoke about the lessons learned during the 1980s when there were protests and demonstrations against SKB's activities in some parts of Sweden. Generally, during the 1980s and 1990s, public awareness on nuclear issues as well as the interest for the environment increased, there was more transboundary cooperation and information exchange became global. Consultation, involvement, participation and transparency became key aspects for avoiding the reluctance and resistance towards certain industrial and nuclear power projects. In Sweden, past failures in communication and acceptance in large projects indicated the need for the waste management company to improve their communication strategies. In parallel, there was a demand for EIA and EIS to be implemented and new sharpened legislation through the Environmental Code.

Mr. Setzman acknowledged that early and open information for all stakeholders is absolutely necessary and time and patience are needed to build trust and confidence. It is not sufficient to hold a few large consultation meetings. Municipalities and NGOs need to organise their own reference groups and review teams and get financial support to participate in the process. SKB has established consultations and contacts with various targets groups, from local to regional, national and international levels. Nowadays, when looking into the future, a number of questions are raised:

- Will roles and responsibilities be consistent?
- Will the current legislation result in updated and partly new legislation?
- How will climate change and environmental priorities affect future decisions?
- Should reference groups be widened?
- How should we keep stakeholders interested and informed in the long run?
- How to balance the demand for open facilities for visitors with the demands for safety and security?

Questions and comments

In response to audience questions and comments, the workshop learned that:

- The nuclear industry has the responsibility to present a solution and an application for the licence of a repository for spent fuel. SSM is obliged to review any applications coming from the nuclear industry. In case another company different from SKB might present a different method, this industry should convince SSM that their method is better than the KBS3 method. Transmutation has not been considered as a solution for radioactive waste.
- Given the fact that it is the first time that the application for a licence of such an environmental facility is reviewed, the division of labour between the Environmental Court and SSM is not straightforward.

Communities of practice – the case of the Swedish planning and decision making process for final disposal of spent nuclear fuel

Ms. **Antoinette Wärnbäck**, Swedish University of Agricultural Sciences, summarised her research project which will be presented as a doctoral thesis in the middle of 2012 and which is supervised by Mrs. Tuija Hilding-Rydevik. Ms. Wärnbäck expressed her interest in learning and planning and particularly in the EIA practice. Some of the questions arisen as part of her investigation include who sets the planning agenda, when and how do people together change behaviour and thereby also the planning process and what do people actually learn when interacting. In this context, the nuclear waste management arena is interesting because the same type of actors have been involved in the planning process over the last 30 years. Therefore, it can be assumed that communities of practice have emerged. According to the social theory of learning, a community of practice is formed when people learn when doing things together and thereby create new knowledge. In Sweden, there have been different arenas and opportunities to learn and interact, like the Dialogue project, KASAM¹ seminars, experts meetings, regional consultations (EIA Forum), etc. There have been a wide range of participants in the nuclear waste process, but these communities of practice might lead to narrow knowledge production as some issues might never come up on the agenda. The new phase of reviewing the application opens up questions such as whether SSM will step out of the community of practice when acting as a reviewer of the application. The authority has to review its own input in the nuclear waste process and there is a risk of not being too critical about a process in which SSM has been part of.

Round table discussions

Following the methodology of FSC workshops, the participants then broke up into eight round table groups, mixing stakeholder roles and nationalities. They discussed the following general questions taking into consideration the Swedish context and the experience of international delegates:

1. How do round table members (or your institutions) define transparency?
2. How will transparency be affected by entering the repository licensing phase?
3. How do we maintain transparency in the review and licensing phase?

Returning to a plenary session, each round table presented a summary of discussions.

¹ The organization that was renamed as Swedish National Council for Nuclear Waste.

How is transparency defined?

Overall it was found that transparency had different interpretations across organisations and countries. One of the organisations which has defined transparency is the Swedish Council for Nuclear Waste, stating that “by transparency we mean not only openness, but comprehensibility and accessibility. In other words we strive to ensure that the arguments in the crucial issues in the nuclear waste field are comprehensible and that the information is easily accessible”. It was found that transparency is often used interchangeably with openness. In this sense, transparency and openness involve providing information which is understandable and comprehensible by all stakeholders before taking actions at every step in the process. It was also interpreted as getting opportunities for people to dialogue and to get answers to certain questions that arise during the process. Some groups observed that the result of transparency is building trust and confidence. In another group, some delegates interpreted transparency as seeing through whilst openness meant not only seeing but also understanding.

In some round table groups it was suggested that specific definitions may not be that important, rather the behaviour of both the implementer and regulator in the process may demonstrate if they are willing to be open and transparent. It is also important to be clear about the expectations from the different stakeholders involved. This means having no hidden agendas and communicating in an understandable way. One group spoke about active and passive transparency.

How will transparency be affected by entering the repository licensing phase?

The overall general impression was that the new licensing phase will involve changes for transparency compared to the siting phase. However, there was not a general consensus on whether transparency would increase, diminish or remain at the same level in Sweden. All three possibilities were contemplated in the different round table groups. In some countries, transparency can be challenging because the authorities may be forbidden by law to provide information during the ongoing licensing process.

Round table groups agreed that the roles of the different organisations in Sweden has changed with the new phase. Transparency is now in the hands of the Environmental Court and SSM, rather than SKB. The Environmental Court does not have experience on this new licensing phase and may encounter difficulties, even if by law it needs to be transparent. For SSM, it is a more reflective period, where internal deliberations need to be made. On the other hand, there are expectations from Swedish stakeholders that SSM will communicate and interact with the public during the review process. From the point of view of the regulator, it is also important to get as much information as possible to achieve the best results. For SKB, the challenge is how to remain receptive to new information because they may have to change their application. During this new phase, SKB has the opportunity to explain the licence application. It was however pointed out that it needed to be translated and this is a challenge for a 7,000 page report.

How do we maintain transparency in the review and licensing phase?

Information should be available and easily accessible for transparency to be maintained. All files and details on the process should be accessible. If clear milestones are identified and reports are made public, this could help in maintaining transparency. In addition, social media could be used as a channel for increasing transparency. One round table suggested that the public and NGOs could be involved with a “watchdog” function.

From the point of view of the local level, the committees were assumed to continue informing citizens and therefore, transparency would be maintained. However, there are indications that the interest at the local level has dropped (that persons no longer perceive any opportunity to be active in the process). There seems to be a general expectation that the licence will come straight away.

COMMUNITY VISIT

Swedish and foreign participants were transported on a guided bus tour to Forsmark and then to Östhammar town. During the bus tour, a guide explained the industrial heritage in the region. Iron was produced in Uppland as early as the middle ages. The region was famous for the excellent quality of steel.

During the stop at Forsmark, Mr. **Fredrik Lange** from Lange Art, SKB's team of architects, explained how the facility will be designed. The design of an industrial site needs to consider three different visual perspectives: 1) the building seen from a distance; 2) the building seen from nearby and 3) the detailed impression once you enter the building. He mentioned some of the aspects taken into account for his proposed design. Firstly, the skyline should be integrated in the surrounding and not dominating. It should respect the landscape. Secondly, the design should be functional and the buildings divided in comprehensible units. Transparency is important and one shall see what is going on inside the building. Finally, it is important to take account local building traditions and use natural materials wherever possible. Mr. Lange showed his overall design emphasizing flat roofs and using the basic materials of concrete and a grid of precast elements to stay within a strict budget. His presentation included various photomontages, from the air and from SFR and various model views from the main entrance.

Some questions were raised by the delegates regarding the general design of the facility and in particular the proximity of the repository facility to the sea, from which visitors could potentially enjoy a particular view on an architectural monument. Mr. Pescatore opined on the importance of adding value to the infrastructure through design and of building a sustainable relationship between the host community and the site installation. He emphasised what FSC had learned about the role designers and architects can play in producing a facility that becomes a part of the fabric of local life and even something of which the community is proud. The FSC has investigated cultural, functional and physical design features that may allow a facility to be better integrated and be made more attractive to the community and the region in both the short and long term. In some cases, industrial facilities have become an icon, lending a positive reputation and drawing visitors. In the case of the design shown by Mr. Lange, Mr. Pescatore stressed the importance of careful consideration of the ways to provide added cultural and amenity values to the local community and beyond. It was suggested in discussion that a resolution must be found between the desire to avoid calling attention to a facility, and, the need to demonstrate that a facility is a safe addition to a community and a lasting asset.

The local visit ended with a dinner at a restaurant in Östhammar where Mrs. **Anna-Lena Söderblom**, chairman of the Östhammar municipality reference committee, spoke about its responsibility for information and dialogue with the municipal council and the public. The resident population of Östhammar is around 21,400. In summertime there are thousands of parttime residents who come to enjoy the coast, stroll in the surrounding nature, swim in the sea, play golf or just relax.

Safety is a central issue for the municipality and a repository in Östhammar is of great importance to the municipality in many ways. The task of the municipality now is to perform its appropriate review of SKB's application with help from universities and highly trained experts.

ACHIEVING DEEP CONSULTATION THROUGH THE EIA

EIA as an “umbrella” process for Swedish consultation

Mrs. **Sofie Tunbrant**, SKB, reviewed the EIA process since it started in 2001 with early consultations for both facilities, the encapsulation plant and the repository. The main purpose of the EIA is to give different actors an opportunity to influence the design and lay out of the facilities, regarding human health and environment as well as to influence the scope and content of the EIS. Consultation should be regarded as a forum of mutual exchange of ideas where different target groups are involved in different ways. At the international level, governmental agencies were consulted in writing. National NGOs can be very active because they receive resources from the waste fund. Neighbouring countries are involved through the Environmental Protection Agency. At the local level, meetings in the two municipalities were most important for dialogue. The official notes and proceedings of these meetings are documented and the documents are available at SKB website. More than 3,000 questions, comments and remarks have been dealt with during this process. Out of the 60 meetings held at the local level, 30 meetings were part of the EIA Forum in Oskarshamn and EIA group in Östhammar. The other 30 meetings were with regional organisations; 18 of these were also open for the public. The consultation report is enclosed with the EIS in the application.

The Environmental Code changed the way organisations regarded information and consultation. The question was not only how to consult but how to gain and keep confidence. Part of the answer rests in taking time (as it is a long term process), being open, transparent, adopting a stepwise voluntary approach, having presence at the local level and provide opportunities for stakeholder involvement and influence. Furthermore, having personal meetings, being patient and establishing early contacts is also very important. Therefore, before large meetings, SKB started a dialogue with individuals in order to understand their concerns. More than 50% of the individuals around Forsmark had personal meetings with SKB. In addition, it is important to open the facilities for people to visit them, like CLAB and Äspo.

Mrs. Tunbrant highlighted that one of the main challenges during the consultation process is to maintain the level of interest through such a long period. It is also important not to take confidence and trust for granted as they can be lost very quickly.

Reflections from local NGOs

Mr. **Kenneth Gunnarsson** presented OSS, a local opinion group for safe final storage of radioactive waste in Östhammar community. Mr. Gunnarsson is a photographer and a politician member of the Green party. As a thoughtful background to his presentation he displayed a series of photographs of communities in far Northern territories contaminated by the Chernobyl accident. OSS started in 1986 and aimed to keep a critical eye on radioactive waste. According to a study from the Society, Opinion and Media Institute at the University of Göteborg, the public has quite a lot of confidence in environmental organisations, after scientists, when it comes to information about energy and nuclear power.

The fact that NGOs are indirectly subsidised by nuclear industry through the waste fund is unique. It is a pragmatic approach to resolve the problem of radioactive waste. Mr. Gunnarsson pointed out that during the consultation process, each actor has its own objective and pursues its own agenda. Environmental organisations have no self interest in the process, the choice of method or the siting. Their aim is to ensure that the process allows the best solution in the longer term with no danger to the environment. In contrast, the industry is focused on gaining approval of the project and getting a permit. Whilst EIA consultations are controlled by SKB, political supervision is delegated to the municipality. Thus, the project was discussed in two arenas: the formal EIA consultation at the local level, where the discussion was focused on labour market opportunities, infrastructures, etc. and the arena at national level where alternative methods and siting options are discussed. The former has no influence on the latter, and none of these actors is eager to discuss problematic aspects. Mr. Gunnarsson stated that SKB has effectively dictated outcomes of this consultation because it has not allowed critical voices to influence the process in and of itself.

Mrs. **Charlotte Liliemark** told of how she was invited to participate in a meeting of the working group of the LKO project in Oskarshamn. She showed herself to be very critical to the project of a repository being built in the municipality and stated she could see no advantages of any kind in the project. She was amazed when her opinion was not neglected; on the contrary she was asked to join the municipal group and she has been involved for ten years. Mrs. Liliemark listed factors critical to the success of the consultation process: the funding, the veto right and a transparent and predictable process. She then highlighted five issues of importance for organizing such a consultation process. Firstly, the working groups must have access to independent experts not related to the implementer. Secondly, being informed and being included are different matters; real public involvement should be pursued. Thirdly, the citizen competence organisations should be adjustable depending on how the process evolves and the phase of the programme. Fourthly, involvement processes should not divide between social and technical issues. Fifthly, consensus is not the goal in the working groups, but real influence and participation. In this way transparency allows trust to be gained. Finally, the knowledge from the people affected is important to the implementer. This knowledge includes not only nuclear matters but also other concerns for future generations.

Round table discussions

As in the first session, the workshop then broke up into the same eight mixed groups to consider the following questions:

1. Who is responsible for the consultations in different countries and how does it affect the outcome?
2. Is there a point when the obligation to perform consultations with stakeholders can be considered to be fulfilled?
3. What has been most successful for engaging civil society, local people and NGO representatives in deliberations?

The summary below reflects the plenary reports by the different round tables.

Who is responsible for the consultations in different countries and how does it affect the outcome?

There was a general agreement across the round tables that either the implementer or the government have the responsibility for running the consultations. A distinction was raised between two types of consultations: formal and informal. The former involves a legal procedure. For instance, in Japan,

the only point when consultation is possible is when a new law is set up. Following the EIA legal procedure, the public should be informed and consulted on the project. The informal procedure involves an iterative dialogue. Participants mentioned that there is no obligation to organise consultations in all countries. In some cases, like in the US, the form of consultation is mainly through hearings. In other countries, communication has been developed at the local level.

There was no general agreement on the topic of how consultation affects the outcome. Nevertheless, the general opinion was that consultations must be able to influence the outcome. In Belgium, the local partnerships have affected the design of the project and have also influenced the process. In Sweden, the Swedish National Council for Nuclear Waste has had an impact during the EIA and they have organised hearings and open meetings to deal with critical questions.

Is there a point when the obligation to perform consultations with stakeholders can be considered to be fulfilled?

There was no general agreement on the point when the obligation to perform consultations can be considered fulfilled. However, some suggestions were made on different possibilities: it could be stipulated in legislation as when there is a change in law, when there is a good level of confidence in the implementer, when other authorities need to be involved (like the safety authority), when funding for participation is finished, etc. For some participants, the obligation to perform consultations with stakeholders can be considered to be fulfilled when it is shown that the public has influenced the process with their input.

It was also mentioned that after submitting the licence application, the form of consultation changes and it becomes more oriented towards providing information and communicating. Nevertheless, if the implementer is truly pursuing consultations in good faith, consultations will continue throughout the whole process. Even if consultations are over for whatever reason, there are always issues to be discussed. Therefore, consultation is a living process and never ends.

What has been most successful for engaging civil society, local people and NGO representatives in deliberations?

Most of the participants considered that funding enabled local people and NGO representatives to be involved in a meaningful way in deliberations. Secondly, providing access to all information and documents and allowing enough time for deliberations are also important factors for success. According to SKB, a central element in their approach has been to gain and give trust in a long-term process as well as promoting individual meetings at the start of the process. One group highlighted the role of individual leaders, the so-called “fire souls” (*eldsjäl* in Swedish), who help in making the process successful.

THE ADDED VALUE PROGRAMME AND LOCAL ECONOMIC DEVELOPMENT

The Swedish Added Value Programme

Mr. **Jacob Spangenberg**, Östhammar Municipality, gave the first presentation of the section focusing on added value and local economic development. The two municipalities, Oskarshamn and Östhammar, decided in 2007 that it should be clear that the municipal level had been involved in trying to solve a national issue of great magnitude to industry and to the society. They formally started to discuss with the industry the need to acknowledge the effort put by the two municipalities into monitoring and evaluation of the industrial activities. An added value programme would support an enabling environment for the municipalities in partnership with the industry and create synergies. All three parties entered into negotiations for more than two years and finally in April 2009, they formally agreed to sign the programme when SKB had not yet decided on the location.

The Added Value Programme stipulated that 75% of the additional value should be created for the benefit of the municipality where the construction of the repository would *not* take place, whereas 25% of the value should benefit the municipality hosting the repository. The total value of the programme is 1,5 to 2 billion SEK (around 160 to 215 million Euro). It is important to emphasise, from an accounting point of view, that value does not mean cost outlay for a project, but rather, resulting value. The programme benefits the three parties: the industry and the municipalities.

Mr. **Stig Björne**, CEO SKB Business Development, compared the investments undertaken by the industry in Östhammar and Oskarshamn. In Östhammar, the investments include the expansion of SFR, the nuclear waste repository and the added value projects, whilst in Oskarshamn they include the encapsulation facility, the canister factory and the added value projects.

Mr. Björne said that SKB had no choice but to negotiate with the municipalities on the Added Value Programme and to come to agreement. The agreement stipulates that SKB and SKB's owners over time shall create value for up to 2 billion SEK (around 218 million €) around in the municipalities in order to get the authorisation to establish a nuclear waste repository and an encapsulation plant in the municipalities. The Added Value Programme shall contribute to good long-term conditions for operating business and industry in the municipalities. However, it was difficult to know what exactly they were negotiating (roads, education, labour conditions, etc). The programme was divided into two periods: period 1, before an authorisation (2010-2015) and period 2 after the authorisation (2016 onwards). The agreement stipulates that value will be created for 20% of the Added Value Programme (300 to 400 million SEK; around 32,7 million – 43,5 million €) in period 1. The remainder (1.6 to 1.7 billion SEK; 175000 – 185000€ approximately) will be created during period 2. Each year Oskarshamn and Östhammar municipality receive 1.5 million SEK (around 163,500 €) to maintain an organisation that administers the programme. This organisation is led by a steering committee of five members – Chairman of SKB, Vice chairman of SKB, President of SKB and the mayors of the two municipalities - who take decisions on the investments and define the added value. Any decision in the organisation must be taken by at least 4 votes to 1. The financing of the added value comes from SKB's owners – Vattenfall, E.ON, Fortum and others.

Mr. Björne compared the Added Value Programme to the EU regional funds or Swedish regional development programmes because it is a regional development programme which focuses on two municipalities. It covers different areas like education, support for innovation, business development, infrastructures, labour market, etc. In Östhammar the Added Value Programme is funding or supporting a college of technology and energy, the business incubator in Uppsala, a pre study on a hotel and a pre study on the business harbour. SKB Business Development guarantees bank loans and helps local companies with business development. The programme has also helped to advance the building by the Swedish Transport Administration of a road between Östhammar and Uppsala. In Oskarshamn, some of the operations within the Added Value programme include support to the business incubator, the creation of the nuclear engineering education (Nova), actions on the Äspö laboratory, etc.

Mr. **Rolf Persson**, Oskarshamn Municipality, said that Oskarshamn is very dependent on a few companies and the Added Value Programme can be an incentive to diversify the labour market. However, there is a lack of educated labour force and hence, a need for competence building. Some of the activities included in the Added Value Programme so far were listed:

- The agreement acknowledges the need to construct a new ferry terminal in the municipality; this will start in 2012.
- Oskarshamn Creativity Centre encourages young people to become entrepreneurs.
- Training of engineers will start in 2012 in cooperation with KTH.
- A business incubator with spin off effects will provide opportunities for different sectors related to the repository facility.
- Interest in the areas of technology, energy and natural sciences should be increased in preschool and compulsory school.
- New research tunnels at Äspö laboratory will be drilled for SKB internal use and for other countries to undertake research. (Note also that before the Added Value Programme, in 2006, an agreement was signed with SKB to create a research centre in order to use the opportunities from the laboratories in Oskarshamn in other fields.)
- Train services will be reopened in Oskarshamn in December 2011 as part of the agreement.

Questions and comments

One participant commented that the concept of the Added Value Programme implied bribery. However, the mayor of Östhammar explained that the Added Value Programme was a result of a transparent process of negotiations between SKB and the municipalities. It cannot be considered bribery because it was not concocted behind closed doors. Mr. Persson added that both municipalities had a high level of acceptance of the repository and when the decision would be made on one of the municipalities, there would be a disappointment in the other one. Therefore, both municipalities agreed that 75% of the value would be invested in the municipality not getting the repository. This proves that it cannot be a bribe as in that case, everybody would expect a 50-50 prior agreement.

It was also highlighted that the Added Value Programme differs from the Nuclear Waste Fund in that the latter is only focusing on activities related to the repository, whilst the Added Value Programme has a wider scope and aims to create an enabling environment for the future in both municipalities.

A parallel experience from Belgium: The Local Fund

Mr. **Hermann Sannen**, STORA partnership, explained that in the 1970s the Minister of Economic Affairs visited Dessel after the closure of Eurochimique. Dessel did not want to become the “nuclear cemetery” of Belgium and asked for maximum safety in the region, protection of the environment, people and workers, and promotion of research. Dessel was a candidate municipality for the disposal of low-level and short-lived waste. An integrated (social and technical) repository proposal was developed by the STORA partnership (Study and Consultative group on low level waste), the predecessor of STOLA. The partnership worked from the basis that safety is first and the repository would enhance safety compared to the previous situation. One of STORA’s major objectives is to involve the population of Dessel in nuclear questions in an open and transparent communication. This transparent process led STOLA to codesign an integrated repository project, the cAt project. The partnership has had a say in the repository design and this can be understood as an added value. The construction of the facility will also involve job creation and the maintenance and development of nuclear know how in the region. ONDRAF/NIRAS is working with the local partnerships on achieving realistic added value for the inhabitants of the Dessel and Mol region. A fund has been set up to support sustainable local projects and activities, create new jobs and realise spatial opportunities. These projects and activities may be of a diverse nature and may include social, economic or cultural projects. In addition, there will be opportunities for spatial development within the Dessel municipality.

Round table discussions

The workshop then broke up into the same eight groups to consider the following questions:

1. How to learn the Communities’ definition of added value?
2. Is added value for the community also an added value for the region?
3. Which economic arrangements are most likely to foster sustained added value for the community?
4. Which other arrangements, beyond economic ones, are necessary to ensure community well-being over the longer term?

The key themes emerging under each question are outlined below.

1. *How to learn the Communities’ definition of added value?*

In Sweden, the local community defines the concept of added value in a democratic way, whereas in other countries the definition arises from consultation or visioning exercises, like in the UK and Canada respectively. Participants recognised that elected representatives are entrusted to represent the views of the community and therefore, it is their job to define added value.

It was recognised that the concept of added value is complex and long term. There are various terms used to suggest added value such as compensation, benefits package, infrastructure support, etc. However, these terms have different meanings and connotations for the different stakeholders. For some participants, there could be a mismatch between the concept of added value and other factors like economic evolution and they suggested to consider added value in a more holistic way, by examining overall economic changes. Others prefer to talk about sustainability rather than added value. Participants felt it was important to highlight that added value was not considered a bribe. There is no direct money provided to the community, but it helps to develop processes to increase prosperity, social capital and well-being.

2. *Is added value for the community also an added value for the region?*

Some groups recognised that communities might not have the same goals as the areas to which they belong. The area and the municipality might have different perspectives on added value. Furthermore, some municipalities are very small compared to their neighbour municipalities and the values in one small municipality differ from the values in bigger municipalities. In this context, it is important to cooperate and reconcile regional and local values in order to undertake projects that are mutually beneficial. It was agreed that added value in the community can spread out to the entire region and even to the country.

3. *Which economic arrangements are most likely to foster sustained added value for the community?*

Underlying economic arrangements there was a common understanding that other arrangements, beyond the economic ones, do foster sustained added value for the community. If only economic arrangements are considered, some important issues might be missing. For instance, some people might decide not to live in an area where there is an important industry growth because it is not considered a healthy place. Therefore, other issues – culture, health, education, environmental protection, etc - need to be taken into account.

The Nuclear Waste Fund in Sweden and the Local Fund in Belgium were considered effective economic arrangements. In addition, the bank guarantees for starting up business are an important economic push for the long term.

4. *Which other arrangements, beyond economic ones, are necessary to ensure community well-being over the longer term?*

The types of arrangements necessary to ensure community well-being over the long-term differ depending on the context, on the country and between municipalities. However, in most countries, infrastructure improvements and better transport systems are seen as useful arrangements for the community. Other arrangements refer to creating a community which is considered a safe place to live in with an attractive environment. This can be achieved through small actions like painting public buildings in nice and soft colours. Two further considerations were noteworthy. Firstly, monitoring facilities which help people living in the area to feel safe and under control can be considered added value and at the same time, become a means for openness and transparency. Secondly, the creation of high tech facilities providing opportunities for research and development. Finally, improving the healthcare system, providing good education and improving communication are essential to improve well-being over the long term.

RAPPORTEUR'S OBSERVATIONS AND CLOSING

Professor **Erik van Hove**, University of Antwerp (Belgium), was invited by NEA Secretariat to observe the workshop and to offer feedback on what was heard. He described learning how an often controversial industry, the nuclear sector, can be harmoniously inserted in a community, involving all parties in the process. The local political structure focused throughout on the promotion of prosperity and well-being for all. Transparency in the process extends to a policy of partnership in decision making and participation in all processes of planning. The community of Östhammar will serve the nation through hosting the repository and will turn this into an asset for the region. The old saying “Not In My Back Yard” (NIMBY) has become “But In My Front Yard” (BIMFY).

Professor van Hove then raised the question of whether the same strategy of openness and transparency would work in the licensing phase. A multitude of parties and very elaborate procedures were shown during the workshop, which would mean obstruction and endless manoeuvrings in other countries. In Sweden, however, the civic culture and the tradition of responsible governance ensures a successful application. Nevertheless, a different level of transparency from the one applied up to now is needed. Mr. van Hove cited the Fukushima catastrophe as an example of how fear of radiation may dominate perception, distracting attention from other human needs (like those created by the tsunami and earthquake). He suggested making radiation itself “transparent”, the way this was achieved with gas by making it smelly. Technology is available to make radiation measurable by everyone at little cost. Giving the citizens control could be the key to demystifying radiation if measuring it can be made as trivial as measuring time or temperature.

The next question raised by Mr. van Hove was whether the framework of Environmental Impact Assessment adds anything to what transparency achieves. Transparency goes much further as it establishes an environment of trust and partnership. The EIA provides a legally binding set of rules on the information flows that are part of the decision making process.

Reviewing the architectural project for the surface facilities of the repository, Mr. van Hove acknowledged that bland buildings were arranged in an uninspired rectangle imposed on a varied coastline. These plans provoked a great disappointment. He suggested reconsideration of the design of the buildings, taking into account the tradition of the region that succeeded so well in developing industry in harmony with man and nature.

Finally, Mr. van Hove concluded by reviewing the external elements added to the repository project. The Added Value Programme, which is inspired by economic regional development programs, considers adding functionality to the project itself. The programme contributes directly to employment offer in the region, to improving the infrastructure and using local ancillary services. Equally important is the contribution to the social fabric of the locality: cultural elements, attractive landscape and making people proud of their community.

Closing statements were provided by Mrs. **Anna-Lena Söderblom**, Chairman of the Östhammar municipality Reference committee and by Mrs. **Janet Kotra**, FSC Chair, who thanked the Swedish

stakeholders for speaking their views during the workshop and referred to the “fire souls” for a successful new licensing phase. Mr. **Claudio Pescatore** of the NEA Secretariat highlighted again the diversity of participation and closed with the promise that the OECD Nuclear Energy Agency would publish this synthesis of the workshop.

INTERNATIONAL PERSPECTIVE

The workshop in Gimo (Östhammar) was the eighth National Workshop of the FSC. The workshop proved very fruitful, involving the active participation of different Swedish stakeholders: residents and elected people of the municipalities of Östhammar and Oskarshamn, the regulatory authority (SSM), the radioactive waste management organisation (SKB), the Ministry of the Environment, the Uppsala regional council, the Swedish National Council for Nuclear Waste and NGOs (MKG, Milkas and OSS). The workshop was also very timely for Sweden, since the country has entered a new phase: after many years of site investigations, SKB submitted applications to the national government for a license to build a final repository for spent nuclear fuel in Forsmark, in the Östhammar municipality, on 16 March 2011. The application was preceded by a site selection process that spanned three decades, in an early stage for the period 1977-1985 and a later phase from 1992 onwards.

The licence applications are currently being reviewed, on behalf of the government, by the regulatory authorities, SSM, and the Environmental Court, as well as by the concerned municipalities. Therefore, the workshop took place at a specific moment in time when different actors in the Swedish nuclear waste management programme could reflect on: what are the elements of a successful process, how the information exchange and the transparent process built over the past thirty years would change in the future phases of the programme, and what challenges may lie ahead.

Feedback after the workshop revealed that Swedish participants had pursued a common goal: to share their experience with different international representatives and discuss the aspects that have allowed Sweden to be one of the countries leading in the movement to implement a repository for spent nuclear fuel. Mutual understanding and learning were also a common objective. Overall, Swedish stakeholders agreed that the most important issues for reaching the implementation phase had been: a clear division of responsibilities, a specific financing system and the high engagement of both the municipalities and NGOs as key players in the decision-making process. Furthermore, transparency has also been crucial. According to the Swedish participants, describing the whole system and the lengthy overall process for workshop visitors proved challenging. Even if it was sometimes difficult to transmit all details, it could be replied to our hosts that the audience got a broad picture that was fully understandable, despite cultural, political, economic and institutional differences with other countries.

The municipality of Östhammar viewed their participation during the workshop as essential for two main reasons, firstly, to provide their own perspective of the situation and, secondly, to learn from other participants. Learning from different countries and backgrounds as well as from other national programmes, which are at different stages in the process, and fostering dialogue, was a rewarding experience. Evidently, other countries address problems in different ways and the local and regional participants found it valuable to get supplementary perspectives and knowledge which can be applied when reviewing the licence application. At present, the local council of Östhammar continues to be active in organising various activities, such as seminars on safety issues, to maintain the level of engagement of the local community.

During the workshop, it was evident to visitors that local stakeholders trust the regulator. A large number of meetings of various forms held with input from operator, regulatory authorities, and various stakeholders has contributed to building trust in the authorities. The fact that the municipality has a veto right and, therefore, the final say regarding the acceptance of the repository on its territory was also seen to be reassuring from the local residents' viewpoint.

The workshop pointed out many challenges and raised a number of questions regarding the new phase of implementation in the Swedish programme. Some of these questions are: who should be invited to review the licence application? How can the different actors participate in the review of the licence application whilst the regulator maintains its independence and undertakes the work in an efficient manner? Who is the most appropriate actor for knowledge transfer at this stage? Would an international organisation play this role? How to deal with the media and how much can they influence the process?

During this phase, while waiting for a decision on the license application, SKB is less visible to the community. The implementer was highly present in the municipality of Östhammar over the course of ten years, undertaking site investigations and communicating permanently. Today, although SKB personnel in Östhammar are now working on the short lived waste repository situated outside the community centre, the FSC learned that the implementer's presence is more limited and communication should be more discrete. Trust and confidence that were built over the course of years need to be maintained through the coming period. The Added Value Programme is one of the vehicles for continued community engagement of SKB: the implementer has entered into a new relationship with both Östhammar and Oskarshamn through this programme and an office has been opened in town.

The role of the regulatory authority (SSM) during the formal review of the SKB licence application is complex. Whilst they need to carry out their legally assigned task and perform as the independent and fully accountable national authority, they also need to be transparent. They explained in feedback to the FSC that they will continue involving the stakeholders, e.g., through national consultation on the SKB license application materials. In this regard, the core values of the organisation – trustworthiness, integrity and transparency – will form the foundation on which work is performed and conducted.

Non-governmental organisations appeared throughout the workshop as an important actor, raising critical questions. NGOs and their independent experts received financial support from the Waste Fund during the siting process, which enabled them to build up knowledge, review project documents and plans, and contribute actively to many meetings. This has given national and local NGOs a status rarely found in other countries. At the same time, the elected personnel of the municipalities are clear that the mandate of representation given to them by voters should predominate in decision making. It is they, too, who wield veto power. During the FSC workshop in Gimo, NGOs viewed that the agenda developed by the Swedish hosts allowed discussion of the decision-making process but no challenges to the actual outcome. The absence of NGOs from other countries made it difficult for these participants, they said, to feel on an equal footing with other delegates.

International organisations also play a role during the licence application. The Swedish government requested that NEA organize a complementary, independent, international peer review of the parts of SKB's applications covering long-term radiological safety as well as the selection of site and method. The peer review organised by NEA started in May 2011 and will take one year. It will supplement the SSM review and serve as key input for the municipalities involved as well as other interested parties, including NGOs.

The current phase of reviewing licence applications might take years. It could be a good period for the different stakeholders involved in radioactive waste management in Sweden to focus on aspects

related to organisational memory and monitoring. An international NEA project has started to that effect and could provide relevant information. The Records, Knowledge and Memory (RK&M) project as well as previous FSC literature observe, moreover, that one way to preserve awareness and memory over the course of a multi-generational process is to conceive of the spent fuel facility as being part of the local heritage. The Östhammar community may be particularly sensitive to this aspect as they have guarded, through changing circumstances over centuries, a cultural tradition of ironworking. From mining, to a collective way of life substantially organised around the iron economy, to the continued presence today of smaller ironworking shops, the technical activity has been sustained through evolutions, is visible in cherished typical buildings, and forms a solid basis for a regional identity. Why not seize from the outset the opportunity to integrate the spent nuclear fuel repository into a sustainable, proud heritage, rather than wait for the facility to cease its operation before asking how cultural memory can be preserved?

APPENDIX 1. FSC WORKSHOP PROGRAMME

Wednesday 4 May – Day One	
Session 1 – Opening	
18.00	Welcome NEA (FSC chair Janet Kotra) Swedish hosts and sponsors (Holmfridur Bjarnadottir , Swedish National Council for Nuclear Waste on their behalf) Former workshop host (Martine Huraut , Andra) on the experience of the last FSC workshop in France
Session 2 - Visions of Oskarshamn and Östhammar municipalities	
Chair: Erik van Hove , U. Antwerp, Belgium (ret.)	
18:20	The municipality of Östhammar 2020: perspectives on how the municipality with cooperation between the engaged population, successful enterprises and good municipal services shall be “the best local society in the world”. (Andreas Lytter , Östhammar municipality)
18.40	Oskarshamn vision: Oskarshamn - an international energy center and a growth community with high quality of life. (Lennart Karlsson , Oskarshamn municipality)
19.00	Discussion and questions
19:30	Dinner at a local restaurant hosted by Oskarshamn municipality and Östhammar municipality and welcome speeches by Jacob Spangenberg , Mayor of Östhammar municipality, and Lars Blomberg , Deputy Mayor of Oskarshamn municipality. The restaurant is within walking distance of the conference center.
Thursday 5 May – Day Two	
Session 3 –The Swedish Nuclear Waste Management Programme: Looking back, looking forward	
Chair: Holmfridur Bjarnadottir (Swedish National Council for Nuclear Waste)	
8.30	Overview of the Swedish NWM programme (Ansi Gerhardsson , Ministry of the Environment)
09.00	The Swedish funding system and how it contributes to the participation of local and regional stakeholders (Björn Hedberg , SSM)
09.30	Questions and comments
09.50	Coffee

10.20	<p>Perspectives from key actors on entering the new licensing phase :</p> <ul style="list-style-type: none"> • The Swedish Radiation Safety Authority (Eva Simic, SSM) • SKB (Erik Setzman) • Östhammar municipality (Marie Berggren) • Oskarshamn municipality (Rolf Persson)
<p>Session 4 – Dialogue, information exchange and transparency in the new phase</p> <p>Chair: Carl Reinhold Bråkenhielm (Swedish National Council for Nuclear Waste) As early as the 1990s Sweden identified “transparency” as a central concept in the NWM decision making process. Entering the new phase of repository construction may affect how each actor is working with transparency and communicates with other stakeholders.</p>	
11:20	The role of dialogue, information exchange and transparency in the Swedish NWM decision making process (Torsten Carlsson , former Mayor of Oskarshamn municipality and now chair of the Swedish National Council of Nuclear waste)
11.35	FSC short member survey on transparency – Current definitions (Jay Redgrove , NDA)
11.45	<p>Reflections from different actors in the Swedish NWM program on how the need for dialogue, information exchange and transparent processes have changed during the past 30 years, how this will change in the future phases of the program, what rules or guidelines will be needed, and what challenges can be foreseen.</p> <ul style="list-style-type: none"> • Josefin Päiviö Jonsson and David Persson, SSM • Marie Berggren, Östhammar municipality • Johan Swahn, Swedish NGO Office for Nuclear Waste Review (MKG) • Erik Setzman, SKB
12.45	Lunch
13.45	Research project: “Communities of practice – the case of the Swedish planning and decision making process for final disposal of spent nuclear fuel”. (Antoinette Wärnbäck and Tuija Hilding-Rydevik , Swedish University of Agricultural Sciences)
14.30	<p>Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • How do round table members (or your institutions) define transparency? • How will transparency be affected by entering the repository licensing phase? • How do we maintain transparency in the review and licensing phase?
15.30	Coffee
16:00	Feedback from Round tables.
<p>Community Visit</p>	
17.00	<p>Guided bus tour around the Östhammar municipality. A stop will be made at Forsmark with an opportunity to go up in the water tower to get a view of the area. A presentation will also be given at Forsmark:</p> <ul style="list-style-type: none"> • How municipality requirements on the above ground buildings will be met (Lange Art, SKB team of architects) <p>After the presentations the bus will take us to the Östhammar Town centre for dinner at a local restaurant.</p>
19.00	<p>Dinner hosted by SSM</p> <p>During dinner Anna-Lena Söderblom (chairman of the Östhammar municipality</p>

	Reference committee) will present work of the Reference committee responsible for the information and dialogue with the Municipal Council and the public.
Friday 6 May – Day Three	
Session 5 – Achieving Deep Consultation through the EIA	
Chair: Jo-Ann Facella (NWMO, Canada)	
8.30	EIA as an “umbrella” process for Swedish consultation (Sofie Tunbrant , SKB)
9.00	Reflections from local NGOs (Lotta Liliemark , Oskarshamns municipality; Kenneth Gunnarsson , OSS - a local opinion group for safe final storage of radioactive waste in Östhammar community)
9.30	<p>Coffee and Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • Who is responsible for the consultations in different countries and how does it affect the outcome? • Is there a point when the obligation to perform consultations with stakeholders can be considered to be fulfilled? • What has been most successful for engaging civil society, local people and NGO representatives in deliberations?
10.30	Feedback from Round tables
Session 6 – The Added Value Program and Local Economic Development	
Chair: Julia Kiss (PURAM, Hungary)	
<i>Background reading: the FSC survey and report on improving quality of life and increasing the value of waste management facilities to local communities:</i>	
http://www.oecd-nea.org/rwm/fsc/docs/Towards-waste_management_EN_A4.pdf	
11.00	<p>The Swedish Added Value Program.</p> <p>Presentations and viewpoints from:</p> <ul style="list-style-type: none"> • Stig Björne, CeO SKB Business Development • Östhammar Municipality (Jacob Spangenberg) • Oskarshamn Municipality (Rolf Persson)
12.00	Lunch
13:00	<p>“A parallel experience from Belgium: The Local Fund”</p> <p>Herman Sannen, STORA</p> <p><i>“This Fund will support projects and activities that will improve quality of life for the local residents and create sustainable opportunities for the region. These projects and activities may be of a diverse nature and may include social, economic or cultural projects. In essence, they provide added value which is more far reaching than the added value created by the (integrated) cAt project (category A waste surface disposal in Dessel) itself.”</i> From the Master Plan: see http://www.niras-cat.be/downloads/cAt_brochureENG.pdf.</p>
13.15	<p>Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • How to learn the Communities' definition of added value? • Is added value for the community also an added value for the region?

	<ul style="list-style-type: none"> • Which economic arrangements are most likely to foster sustained added value for the community? • Which other arrangements, beyond economic ones, are necessary to ensure community well-being over the longer term?
14:15	Feedback from Round tables
Session IV – Rapporteur and Closing	
14:45	A rapporteur's feedback on the workshop and visit (Erik van Hove , U. Antwerp, Belgium (ret.))
15:05	Comments or replies
15.20	Closure by NEA and Swedish Hosts
15.30	End of day and workshop

APPENDIX 2. LIST OF PARTICIPANTS

Beglium	Jan-Willem BARBIER	University of Antwerp Antwerpen
	Karina DE BEULE	FANC Brussels
	Sigrid EECKHOUT	ONDRAF/NIRAS Brussels
	Evelyn HOOFT	NIRAS/ONDRAF Dessel
	Erik VAN HOVE	University of Antwerp Hoeselt
	Ludo JADOUL	FANC Brussels
	Geert LAUWEN	Stora Dessel
	Willy MELIS	Stora Dessel
	Karl OOMS	Stora Dessel
	Herman SANNEN	Stora Dessel
	Jantine SCHRÖDER	University of Antwerp / SCK-CEN Antwerp / Mol
Canada	Marcia BLANCHETTE	Natural Resources Canada Ottawa
	Jo-Ann FACELLA	NWMO Toronto

Czech Republic	Ivo KAPLAN	Praha
Finland	Timo SEPPÄLÄ	Posiva Oy Eurajok
France	Ludivine GILLI	IRSN Fontenay-aux-Roses
	Martine HURAUT	Andra Bure
	Stéphane MARTIN	CLIS BURE
	Claire MAYS	NEA Issy
	Claudio PESCATORE	NEA Issy
Hungary	Julia KISS	PURAM Paks
	Maria VARGA	West-Mecsek Information Association Boda
Japan	Yoshiko AOYAMA	Japan NUS Co. Ltd. Tokyo
Poland	Lukasz AFELTOWICZ	Gdansk Science and Technology Park
Spain	Meritxell MARTELL	Merience Strategic Thinking
Sweden	Bertil ALM	Östhammars kommun
	Barbro ANDERSSON ÖHRN	Östhammars kommun
	Lange ART	SKB

Sweden	Inger ARVIDSSON	Östhammars kommun
	Beatrice AULIN	Uppsala University
	Anders BÄCKSTRÖM	Östhammars kommun
	Ingrid BECKER	ICQED Public Radio
	Sune BERGLUND	Östhammar
	Anders BERGMAN	Östhammar kommun
	Marie BERGGREN	Östhammars kommun
	Holmfrídur BJARNADOTTIR	Swedish National Council for Nuclear Waste Management
	Stig BJÖRNE	SKB
	Elin BJÖRKMAN	Uppsala University
	Lars BLOMBERG	Oskarshamns kommun
	Carl Reinhold BRÅKENHIELM	Swedish National Nuclear Council Stockholm
	Karolina BROGAN	Swedish National Council for Nuclear Waste Stockholm
	Torsten CARLSSON	Kärnavfallsrådet
	Sanne ERIKSSON	Östhammar kommun

Sweden	Linnea FREDRIKSSON	Uppsala University
	Ann-Kristin FROM	SKB
	Ansi GERHARDSSON	Ministry of the Environment Stockholm
	Miles GOLDSTICK	Uppsala
	Kenneth GUNNARSSON	Östhammars kommun
	Ingrid GUSTAFSSON	Östhammars kommun
	Christina HAAGA	Östhammars kommun
	Eva HALLSTRÖM	Sunne
	Rolf HANSSON	SÖDERHAMN
	Björn HEDBERG	Swedish Radiation Safety Authority Stockholm
	Tuija HILDING-RYDEVIK	MKB-centrum Uppsala
	Linda JANSSON	Östhammars kommun
	Hans JIVANDER	Östhammars kommun
	Josefin Päiviö JONSSON	Swedish Nuclear Power Inspectorate (SKI) Stockholm
	Eva-Britt KARLSSON	Östhammars kommun

Sweden	Lennart KARLSSON	Oskarshamn Municipality
	Lisa LANDBERG	Östhammars kommun
	Noren LENNART	Östhammars kommun
	Charlotte LILIEMARK	Municipality of Oskarshamn
	Eva LINDEROTH	Milkas Uppsala
	Ted LINDQUIST	Oskarshamn Municipality
	Andreas LYTTER	Oskarshamn kommun
	Birgitta MÖLLER	
	June NILSSON	Östhammars kommun
	Inger NORDHOLM	Svensk Kärnbränslehantering AB Forsmark, Sweden
	Tanya NOVIKAVA	Milkas
	Pär-Olov OLSSON	Östhammars kommun
	Antonio PEREIRA	Oskarshamn
	David PERSSON	Swedish Radiation Safety Authority SE-171 16 Stockholm
	Rolf PERSSON	Oskarshamn Municipality

Sweden	Kent PETTERSSON	Swedish Antinuclear Movement FMKK Nyköping
	Ingela PRONCHEV	Uppsala Regional council
	SÄKERHETS GRUPPEN Östhammars	
	Emil SCHÖN	Milkas
	Erik SETZMAN	SKB Stockholm
	Eva SIMIC	Swedish Radiation Protection Authority (SSM) Stockholm
	Anna-Lena SÖDERBLOM	Östhammars kommun
	Johan SWAHN	MKG Göteborg
	Sofie TUNBRANT	SKB Stockholm
	Gunnel WAHLGREN	Östhammars kommun
	Antoienette WÄRNBÄCK	Swedish EIA Centre Inst. för Stad och Land Uppsala
	Per WESTERGÅRD	Wetenskapsjourlaisterna
	Margareta WIDEN-BERGGREN	Östhammars kommun
	Arno UNGE	Östhammars kommun
	Kristina WOXdAL-PIHL	Östhammars kommun

Switzerland	Stefan JORDI	Swiss Federal Office of Energy Bern
	Meinert RAHN	Swiss Nuclear Safety Inspectorate Brugg
	Philipp SENN	Nagra
United Kingdom	David BRAZIER	Environment Agency Penrith
	Elizabeth Anne CHARD	Dounreay Stakeholder Group Thurso, Caithness
	Lindsay GRAY	NDA Egremont, Cumbria
	Jay REDGROVE	NDA Didcot, Oxfordshire
	Marcus SWIFT	MRWS Partnership Kendal
United States	Janet KOTRA	US NWTRB Arlington VA
	Daniel METLAY	U.S. Nuclear Regulatory Commission Washington

Appendix 1. FSC Workshop Programme

Wednesday 4 May – Day One	
Session 1 – Opening	
18.00	<p>Welcome</p> <p>NEA (FSC chair Janet Kotra)</p> <p>Swedish hosts and sponsors (Holmfridur Bjarnadottir, Swedish National Council for Nuclear Waste on their behalf)</p> <p>Former workshop host (Martine Huraut, Andra) on the experience of the last FSC workshop in France</p>
Session 2 - Visions of Oskarshamn and Östhammar municipalities	
Chair: Erik van Hove , U. Antwerp, Belgium (ret.)	
18:20	The municipality of Östhammar 2020: perspectives on how the municipality with cooperation between the engaged population, successful enterprises and good municipal services shall be “the best local society in the world”. (Andreas Lytter , Östhammar municipality)
18.40	Oskarshamn vision: Oskarshamn - an international energy center and a growth community with high quality of life. (Lennart Karlsson , Oskarshamn municipality)
19.00	Discussion and questions
19:30	Dinner at a local restaurant hosted by Oskarshamn municipality and Östhammar municipality and welcome speeches by Jacob Spangenberg , Mayor of Östhammar municipality, and Lars Blomberg , Deputy Mayor of Oskarshamn municipality. The restaurant is within walking distance of the conference center.

Thursday 5 May – Day Two	
<p>Session 3 –The Swedish Nuclear Waste Management Programme: Looking back, looking forward</p> <p>Chair: Holmfridur Bjarnadottir (Swedish National Council for Nuclear Waste)</p>	
8.30	Overview of the Swedish NWM programme (Ansi Gerhardsson , Ministry of the Environment)
09.00	The Swedish funding system and how it contributes to the participation of local and regional stakeholders (Björn Hedberg , SSM)
09.30	Questions and comments
09.50	Coffee
10.20	<p>Perspectives from key actors on entering the new licensing phase :</p> <ul style="list-style-type: none"> • The Swedish Radiation Safety Authority (Eva Simic, SSM) • SKB (Erik Setzman) • Östhammar municipality (Marie Berggren) • Oskarshamn municipality (Rolf Persson)
<p>Session 4 – Dialogue, information exchange and transparency in the new phase</p> <p>Chair: Carl Reinhold Bråkenhielm (Swedish National Council for Nuclear Waste)</p> <p>As early as the 1990s Sweden identified “transparency” as a central concept in the NWM decision making process. Entering the new phase of repository construction may affect how each actor is working with transparency and communicates with other stakeholders.</p>	
11:20	The role of dialogue, information exchange and transparency in the Swedish NWM decision making process (Torsten Carlsson , former Mayor of Oskarshamn municipality and now chair of the Swedish National Council of Nuclear waste)
11.35	FSC short member survey on transparency – Current definitions (Jay Redgrove , NDA)
11.45	<p>Reflections from different actors in the Swedish NWM program on how the need for dialogue, information exchange and transparent processes have changed during the past 30 years, how this will change in the future phases of the program, what rules or guidelines will be needed, and what challenges can be foreseen.</p> <ul style="list-style-type: none"> • Josefin Päiviö Jonsson and David Persson, SSM • Marie Berggren, Östhammar municipality • Johan Swahn, Swedish NGO Office for Nuclear Waste Review (MKG) • Erik Setzman, SKB

12.45	Lunch
13.45	Research project: "Communities of practice – the case of the Swedish planning and decision making process for final disposal of spent nuclear fuel". (Antoinette Wärnbäck and Tuija Hilding-Rydevik , Swedish University of Agricultural Sciences)
14.30	<p>Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • How do round table members (or your institutions) define transparency? • How will transparency be affected by entering the repository licensing phase? • How do we maintain transparency in the review and licensing phase?
15.30	Coffee
16:00	Feedback from Round tables.
Community Visit	
17.00	<p>Guided bus tour around the Östhammar municipality. A stop will be made at Forsmark with an opportunity to go up in the water tower to get a view of the area.</p> <p>A presentation will also be given at Forsmark:</p> <ul style="list-style-type: none"> • How municipality requirements on the above ground buildings will be met (Lange Art, SKB team of architects) <p>After the presentations the bus will take us to the Östhammar Town centre for dinner at a local restaurant.</p>
19.00	<p>Dinner hosted by SSM</p> <p>During dinner Anna-Lena Söderblom (chairman of the Östhammar municipality Reference committee) will present work of the Reference committee responsible for the information and dialogue with the Municipal Council and the public.</p>

Friday 6 May – Day Three	
Session 5 – Achieving Deep Consultation through the EIA	
Chair: Jo-Ann Facella (NWMO, Canada)	
8.30	EIA as an “umbrella” process for Swedish consultation (Sofie Tunbrant , SKB)
9.00	Reflections from local NGOs (Lotta Liliemark , Oskarshamns municipality; Kenneth Gunnarsson , OSS - a local opinion group for safe final storage of radioactive waste in Östhammar community)
9.30	<p>Coffee and Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • Who is responsible for the consultations in different countries and how does it affect the outcome? • Is there a point when the obligation to perform consultations with stakeholders can be considered to be fulfilled? • What has been most successful for engaging civil society, local people and NGO representatives in deliberations?
10.30	Feedback from Round tables
Session 6 – The Added Value Program and Local Economic Development	
Chair: Julia Kiss (PURAM, Hungary)	
<p><i>Background reading: the FSC survey and report on improving quality of life and increasing the value of waste management facilities to local communities:</i></p> <p>http://www.oecd-nea.org/rwm/fsc/docs/Towards-waste_management_EN_A4.pdf</p>	
11.00	<p>The Swedish Added Value Program.</p> <p>Presentations and viewpoints from:</p> <ul style="list-style-type: none"> • Stig Björne, CeO SKB Business Development • Östhammar Municipality (Jacob Spangenberg) • Oskarshamn Municipality (Rolf Persson)
12.00	Lunch
13:00	<p>“A parallel experience from Belgium: The Local Fund”</p> <p>Herman Sannen, STORA</p>

	<i>"This Fund will support projects and activities that will improve quality of life for the local residents and create sustainable opportunities for the region. These projects and activities may be of a diverse nature and may include social, economic or cultural projects. In essence, they provide added value which is more far reaching than the added value created by the (integrated) cAt project (category A waste surface disposal in Dessel) itself."</i> From the Master Plan: see http://www.niras-cat.be/downloads/cAt_brochureENG.pdf .
13:15	<p>Round table discussions</p> <p>Participants (FSC members and guests, Swedish stakeholders) discuss and exchange on a set of questions</p> <ul style="list-style-type: none"> • How to learn the Communities' definition of added value? • Is added value for the community also an added value for the region? • Which economic arrangements are most likely to foster sustained added value for the community? • Which other arrangements, beyond economic ones, are necessary to ensure community well-being over the longer term?
14:15	Feedback from Round tables
Session IV – Rapporteur and Closing	
14:45	A rapporteur's feedback on the workshop and visit (Erik van Hove , U. Antwerp, Belgium (ret.))
15:05	Comments or replies
15:20	Closure by NEA and Swedish Hosts
15:30	End of day and workshop

Appendix 2. List of Participants

Beglium	Jan-Willem BARBIER	University of Antwerp Antwerpen
	Karina DE BEULE	FANC Brussels
	Sigrid EECKHOUT	ONDRAF/NIRAS Brussels
	Evelyn HOOFT	NIRAS/ONDRAF Dessel
	Erik VAN HOVE	University of Antwerp Hoeselt
	Ludo JADOUL	FANC Brussels
	Geert LAUWEN	Stora Dessel
	Willy MELIS	Stora Dessel
	Karl OOMS	Stora Dessel
	Herman SANNEN	Stora Dessel
	Jantine SCHRÖDER	University of Antwerp / SCK-CEN Antwerp / Mol

Canada	Marcia BLANCHETTE	Natural Resources Canada Ottawa
	Jo-Ann FACELLA	NWMO Toronto
Czech Republic	Ivo KAPLAN	Praha
Finland	Timo SEPPÄLÄ	Posiva Oy Eurajok
France	Ludivine GILLI	IRSN Fontenay-aux-Roses
	Martine HURAUT	Andra Bure
	Stéphane MARTIN	CLIS BURE
	Claire MAYS	NEA Issy
	Claudio PESCATORE	NEA Issy
Hungary	Julia KISS	PURAM Paks
	Maria VARGA	West-Mecsek Information Association Boda
Japan	Yoshiko AOYAMA	Japan NUS Co. Ltd. Tokyo
Poland	Lukasz AFELTOWICZ	Gdansk Science and Technology Park
Spain	Meritxell MARTELL	Merience Strategic Thinking
Sweden	Bertil ALM	Östhammars kommun

Sweden	Barbro ANDERSSON ÖHRN	Östhammars kommun
	Lange ART	SKB
	Inger ARVIDSSON	Östhammars kommun
	Beatrice AULIN	Uppsala University
	Anders BÄCKSTRÖM	Östhammars kommun
	Ingrid BECKER	ICQED Public Radio
	Sune BERGLUND	Östhammar
	Anders BERGMAN	Östhammar kommun
	Marie BERGGREN	Östhammars kommun
	Holmfrídur BJARNADOTTIR	Swedish National Council for Nuclear Waste Management
	Stig BJÖRNE	SKB
	Elin BJÖRKMAN	Uppsala University
	Lars BLOMBERG	Oskarshamns kommun
	Carl Reinhold BRÅKENHJELM	Swedish National Nuclear Council Stockholm
	Karolina BROGAN	Swedish National Council for Nuclear Waste Stockholm

Sweden	Torsten CARLSSON	Kärnavfallsrådet
	Sanne ERIKSSON	Östhammar kommun
	Linnea FREDRIKSSON	Uppsala University Sweden
	Ann-Kristin FROM	SKB
	Ansi GERHARDSSON	Ministry of the Environment Stockholm
	Miles GOLDSTICK	Uppsala
	Kenneth GUNNARSSON	Östhammars kommun
	Ingrid GUSTAFSSON	Östhammars kommun
	Christina HAAGA	Östhammars kommun
	Eva HALLSTRÖM	Sunne
	Rolf HANSSON	SÖDERHAMN
	Björn HEDBERG	Swedish Radiation Safety Authority Stockholm
	Tuija HILDING-RYDEVIK	MKB-centrum Uppsala
	Linda JANSSON	Östhammars kommun
	Hans JIVANDER	Östhammars kommun

Sweden	Josefin Päiviö JONSSON	Swedish Nuclear Power Inspectorate (SKI) Stockholm
	Eva-Britt KARLSSON	Östhammars kommun
	Lennart KARLSSON	Oskarshamn Municipality
	Lisa LANDBERG	Östhammars kommun
	Noren LENNART	Östhammars kommun
	Charlotte LILJEMARK	Municipality of Oskarshamn
	Eva LINDEROTH	Milkas Uppsala
	Ted LINDQUIST	Oskarshamn Municipality
	Andreas LYTTTER	Oskarshamn kommun
	Birgitta MÖLLER	
	June NILSSON	Östhammars kommun
	Inger NORDHOLM	Svensk Kärnbränslehantering AB Forsmark, Sweden
	Tanya NOVIKAVA	Milkas
	Pär-Olov OLSSON	Östhammars kommun
	Antonio PEREIRA	Oskarshamn

Sweden	David PERSSON	Swedish Radiation Safety Authority SE-171 16 Stockholm
	Rolf PERSSON	Oskarhamn Municipality
	Kent PETTERSSON	Swedish Antinuclear Movement FMKK Nyköping
	Ingela PRONCHEV	Uppsala Regional council
	SÄKERHETS GRUPPEN Östhammars	
	Emil SCHÖN	Milkas
	Erik SETZMAN	SKB Stockholm
	Eva SIMIC	Swedish Radiation Protection Authority (SSM) Stockholm
	Anna-Lena SÖDERBLOM	Östhammars kommun
	Johan SWAHN	MKG Göteborg
	Sofie TUNBRANT	SKB Stockholm
	Gunnel WAHLGREN	Östhammars kommun
	Antoinette WÄRNBÄCK	Swedish EIA Centre Inst. för Stad och Land Uppsala
	Per WESTERGÅRD	Wetenskapsjourlaisterna
	Margareta WIDEN-BERGGREN	Östhammars kommun

Sweden	Arno UNGE	Östhammars kommun
	Kristina WOXdAL-PIHL	Östhammars kommun
Switzerland	Stefan JORDI	Swiss Federal Office of Energy Bern
	Meinert RAHN	Swiss Nuclear Safety Inspectorate Brugg
	Philipp SENN	Nagra
United Kingdom	David BRAZIER	Environment Agency Penrith
	Elizabeth Anne CHARD	Dounreay Stakeholder Group Thurso, Caithness
	Lindsay GRAY	NDA Egremont, Cumbria
	Jay REDGROVE	NDA Didcot, Oxfordshire
	Marcus SWIFT	MRWS Partnership Kendal
United States	Janet KOTRA	US NWTRB Arlington VA
	Daniel METLAY	U.S. Nuclear Regulatory Commission Washington