



As in many other countries much of the electricity in Sweden is based on nuclear power. Three of the biggest nuclear power plants are placed in southeast of Sweden, outside the city of Oskarshamn. In Oskarshamn the local newspaper Nyheterna is covering the production at the nuclear power plants, but also much of the discussion how to handle the waste from the plants. In order to produce nuclear power it is necessary to have uranium. That is why Nyheterna's journalists Fredrik Loberg and Mattias Rubin went to Canada.

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Uranium has forced people to move



Annie Benonie
Photo: Mattias Rubin

THE ORIGIN OF NUCLEAR POWER

For over 30 years, a large proportion of the uranium used to produce electricity in the Oskarshamn nuclear power plant in Sweden derived from Canada.

Uranium mining has forced indigenous people to flee from the land where they lived for thousands of years.

– Mining companies came and robbed us of our country, where we lived, fished and hunted. The land will never be restored again to future generations, says 88-year old Annie Benonie who today lives in Wollaston Lake Indian Reservation.

To Wollaston Lake, which is the closest town to the world's largest uranium mine fields, no roads go. Tourists are not coming here, rarely some politicians and almost never journalists. After driving the car a thousand kilometres north from the city of Saskatoon in the Canadian state of Saskatchewan, mostly on gravel road, we are fortunate enough to catch the small ferry that takes us to the reserve.

Wollaston Lake is located thirty kilometers from the nearest mine, Rabbit Lake. From here, the Oskarshamn nuclear power plant in Sweden recovered much of its uranium, and OKG, the Swedish nuclear company, has a contract with the mining company Cameco to continue to do so until 2018, at least.



Impossible to live

In Wollaston Lake 88-year-old Dene Indian Annie Benonie lives. In her home in the middle of the village she welcomes us. Her grand daughter Flora Natomagan interprets as Annie, like many other elderly people in this part of Canada, only speak dene. After we've talked for a while Annie feels very anxious to ask some questions to us:

- You say you come from a distant country, where you use the uranium that comes from our country. I wonder if people who live where you live, where you have nuclear plants, what you gain from it? What advantages does it give you in addition to the jobs the industry creates?
- Does it bother the people where you live what is happening here in our country?
- Knows the people that our country has been destroyed because of this uranium mining?
- I want people in your country to know what is happening here because of the uranium industry, that it made it impossible for us to live the way we have always lived.

Traditional life

Before the uranium mines' time Annie Benonie and her family lived a traditional life. They moved around and lived in tipis, tents, in different places. They lived of fishing and hunting, fruit and berries, just as her ancestors did in North America for thousands of years.

– We live of what nature has to give us. Nature does everything for us, Annie says with pride in her voice.

Usually the family stayed at Collins Bay on the other side of the lake, where the Rabbit Lake mine is today. At Collins Bay Annie's husband Louis had his trap-lines, traps he caught small animals in. There he hunted caribou and elk. The family made the traditional medicine of nature's wild plants.

- A few times a year we came to a village like this, Wollaston Lake.
- Otherwise, we lived this way, in smaller homes or in tipis.

Saskatchewan mines have supplied uranium for both nuclear power and nuclear weapons countries since the 1950s. Mining companies are constantly finding new deposits with high level of uranium in various locations in northern Saskatchewan. Here lives almost exclusively indigenous, or First Nations people as they are called in Canada.

The money does not compensate



An afternoon in Wollaston lake in the fall 2009.

In the 1970s, Annie and Louis Benonie and their family were forced away from Collins Bay. They were promised compensation from the mining company. At first, one thousand dollars per year and eventually something more.

Flora, Annie's grandchild, were at home the day the mining company people came to write a contract with Louis.

Permanent reserves

-They negotiated how much he would receive in compensation. They asked Louis: How much you earn in a year for the hunting? They asked only about the hunting, nothing about the harvesting of the plants we used to do medicines, nor anything about fishing. This was nothing worth.

– The mining company paid the sum each year, until Louis passed away and then Annie also got some compensation.

– But the money does not outweigh the harm that uranium mining causes, Flora says.

– Now, people are forced to live in one place, in this kind of village, and cannot live in the manner we have done for thousands of years before Europeans arrived here.

The life of indigenous people in this part of Canada has been affected since the uranium mining began. When it is no longer possible to simply make a living from the traditional way of hunting and fishing, more and more people become permanent residents in the reserves. Wollaston Lake with a population of 1 600 is the largest reserve in northeastern Saskatchewan. The village is only thirty kilometers from the world's largest uranium mine fields. Unemployment is high. Many young people feel despair and rootlessness and drug use has increased.

Spokesperson

Indigenous organization in the Wollaston Lake, Hatchet Lake Band, has some influence and autonomy within the Canadian State. Whoever is elected chief has a special mandate to act spokesperson against the authorities and mining companies. All of Wollaston Lake is not included in the reserve. Part of the village belongs to the Canadian State. On this side the police station, a smaller airport, ferry situation, a hotel and the radio transmitter is situated. Here are some new modern buildings and in these police personnel live.

700 dollars a week

The houses located a few meters away, on the reserve side, are of much poorer quality, old and worn. Many houses have broken windows. The people who live in these homes are poor.

In one of the reserve's better houses stays 38-year-old Adam Besskkaystare, father of two children.

For him, the uranium mines across the lake opened up new opportunities in recent years.

– Yes, I work there, and it is good. Now I earn the equivalent of \$700 a week and it's more than I could when I worked in the shop here in the village, Adam says.

In three years he has worked in a mine called Cigar Lake.

Has apologized

Like the Rabbit Lake mine closest Wollaston Lake this mine is owned by the giant Canadian company Cameco Corporation.

– I work seven days and am free for seven days. It's nice, Adam Besskkaystare says.

– It's really not easy to find any job here.

Adam is one of the few from Wollaston Lake who work in mining areas. Some villagers would never consider doing it. Others have not the right qualifications. Cameco has about 1 800 employees at the mines. The company claims to have policy to as much as possible to get their labor from the north, very sparsely populated, parts of Saskatchewan. The Canadian government has also more clearly than many other countries apologized for how the Indians, the indigenous population, have been treated historically.

The population suffers

Doug McKay, who has Scottish ancestries, lives and operates in a small shop in Wollaston Lake. He feels that the mining companies and the State of Canada should feel guilt, because they ought to do infinitely more for the indigenous population.

– In relation to what the companies earn, it is hardly something that will benefit the district here, Doug McKay says.

– The thing is that people here are too nice. They should be entitled to a percentage of profits, when leasing their land. They should get back what is theirs.

Doug McKay accompanies us on a flight over the vast mining areas of northeastern Saskatchewan. From the small rented plane, we can clearly see the minefields. Mining requires enormous amounts of water. The forest is devastated. The bedrock that once served as protection against all radioactive materials in the soil is blown away. The crushed rock masses are not left on the field.

– But myself, I can not say I am absolutely opposed to mining, Doug McKay says.

– The worst thing is that the population is treated so badly, that poverty here is so widespread, unemployment so high and that neither the companies nor the authorities cares, he says.

Can make claims

Perhaps it might be better.

There are those who hope and even believe it. Jim Tsannie is one of them. He is the brother of Wollaston Lake's current chief Bart. Jim has worked for many years with indigenous issues.

– In recent years we have begun to emphasize our rights in a completely different way than before. Several of us have studied the problems. We have gained more opportunities to make demands on mining companies and authorities, Jim Tsannie says.



Every other week Rose and David Hansen operate the ferry between the indian reserve Wollaston Lake and the main land.



The indigenous population is discriminated, says Doug McKay.



There are plans of mining uranium in Snowshoe Island

- Previously, the representatives from uranium mining companies described in words we could not understand what would happen with the ground. We said mostly “well, well,” without at all being able to claim compensation.
- There is something going on now. We have learned more about the consequences of uranium mining and then we can make more demands. That is what we must do and it will prove in the future! Road construction south of the village of Wollaston Lake has recently begun, on the Canadian State's expense. But it is expected to take several years before it is finished. Mining companies have also helped with funding for an indoor hockey rink in the middle of the reserve.

Future generations

Flora Natomagán in Wollaston Lake is anything but impressed.

- It's good to have a job, an arena, sure! But we can not just think about ourselves.
- We must think of our future generations as well! If more and more of our land is destroyed, we have no country to live in. We must listen to our elders and their experience in our traditional way of life, Flora says.

Just like Flora Natomagán's grandfather, Rose Hansen's father has lost the families' traditional hunting grounds to uranium companies.

- Where my father had hunting traps are now one large mining area. Still, he tries to survive on the hunting ground, he has remained around the mining area, but it is not easy, Rose says.
- Rose is a fisherman by profession, but can not support herself from this. Every two weeks she and her brother David drive the small ferry between Wollaston Lake and the "mainland". Rose and David think that their dad should have gotten far more in compensation than what he did. How they will do, the demands for compensation they will be able to make the day their father goes away, remains to be seen. It is not easy to assert their rights against the international corporations. According to Rose fishing has also been affected by the environmental degradation that uranium mining causes. Rose describes how she, on several occasions over the years seen deformed fishes. But still, there are plenty of large, edible fish in the lake between the reserve and mines.

In Wollaston Lake many fear that mining will come even closer to the community. The population fears uranium mining also at Snowshoe Island, only about ten kilometers from the village. If so, even more ancient hunting grounds disappear. The villagers dread the new uranium particles with clear health implications will be disseminated by water and air.

The consequences if contaminated, radioactive materials once again begin to leak directly from mining companies' waste barrels nobody in Wollaston Lake wants to think about.

Our land will never be the same



Edward Benoainie was chief in Wollaston Lake when one of the biggest leaks from the mining area was discovered 20 years ago.

Photo: Mattias Rubin

Edward Benoainie, whose family operates a restaurant, shop, school bus services, ferry business and the hotel in the village, is also worried. Edward was the chief in Wollaston Lake reserve when one of the biggest leaks in the mine area was discovered nearly 20 years ago.

– I worked in the mines in the past four and a half years. By coincidence I flew over the mining area and could see how the barrels leaked hazardous materials straight into the wild. I knew immediately what had happened, because I had previously worked in the field. I rang up those responsible for the mining company. They answered me that it had not happened. The day after they were forced to come here and admit that there have been a leak, Ed Benoainie says.

– This was while the Berlin Wall fell. Therefore, it was pretty quiet in the media. But people here started to be more suspicious of how companies operate. We still do not know today whether and if so, what health effects this leak caused, Ed Benoainie says.

A number of similar leaks have occurred in Saskatchewan over the years. Authorities in Canada, however haven't found evidence of systematic health effects on humans, animals and nature in recent years.

But in our time in northern Saskatchewan, we have got several testimonies of mysterious illnesses. Flora Natomagan tells about a brother of Annie Benonie who died of cancer a few years ago, and that he himself was fully convinced that it was due to uranium mining.

Can't live as they want to

– There are things we will never know. Because there has never been any professional health assessment here, that we dare to believe. Flora says.

– In the village we do not have enough money to carry out independent investigations. Previously, we could go and drink the water from the lake, and we were able to fish without worrying about whether the water was contaminated or not. Now it is no longer so, Flora says.

– And we do not know how mining companies after they leave the mining areas will take care of all hazardous materials.

Flora is in a Steering Commit, an international organization of indigenous people, to gain more knowledge about environmental pollution.

– It is said that there is no connection between diseases we have here, and mining. But I'm skeptical, and people are wondering, worried, Flora says.

- Never before has there been asthma here. Even our young people in the village now has asthma. Before people died of old age and accidents.
- Yes, I want the mining industry to disappear, because it has destroyed the possibility for us to live as we wish. But I do not think it will happen, because there is money in control, Flora says.
- The future is not just for those of us living today but also for future generations. We must defend the land, water, air, against this destruction. We must maintain the way we lived before the Europeans came and took possession of the country.



Important that we know

Flora's grandmother, 88-year-old Annie Benonie, now lives alone in her small house in Wollaston Lake. When we talk in her home, memories and feelings are brought to the surface, that are difficult to talk about. But she says she wants to tell, because it's important that people also in Sweden know.

- My husband came to the mine area only once, and he would never return to it afterwards. When he saw what happened to our country, he said that it will never be the same again, that the land is ruined for so many years to come.
- People were healthy before mining companies arrived. But now, afterwards as time passes, there are more and more diseases.
- I do not know if it has to do with mining, but earlier we didn't see these diseases, Annie says.
- Animals natural way to move, has disappeared, and the land has been destroyed. That will never be restored.

It will soon be winter and cold in the Canadian Reservation Wollaston Lake when Annie looks us in the eye and says:

- People from your country are welcome here to see how the life we have lived for thousands of years has been destroyed.

Fredrik Loberg

E-mail fredrik.loberg@ostran.se



As in many other countries much of the electricity in Sweden is based on nuclear power. Three of the biggest nuclear power plants are placed in southeast of Sweden, outside the city of Oskarshamn. In Oskarshamn the local newspaper Nyheterna is covering the production at the nuclear power plants, but also much of the discussion how to handle the waste from the plants. In order to produce nuclear power it is necessary to have uranium. That is why Nyheterna's journalists Fredrik Loberg and Mattias Rubin went to Canada.

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Uranium causes many deaths



Photo: Mattias Rubin

THE ORIGIN OF NUCLEAR POWER

In the Canadian village where the uranium to be used for producing electricity in Oskarshamn has been processed, a large number of people has been affected by lung cancer.

Historically also many mineworkers have suffered from this.

– But the worst thing right now is that large parts of the world's nuclear weapons production is made of uranium from here, Peter Prebble who lives in the nuclear capital, Saskatoon, says.

When we are driving 14 hours to the barge leaving for Wollaston Lake we meet about 20 trucks loaded from the huge pits. Uranium powder from Rabbit Lake, McArthur River and the other Canadian giant mines in Saskatchewan should be transported very far. The first real city that truckdrivers are driving through is Saskatoon, which is equal to the Swedish third city Malmö.

Here in Saskatoon both the Canadian company Cameco Corporation, the largest uranium company in the world, and the French uranium and nuclear power giant Areva, have headquarters. Cameco and Areva has an important role for the economy of Saskatchewan. Businesses create jobs and the companies are keen to be seen as much as possible in a positive context.

Cameco is for example a very important sponsor of the university in Saskatoon and owns a kidney hospital here. Both the markets of Cameco and Areva are also often seen in the city's theater lobby.

- It upsets me tremendously that even not a hospital can be operated with public funds, but allow themselves to be bought by these companies, Stephanie Sydiaha says.

- It's frightening, the uranium industry and these companies has caused so much trouble.



I find this is extremely disturbing and a shame for both this province and for the whole country, says Peter Prebble.



Cameco is a major sponsor to the University of Saskatoon, and has this inscription on the campus. Photo: Mattias Rubín

A disgrace to the province

Stephanie Sydiaha is one of the environmental movement's most important representatives in Saskatoon. Another is Peter Prebble, a former politician and now active in the organization Saskatchewan Environmental Society. He understands that uranium companies need to strive to be seen in favorable light.

- My very first objection is that the uranium from Saskatchewan has built up large parts of the world's nuclear arsenal, Peter Prebble says when we meet him at an ice cream bar in Saskatoon.

- For me this is a disgrace to both this province and for the whole country.

- Same thing with depleted uranium, used as ammunition in a large scale in the Iraqi war. Depleted uranium is a residue from the manufacture of nuclear fuel. It can be used as a radiation protection in connection with x-ray examinations.

More controversial it is also used as materials in tanks and ammunition. When the ammunition hits its target, it will be a fine powder, which can enter the human body through the lungs and stomach and into the kidneys and liver and poison cells.

The reports on how Iraqi children following the Gulf War suffering from cancer and birth defects for this war have been many. Suspicion exists that the diseases that a large number of returning American soldiers suffered was caused by depleted uranium.

Governmental Eldorado, which later became Cameco, broke the uranium in Port Radium in the Northwest Territories in Canada in the 1940s used for the nuclear bombs detonated over Hiroshima and Nagasaki in Japan in August 1945.

The Port Radium mine caused consequences for the indigenous population in the area.

Died of lung cancer

Studies from Saskatchewan, until the 1970s, have shown an abnormal number of uranium miners suffering from lung cancer. 65 former miners who worked in the Beaver Lodge-mine between 1950 and 1980 died of lung cancer. But according to mining companies and the authorities there is no evidence that people who works in the mines now suffers at all.

Kevin Scissons is in charge at the Canadian Nuclear Safety Commissions, CNSC:s, headquarter for control of uranium mining in Saskatoon. He concludes that the mineworking has no negative environmental impact at all on communities in northern Saskatchewan.

- The law in Canada says it can have legal implications if the companies do not do the mining correctly. We could stop mining if its not following the rules.

- We had not done it the last few years, Kevin Scissons also says.

- 1998 or 1999 we made a decision to stopp. It had nothing to do with health or environmental impacts, but about that they had not received permission to start a new process. This was stopped about one month, Kevin Scissons says.

Much is at stake



- There will always be a big problem to take care of all waste safely, says Jim Penna.

Photo: Mattias Rubin

Jim Penna and Eleanor Knight from Saskatoon's oldest organization critical to nuclear power, the Inter-Church Uranium Committe, thinks that neither Kevin Scissons and his authority nor state organization Health Canada is doing their job.

- There will always be a big problem to take care of all waste safely after the mining, due to the extremely long half-life of uranium substances. The companies still have not found a technique that works to take care of the material safely, Jim Penna says.

- There are so many examples of leaks from waste sites, but the worst is that the CNSC close their eyes and not give the companies proper punishment. We require basic health studies of current workers in the mines and of people living in these areas. There is nothing more than a scandal that this still has not been done, Eleanor Knight says. In Saskatchewan there are examples of leaking contaminated materials that had been known long after the uranium mining stopped. The most large-scale leak was discovered in northern Saskatchewan, the Gunnar Mine in the early 1990s. From old abandoned barrels, there was a large leak of radioactive material in the big Lake Athabasca.

Cleaning up costs millions

Now, 20 years later, it seems to be a big clean-up. It likely will take several years and cost several million dollars. Gunnar Mine is close to the Uranium City, the world's largest mining area until the mines close down 1983. Now a deserted ghost town where only around 50 people still living. In the late 1970s and early 1980s, for example Sweden got uranium even from this area.

- The big question is how all waste after mining can be stored safely. It is only a few decades after the mine closed that it is possible to say whether the companies succeeded. If they fail, if it is leaking into groundwater, so we risk incalculable problems, Peter Prebble from the Saskatchewan Environmental Society says.

There are a lot of money, a lot of energy and many jobs at stake in the nuclear industry. Because of this Jim Penna, from the Inter-Church Uranium Committee, thinks that the authorities in the uranium mining countries have problems to see the environmental and health impacts in a serious manner. What is now needed is external pressure, from the UN for example, he says.

- Crucial for the future is likely if there is a much stronger UN resolution or not in terms of uranium mining. The present is not powerful enough and results not in some punishment in the countries where pollution occurs, or where people get affected, Jim Penna says. During our stay in Saskatoon, we had no representative for Cameco to agree to either interview or to accept us a place at any of the tours in the uranium mines sites in Saskatchewan. This was despite a total of 5-6 requests before and during our trip report. The company chosed, apart from two short phone call later in our trip, to only communicate with us via e-mail.

After the trucks with uranium have drive through Saskatoon many of them continues thousands of kilometers towards east of Canada, through the neighboring Manitoba and staying in the southwestern part of Ontario Province.

Here, just outside of society Blind River, is the world's largest plant for converting uranium, which is also operated by Cameco.

Since 1983, the uranium from the mines in Saskatchewan going to Oskarshamn nuclear power plant, has been processed here. In Blind River uranium is converted to urantrioxid. Previously there were also another plant hear where the uranium was upgraded to a more highly active form.

There are people who are concerned about emissions of uranium vapor that spreads over surrounding region. Not far from here lies the vast mining area at Elliot Lake. There has also been uranium mining in this area.

The effect on the lives of indigenous people in surrounding region, all hazardous substances in the Serpent River, has been described in Magnus Isacson's award winning short film "Uranium" from 1990. Lorraine Rekmans, whose father worked in the underground mines and died from cancer in 2002, has written the book "This is my homeland", about how indigenous people affected by uranium mining in Elliot Lake.

For decades, uranium used for example in the Oskarshamn nuclear power plant, has been processed here. Oskarshamn company OKG state that their "Camecouranium" comes from Camecos Canadian mines. The system in terms of uranium imports saying that there should be original codes, indicating from which country or region, the uranium is taken.

At our first contacts with OKG in the summer of 2009 representatives of the company declares that uranium mainly comes from McArthur River mine in Saskatchewan, but also the Rabbit Lake mine, which is closest to Wollaston Lake, are used frequently.



Road signs between Saskatoon and the sparsely populated parts of northern Saskatchewan warns of large trucks, particularly trucks carrying large quantities of uranium from mining areas.



Eleanor Knight is a volunteer in Saskatoons oldest anti-nuclear organisation. She houses a big archive in her basement.

Photo: Mattias Rubin

Impossible to track

But our inquiries and the responses we get to the end of Cameco says that there are no absolutely guarantee that at the uranium to the Oskarshamn originally comes from Saskatchewan.

Also from other mines around the world uranium is transported to the process in Blind River. During our trip in Canada, several people who worked for many years in upgrading facility in Blind River, says that it is impossible to track all uranium's original source.

- If someone says that it is possible to know how much a particular uranium mine serves a nuclear power plant is a pure lie. Uranium derived from several different countries and a number of mines are mixed in the process of Blind River, one of the workers we talked to says.

During the last days of our trip in Canada we get a telephone contact with a responsible informant on Cameco, Doug Prendercast, to ask about this.

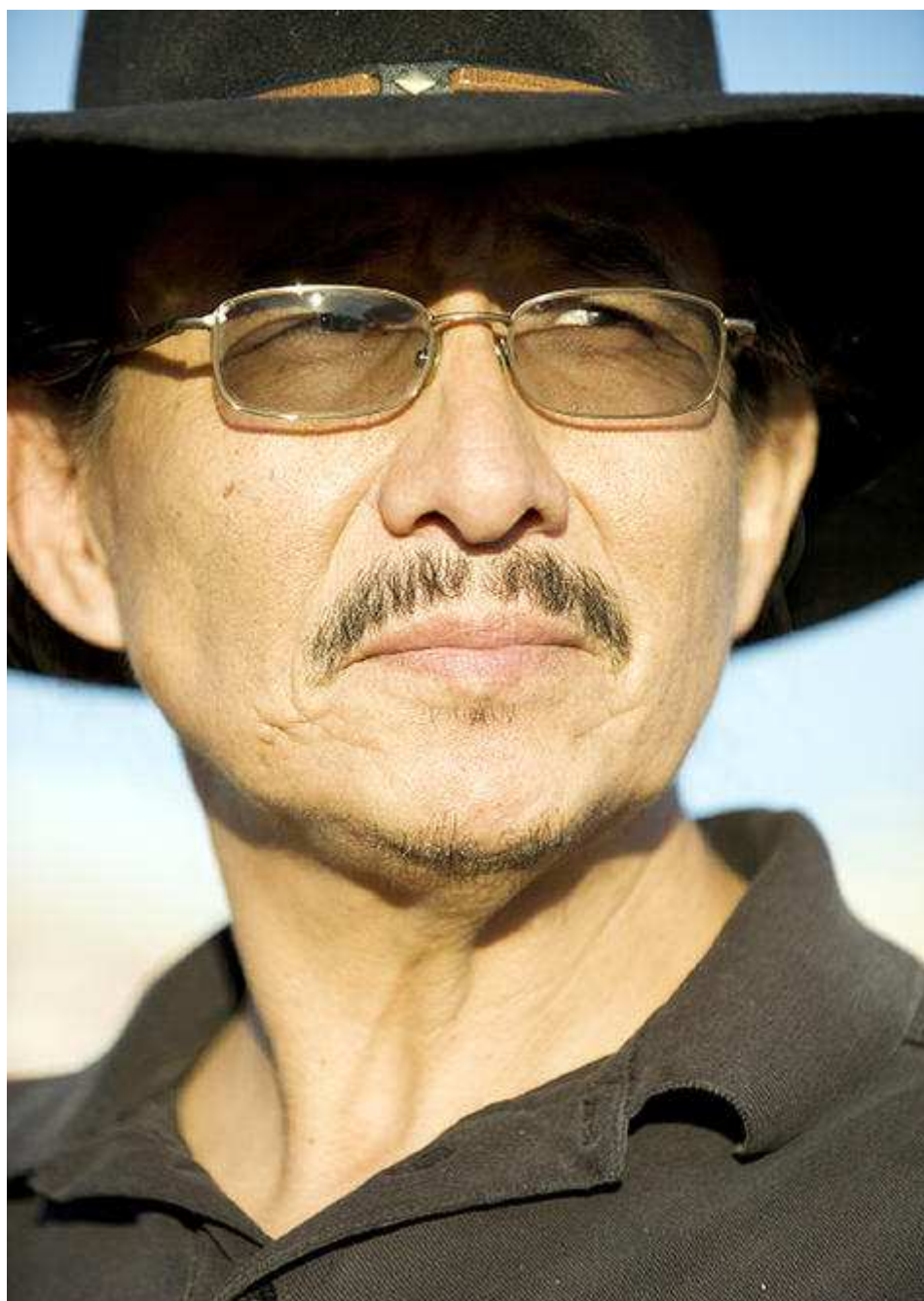
- Yes, we can trace the country and mine, but not all the uranium to hundred percent, Doug Prendercast says first. But only just about an hour later he calls back to us. He says:

- I must really apologize. I was wrong before when I called. Because of the process technology used in Blind River, we can not trace anything. My colleagues have told me that this is the way it is.

- Sorry I had wrong information earlier, but actually I've never had this question before. It is not possible to trace from which mines uranium going to Sweden comes from.

Doug Prendercast, who has worked as an informer for Cameco in 7-8 years, says that the uranium that comes to Blind River, and then carried on to countries including Sweden, can come from any country in which Cameco have uranium mines. These countries are, for example, the U.S. and Kazakhstan.

"Our land is stolen"



*Marius Paul is still in strong opposition to the uranium industry.
Photo: Mattias Rubin*

Thinking about the origin of Camecos uranium or not Oskarshamn nuclear power plant can get uranium from any part of the world. The company in Oskarshamn, OKG, explains sometimes having to fill out its uranium needs by buying from the open so-called spot market, and this uranium can according to OKG not be traced at all.

As another example of how incredibly complicated world uranium trade is, OKG in 2010 suddenly declares that this Swedish company only use Cameco regarding natural uranium. The trucks from Saskatchewan which in decades have rolled against the Blind River and the conversion process there will then now drive souther across the border to United States.

During this year the U.S. company ConverDyn is contracted for conversion, Alexander Lindqvist responsible for OKG's uranium supply, says. The reason is some production problems for Cameco, according to Alexander Lindqvist.

- We must be sure of supplies, he says.

Good to deal with

Just like we have been told Alexander Lindqvist believes the U.S. radiation protection laws are stricter than the Canadian laws. OKG has also during its own check visit in the U.S. concluded that Converdyn is a good company to deal with. It is a company half-owned by Honeywell, which under the Peace Research Institute SIPRI is the world's 15th largest arms manufacturers and makes control systems for nuclear weapons. Honeywell is blacklisted by a number of ethical funds. After the Swedish Radio at the end of last year reported about the Nobel Foundations close collaboration with Honeywell, this cooperation has been criticized.

OKG stresses how vital it is to make their own checks, during the conversion but especially in mining areas.

According to OKG, contracts of buying uranium is made after careful evaluation of the supplier's environmental and quality programs.

- If our suppliers gets bad will, it could spill over to us and we do don't want that, Alexander Lindqvist says.

- We try to see as much as possible, meet with local politicians, representatives of trade unions and indigenous people so that we not only have the company's image.

During the autumn of 2009 OKG carried out a so-called auditering, an analysis on the ground in Canada.

- We saw nothing alarming, Alexander Lindqvist says.

Cameco has been in focus as a positive example. A year and a half ago, a seminar held in Malmö in Sweden, where Cameco told about their program to involve indigenous people in the uranium industry. Camecos efforts have got many positive reactions from uraniumbyers like OKG.

During our trip in Canada and Saskatchewan, we visit another place where few Swedes have been, another First Nation reserve. It is located just outside society Meadow Lake and at the weekend when we arrive the annual "pow-wow" is going on. That is a colorful celebration of indigenous traditions with songs, dances and cuisine. One thousand people has arrived.



Women wear clothes like this at the pow-wow festivities.



Men can wear these kind of outfits.



Photo: Mattias Rubin

Still angry

Here we meet Marius Paul. He has brought a bus with young people from another reserve area e, even further north, in Beaval. Marius Paul has been active in the resistance movement against uranium mining in Saskatchewan - in particular against the Key Lake mine, the world's largest uranium mine.

He has over the years participated in many demonstrations against the uranium industries consequences and he is still very angry.

- They have stolen our country, people have been forced to move and uranium mining has caused human illness. For us, the uranium is not anything good as it is for authorities, companies and people in Europe.

- For us it is a negative energy force, which also creates terrible weapons, Marius Paul says.

- We would need the whole world to look at these problems, but the major economic forces that are moving are more powerful, Marius says before he drives the bus back north from the festivities in Meadow Lake, to the reserve Patunak outside Beaval.

Fredrik Loberg

E-mail fredrik.loberg@ostran.se



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All surveyed had uranium in their bodies



Photo: Mattias Rubin

THE ORIGIN OF NUCLEAR POWER

In the town where uranium used in Oskarshamn nuclear power plant has been processed, nine local residents were tested.

The test results showed that all nine had industrial uranium isotopes in their bodies.

- We want more people, especially children, to be checked Andrew Johncox says.

After 23 years as an engineer working with the uranium process he has got prostate cancer.

In september-october 2009, we continue to Port Hope. It is a town in the eastern of Canada, and it is about the size of Oskarshamn. Port Hope is three time zones from the mining areas in Saskatchewan and located just beside the busiest highway in Canada, between Toronto and Ottawa. Port Hope is a popular excursion place for people from big cities. Especially nice fishing in Ganaraska River attracts many city dwellers.

Port Hope has become known also because of another reason. No other city in the world has such a long history of nuclear facilities and therefore Port Hope has much radioactive waste to take care of.

Representatives from OKG company have during 2009 and beginning of 2010 told us that a large proportion of the uranium used in the Oskarshamn nuclear power plant has been processed in Port Hope. After the mining in Saskatchewan much of the uranium to be used for example in Europe has been processed outside the small town Blind River, then driven in large cylinders to Port Hope. Uranium to eventually be used in a nuclear power plant also has to be converted one more time, and this process is done in the middle of Port Hope.

- There was a beautiful beach here before, John Morand Says.

- A dangerous facility like this should not be placed in the middle of a city, and definitely not close to a large lake.

John Morand has worked as a lawyer and has been responsible for an international institute of economic development, working in Washington and St Petersburg. Now he lives in Port Hope, almost next door to the conversion facility.

- I had a positive attitude to nuclear power as an energy source, he says.

- But now, when I learned much more about what's behind, I am very critical to the process.

- There is so much that people don't know, John Morand says.

Too many questions

A few years ago he founded one of the local community organizations which is critical of the nuclear industry in Port Hope.

It is called FARE, Families Against Radiation Exposure. John Morand thought there were too many questions to ask about the uranium industry's plans for a new process to re-use enriched uranium in Port Hope. After hundreds of critical questions from FARE, and other organizations and concerned citizens about health risks and technical implementation the industry's plans were finally cancelled. Cameco has after this invested more resources to appear in a positive context in Port Hope. Among other things, the town's theater now uses the nuclear company's name, as well as a gymnasium in a recreation centre in Port Hope because of donations.

- I think it's good that the company is trying to do something for the residents here, John Morand says.

The Port Hope Community Health Concerns Committee, PHCHCC, is another organization worried about the health of residents who live without a buffer zone from the local uranium emissions. In 2007 this organization asked John Morand if he want to be tested if he had uranium in his body or not. He said yes. John Morand thought the Uranium Medical Research Centre in Toronto would not find industrial uranium in his body. But the laboratory did.

- I was extremely surprised, even if it was not large amounts. I have not worked with the uranium process, and have only lived here for eight years.



When I did these tests, I certainly did not think that I would have uranium left in my body.



Approximately 300 locations in Port Hope have been identified as contaminated by the uranium industry.



- I nearly died, says Dan Rudka.



The plant where the uranium to OKG for decades has been upgraded is almost in the middle of Port Hope.



- I have problems with my heart. If it is because of this I don't know. It would be reasonable, of course, that the authorities will do major health studies here, but it seems they are not interested in this, John Morand says.

Andrew Johncox has also been tested. He worked with Cameco predecessor, Eldorado, in Port Hope 1968-1982. He had some responsibility in a process of developing a new, more efficient conversion method that would minimize the emission of pollutants and gases.

- When I made these tests, I was certain that I had no uranium in my body, because I haven't been in the plant for 23 years. But I had what they told me one of the highest rates of industrial uranium measured in a human being 23 years after exposure in the workplace, Andrew Johncox says.

- I guess it is because the long life of uranium, so these substances remains in the body a long time, probably all my life. I don't know what this means for my health, he says.

- I am most disappointed with the authorities. Still today, there are really no rules for how much uranium particles may be released into the air in Canada. It is absolutely incredible!

Andrew Johncox got prostate cancer after his years in the plant. The cause of this will probably never be proven. He has no right to financial compensation from the Canadian State.

Nearly died

Dan Rudka has not received any compensation either. A few years after he completed a 53-week period of employment at a nuclear plant in Port Hope he nearly died. Among other ailments Dan suffers skin changes, intense pain, a very bothersome lung disease and weakened immune system. He has been treated by doctors at various clinics. Around the year of 2000 his lung function was so bad that continuous oxygen supply was necessary. In recent years he is a little better, but can not walk longer distances.

Dan Rudka is also one of the nine tested persons in Port Hope. He also has industrial uranium residues in his body. 15 years have passed since he worked at a uranium industry facility in the city.

- We mixed uranium fuel powder with other powder and used a snow shovel!
- You could see the dust from the uranium. The worst thing was that most of the workers did not even have a mask to protect their faces, Dan Rudka says.

As it is now proven that he has uranium isotopes in his body Dan Rudka is hoping to initiate a process for compensation for the diseases he believes that he suffers because of his former work.

- Money is not the important thing to me. The important thing is receiving an acknowledgment of what has happened to me. It would also be important for others in similar situations in the future. I know several former workers who also became sick in different ways, Dan Rudka says.

When the research results were published in the media 2007 Cameco and the authorities said the test results were not approved.

Also many Port Hope-citizens were displeased with the publicity. They found the health investigation only resulted in unnecessary anxiety and decreased tourism, and some people held a small demonstration in the city. Also Mayor Linda Thompson stated there are no health concerns in Port Hope.

Investigations done by the regulator Canadian Nuclear Safety Commission, Health Canada and at the municipal level has shown that residents of Port Hope will not suffer more disease than others, Linda Thompson says in Canadian national television.

Has not approved

The authorities, which focused their studies on a number of cancers, has not approved the analysis made by the contracted laboratory (Institute for Mineralogy, J.W Goethe University in Frankfurt) of the nine people in Port Hope.

- But this work was done by internationally recognized scientists, with a methodology previously published many times and peer reviewed by the European Association of Nuclear Medicine, Faye More says. She is chairman of the Port Hope Community Health Concerns Committee which took the initiative to contact Uranium Medical Research Centre in Toronto and arrange the health tests.

- It is obvious that the authorities must do bigger health studies including much more people.



Pat Lawson believes that the big clean-up becomes difficult. - Despite all the money spent I do not understand how it would be done, "she says.



To have both the uranium industry plants and waste near by has brought many negative consequences, says Sanford Haskill.



Jon's and AJ's way to school is right next to areas where large amounts of radioactive waste at one time have been placed.



The uranium is transported through large parts of Canada.

- We are a volunteer non-profit organization and are limited in our ability to raise the money necessary to test large numbers of people, Faye More explains.

- The fact that no level of government has never done this type of testing or will do it tells us they simply don't want to know the truth.

During our time in Port Hope we meet another ten persons who talk about themselves and their families affected by various forms of extraordinary diseases, and that it is hard to explain the causes. Everyone is disappointed by the lack of support, particularly from the authorities.

Instead a large decontamination in the entire town of Port Hope is planned, financed by the state of Canada. One of the largest of its kind in the world. In this small town where much of the uranium used in Oskarshamn have been converted over the years, too high levels of radioactivity have been measured at more than 300 different places. Most locations are not known to the public.

260 million Canadian dollars has so far been allocated for the decontamination. According to a representative of the funder, Natural Resources Canada, the total amount of taking care of all the waste could end up at as much as 1-2 billion dollars. Then this means between 7 and 14 billion Swedish kronor.

One question is how many millions or billions it would cost to move the conversion facility from the lakefront, which John Morand and several others have suggested because of emissions and security concerns.

Already a school in Port Hope, where too high concentrations of radon has been found, has closed and many other places in the town are forbidden to enter.

Sandra Homes, who is working hard with the decontamination project, Port Hope Area Initiative, is very positive about what will come out of it.

- I really believe that it is possible to do this properly, Sandra Homes says.

- Much people are looking forward to finally get a solution of this, she says.

Difficult to implement

It will take a few more years before the clean-up can get started. At several public meetings for example PHCHCC, FARE, Cameco, police and other authorities, are involved in workshops, giving their comments and suggestions about the clean-up. Pat Lawson, who has lived all her life in Port Hope and now reached the age of 80, thinks that the initiative is well-intentioned. But she believes that the clean-up will be difficult to implement.

- In spite of all the money spent I do not understand how this could be possible, when you look at the geography here, Pat Lawson says.

She says because of the hills in Port Hope the water in the ground will lead the waste to other areas in the city.

Helen and Sanford Haskill says the same thing. They have a farm just a few kilometers outside of Port Hope. There are plans to put waste from the clean-up in areas close to where they live, not far from small rivers. The nuclear industry in Port Hope has for nearly 70 years placed the radioactive residues in the vicinity of Haskills land. Now is the idea to put more waste there. Much more.

- More than 20 of my parents' cows and calves died when they drank from a creek in the late 1950s, Sanford says.

The family received compensation from the uranium industry at that time, he says.

- But only for the animals that died. If this happened today my parents would receive a large compensation.

The animals that survived were moved to another area, Sanford says.

Having both the uranium industry plants and waste next to their doorstep has already resulted in many negative consequences, Helen and Sanford Haskill explains. The value of their property has been reduced.

They believe there is no one who wants use their land in the future. Some years ago Helen and Sanford discovered a pipeline from one of the waste places. From the pipe water was leaking into Lake Ontario.

Helen and Sanford got the water tested. It contained elevated levels of both arsenic and uranium. This was told in a Canadian TV-program about the situation in Port Hope.

At one of the places in the middle of Port Hope where low-level radioactive waste has been buried in the ground for many years we meet, by total coincidence, two 15-year-old boys. It is Jon Foster and AJ Walsh. Every day back and forth from school they pass a few of the forbidden areas. At the fence around there is a sign saying "Danger".

- In the beginning I was a little scared to walk here. I walked in the middle of the road. We don't know how dangerous it is, Jon Foster says.

- Eventually you stop worrying, but it doesn't feel good. There is so much poison in this town.

Jon, AJ and many other young people in Port Hope often talk about uranium and nuclear power.

- It's really sad that our city is famous for this uranium industry, and what it causes. I think I will move out of here when I grow up, Jon Foster says.

Will keep on fighting

Pat Lawson and her husband Tom don't have plans like that. They will stay in their big, old house placed just between two of Camecos facilities in Port Hope. And they intend to keep fighting against nuclear power.

- People say nuclear power is good for stopping the climate change because it's not producing a lot of carbon dioxide. But then they don't think about the extremely long process and all the steps from mining to electricity production, Tom Lawson says.

He doesn't agree with friends of nuclear power saying nuclear energy, despite the long journeys for the uranium, is the best energy source for the environment because of its unique energy intensity.

- Looking at the whole process, it is no doubt that nuclear energy is the energy source that causes the greatest problem of all. Think of all the trucks transporting the uranium, he says.

- You see, nuclear power is so complicated and people simply do not have time to learn what this is about. But I have lived with this industry for a long time and have seen what it means, Pat Lawson says one day in October 2009.

She and other Port Hope-residents planted a Japanese cherry tree in a park in Port Hope between the City Hall and the Ganaraska River.

We were a group of people wanted to commemorate the victims of Hiroshima and Nagasaki because the uranium producing nuclear bombs were processed here in Port Hope. We want to say sorry to the people of Japan, Pat Lawson says.

Fredrik Loberg

E-mail fredrik.loberg@ostran.se



As in many other countries much of the electricity in Sweden is based on nuclear power. Three of the biggest nuclear power plants are placed in southeast of Sweden, outside the city of Oskarshamn. In Oskarshamn the local newspaper Nyheterna is covering the production at the nuclear power plants, but also much of the discussion how to handle the waste from the plants. In order to produce nuclear power it is necessary to have uranium. That is why Nyheterna's journalists Fredrik Loberg and Mattias Rubin went to Canada.

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The most secretive phase



THE ORIGIN OF NUCLEAR POWER

Many people and countries are very much worried that Iran, North Korea and

terrorists has got the knowledge of uranium enrichment.

At the same time uranium enrichment is a absolutely necessary process for

the production of electricity in Oskarshamn nuclear power plant.

This fourth and last reportage is also about the growing uranium cooperation between

Oskarshamn and Russia.

From the year of 2011 there is not any longer a law in Sweden stopping a fourth

nuclear reactor in Oskarshamn.

When nuclear power is growing in the world more enriched uranium need to be produced.

This means an even bigger need for more controls to prevent the knowledge of nuclear

weapons production may spread further.

- It is wrong in so many ways to let this industry growing, Udo Buchholtz says.

He is leading the protests in one of the European towns where the uranium, which is

being sent to

Oskarshamn nuclear power plant, become enriched.

In three reportage in the beginning of 2010 from different parts of Canada Nyheterna has

wrote about the start of the very long global journey for the uranium, from mine to electricity production in Oskarshamn nuclear power.

Now it is time to focus on the fourth stop for the uranium on its way to Oskarshamn.

The enrichment.

The most secret process.

We are therefore travelling to Almelo, 1 190 kilometres from Oskarshamn.

A city with more than 70 000 inhabitants in the east part of the Netherlands.

Uranium to be used in Oskarshamn nuclear power plant is enriched in Almelo. Here we meet Jan Hammink. His parents ran a farm in Almelo until 1970. Then, the same year when Oskarshamn got its first reactor, it was decided that a plant for uranium enrichment should be built on the land where

Hammink family lived. The family got compensated with a new house. At this time,

when Jan was 17-18 years old, he was protesting against the nuclear power.

- It was the flower-power era, you know, Jan Hammink says.

For six weeks young people from Almelo had an office in one of the farming

buildings, where the protests where organized.

- It was the first resistance group against nuclear power here in Almelo, Jan Hammink says.

40 years later, in 2010, we are sitting in Jan Hamminks quiet, secure living room, talking while we hear the October rain from outside. Jan tells us that he liked the hippie period. He laugh a lot and explains that he is happy now also, but that he has changed. Now he thinks that the enrichment activities is good.

- I don't know how we would have managed here in Almelo without this industry.



Because nuclear power plants needs more enriched uranium the enrichment facility in Gronau is growing.

Foto: Fredrik Loberg



The worst thing about the enrichment is all transports of rest products, Udo Buchholtz says.

Foto: Fredrik Loberg



Enrichment is good for Almelo, Jan Hammink says.

Foto: Fredrik Loberg



Per de Rijke working for Wise in Amsterdam.

Foto: Fredrik Loberg

- Over a thousand people are employed thanks to the company, Urenco.
- Yes, I believe that this business is safe. I trust it.

Jan Hammink shows us a few months old video, from the funeral of his own father, Lucas. This very special day Urenco relieved tough security restrictions and opened the gates to the enrichment area so the funeral procession could pass through Lucas Hamminks' old farmland.

Jan Hammink thinks Urenco, which for a long time has enriched almost all the uranium to the Oskarshamn nuclear power plant, is a good company.

A responsible company.

At the same time the industry we are talking about, just a few hundred metres away from where we are sitting, perhaps is the most controversial industry at all. It has to do with nuclear weapons. Enrichment technology can both be used to produce nuclear fuel for reactors and to produce nuclear weapons. And the enrichment plant on the old ground earlier owned by the Hamminks in Almelo, two blocks away from us, has a special place in world history of nuclear weapons. Abdul Qadeer Khan worked here in the 1970s. He managed to get secret knowledge of enrichment, and some years later initiated a program for nuclear industry and nuclear weapons in Pakistan, which started a long nuclear weapon arm race against India. Khan is also suspected to have played a central role in proliferation of enrichment know-how to Libya, North Korea and Iran. In the Netherlands two of his partners were sentenced to prison and heavy fines.

Scientists with close ties to Abdul Qadeer Khan has also been arrested in Pakistan for suspected links with the talibans, while Khan has been in house arrest for years in Pakistan.

- This is just one example of the impossibility to draw a clear distinction between civilian nuclear and nuclear military use, Per de Rijke says, working at the internationally-oriented anti-nuclear organization Wise in Amsterdam in the Netherlands.

- When knowledge of the enrichment technology is spreading, when we use even more of this technology, then there is a higher risk that the knowledge of making nuclear weapons also will be spread.

Urenco runs the enrichment in Almelo. Oskarshamn nuclear power plant company, OKG, has bought enriched uranium from Urenco for a long time.

- I would say that about 80 percent of our uranium enrichment comes from Urenco,

Alexander Lindqvist says. He is responsible for the supply of uranium to Oskarshamn nuclear power plants.

OKG has during the years got much of its enriched uranium from the Urenco plant in Capenhurst, England. The last years a larger part of the uranium than before instead have passed the Urenco enrichment facilities in either Almelo in the Netherlands or Gronau in Germany.

OKG also now have entered a new period of getting more uranium from Russia. For example OKG and other companies in Europe have for many years bought so-called re-enriched uranium from Russia.

Rest products from the uranium enrichment in Europe, depleted uranium, has been upgraded in Russia on behalf of OKG. Alexander Lindqvist from OKG says this is a good way to reduce waste from the enrichment process.

- I think the re-enrichment is a good thing, Alexander Lindqvist says.

These transports with enormous amounts of radioactive materials to Russia has made the



The enrichment facility in Almelo has a long story.

Foto: Fredrik Loberg



An important thing for Vladimir Putin is to create an international enrichment center in Angarsk in Siberia.

Foto: Alexei Druzhinin/Scanpix



In this facility in Lingen fuel elements will be made for nuclear reactors in Oskarshamn. It is owned by nuclear giant Areva.

Foto: Fredrik Loberg



Hans Buitenweg thinks the nuclear industry has bought peoples minds in Almelo.

Foto: Fredrik Loberg

environmental movement in Europe mobilize perhaps more than ever. Udo Buchholtz leads the protests in Gronau, where one of the enrichment plants working for OKG is located. Every Sunday he and several others walking together around the high fence that surrounds the enrichment plant, to protest. Nyheterna meet him right there, outside the gates with many surveilling cameras, and all national flags symbolizing how international nuclear industry is. Udo Buchholtz thinks the biggest problem with the industry is the waste or the rest products, thousands of containers with depleted uranium.

- There is no disposal of uranium waste from the facility. And the transports from here for example to Russia is worst of all, Udo Buchholtz says.

- And what if something happens during these transports!

The protests against the transports from Gronau and Almelo have been very dramatic.

One of Udos friends repeatedly climbed on the top of the trains which transported a large number of containers of depleted uranium towards the port of Rotterdam for further travel to Saint Petersburg.

Hundreds of thousands tonnes uranium rest products has been transported from European enrichment facilities to Russia in recent years. In a Greenpeace report December 2005 Swedish OKG and Vattenfall was identified as two of the European companies guilty to what environmental groups described as dumping of uranium waste in Russia, for example Novouralsk, Seversk and Zelenogorsk. According to journalists who made the documentary Nuclear power nightmare on French-German TV-channel ARTE, it is only about ten percent of the French uranium shipped to Russia, which will return to France possible to enrich again. Everything else is left in Russia.

Part of this depleted uranium from Europe, also from Germany, have been transported all the way to Angarsk. It is in Siberia, ninety kilometers from the world's oldest and deepest lake, Lake Baikal and eight time zones from Sweden. Marina Rikhvanova lives and works in Angarsk. 2008 she was receiver of one of the most prestigious environment awards, The Goldman Environmental Prize. Marina Rikhvanova don't like what is happening in Angarsk. Because almost all uranium arriving from the enrichment facilities in Europe can't be reused in Angarsk, Marina Rikhvanova believe that it is dumping of hazardous radioactive waste in Russia.

- I think this transportation for "re-enrichment" is in fact radioactive and toxic waste transportation, Marina Rikhvanova says.

- Also any way of producing uranium hexafluoride produces huge amounts of radioactive and toxic wastes. This waste should be stored over hundreds of years, Marina Rikhvanova says.

The transportations between Europe and Russia recently has stopped. But there are those who believe they will start again, no matter what Marina Rikhvanova says. Alexander Lindqvist from OKG is one of them.

- Yes, and I hope so, Alexander Lindqvist says.

He thinks it is good if the depleted uranium can be used, for example for medical purposes.

- Yes, and Russia is in the front line right now in terms of nuclear technology, Alexander Lindqvist says.

Russia has high ambitions in Marina Rikhvanovas hometown. Prime Minister Vladimir Putin is about to create a unique international enrichment center in Angarsk, approved by the International Atomic Energy Agency, IAEA. But Marina Rikhvanova says the facility very close to the center of Angarsk absolutely not can handle the residents' demands for security.

- If a severe earthquake were to happen, the facility would be destroyed and the inhabitants of the town would have to be evacuated, if they were to survive.

- Radioactive and toxic wastes is stored on the site of the center, inside a town. This is illegal, Marina Rikhvanova says.

She works for the local environmental organization Baikal Wave, saying many inhabitants in Angarsk is in opposition to the enrichment center.

- We have got more than 300 letters from Angarsk people where they ask us to help them to defend their rights.

Already in 2006, at a G8 summit in St Petersburg, Vladimir Putin announced the plans of an international enrichment center and one of the main purpose: to prevent countries like Iran from continue their enrichment plans, and at the same time provide countries like Iran enriched uranium

for nuclear reactors. Iran has not stopped its enrichment program, in spite of very strong reactions from abroad. Many countries are very worried that Iran will start producing weapons for mass destructions, nuclear weapons. This kind of weapons for example U.S., Russia, England and France have had for centuries. For example England, Germany and the Netherlands also are allowed by UN to enrich uranium, for example to Oskarshamn.

David Albright, safety expert and former weapons inspector at the Institute for Science and International Security in Washington DC, criticizes the double assessment of various countries. He thinks the problems about the connection between nuclear energy and nuclear weapons has not been resolved. Former head of the IAEA, Nobel Prize Mohamed El-Baradei have said that if nothing will be done to stop the spread of nuclear technology the world will soon have 30 countries that can quickly develop the capacity to produce nuclear weapons. Vitaly Fedchenko on Peace Research Institute, SIPRI in Stockholm saying about the same. The only way to diminish the risk of spreading civilian nuclear power to military applications would be to eliminate the use of nuclear power, Vitaly Fedchenko says. Hans Blix and his commission against weapons for mass destruction recently presented 59 proposals to the UN on how the circulation of nuclear weapons would be stopped in a world with more nuclear power. One of the proposals is to nominate a few "nuclear fuel cycle states", where enrichment and reprocessing of uranium is made and carefully monitored, and that each country will get its nuclear fuel from these states.

Sweden have plans for expand nuclear power. During 2011 one of the reactors in Oskarshamn will increase its capacity significantly. And because Sweden from this year now longer having a law stopping new reactors there is plans for a fourth reactor in Oskarshamn to replace the first one build 1970. Then it takes even more enriched uranium. The man outside the gates in Gronau, Udo Buchholtz, don't like this. He has already seen the enrichment facility in his city grown enough.

- This facility has capacity for expansion, and if there will be more nuclear power plants it will obviously be so, Udo Buchholtz says.

There are big protests in Germany against enrichment, nuclear power and dumping waste from nuclear power plants. On the dutch side, in Almelo only about 40 kilometres west of Gronau it is not really like that. Just like Jan Hammink the absolute majority of the people have a positive attitude to the industry. Hans Buitenweg has the Green Party's only seat in Almelo parish council. He feels lonely.

- In the past we could be 45 000 people demonstrating against enrichment. Now it is almost just me opposing this industry, Hans Buitenweg says. He accuses people in Almelo to be bribed.

- There are hardly no events or activities that are not sponsored by Urenco. Even when the city library should be rebuilt and get new furniture the company showed up putting money in, Hans Buitenweg says.

Nyheterna continues to Lingen, about 50 kilometres north of Gronau in Germany. The uranium's fifth and last stop on its long global journey before arriving to Oskarshamn is going to be inside the heavily guarded entrance we have in front of us. Here in Lingen the enriched uranium will be transformed to fuel elements – the end product of the uranium chain before the production of electricity in nuclear power plants.

OKG has for many years got fuel elements from Westinghouse in Västerås in Sweden. This is not a activity without problems. 2010 it was known about hundred workers had a little to high exposure of industrial uranium in their bodies. An inspection made of Swedish radiation authorities showed also that Westinghouse staff didn't follow all instructions because of working in a high tempo, and the plant has during 2010 been under special supervision because of this.

The fuel production in Lingen is runned by french nuclear giant Areva. OKG has decided to have closer partnership with Areva in the future. Areva will not only supply OKG with fuel elements, but also be responsible for the entire uranium supply chain to the reactor number 2 over the next four years. One of the reasons are Areva considered to have particularly good contacts with Russia. From which mines the russian processed uranium comes from is not always easy to know. But what is clear is that Areva for many years have lay its hands on the growing uranium market in Africa.

- For uranium companies it is easy to be in Africa, where environmental laws hardly exists, and in

Africa authorities are often corrupt and in a bad situation for negotiations, Fleur Scheele says. She works at Wise in Amsterdam, just returned from a conference in Tanzania, together with representatives from NGOs in 20 African countries, where uranium mining is going on or is planned. Areva is the largest uranium company in Africa.

Especially Areva's 42 years of uranium mining in France's former colony, Niger, military dictatorship and one of the world's poorest and hottest countries, has been very controversial for a long time. Just like in Canada the mining is going on in areas where indigenous people live. Local NGOs claim that Areva had done nothing to help people out of poverty, but simply taking the profits from mining and leaves devastated and radioactive soil behind. In recent years Areva has started several development projects, but the conflict between the military regime, regional rebels and the uranium industries has had serious consequences. For example the local gerilla kidnapped seven miners in september 2010.

- Mining companies create jobs in African countries, and what I understand the companies gives acceptable wages. But in African countries the companies don't have the same pressure to behave.

- There is a risk that environmental problems and health effects will be huge, Fleur Scheele says.

In another part of Holland, in the enrichment city Almelo, the former nuclear opponent Jan Hammink has a different view. He thinks nuclear power is absolutely safe enough, and he wonders what Almelo would have been without it.

- It would have been even higher unemployment here, Jan Hammink says.

The growing company in his city supplying Oskarshamn with enriched uranium also thinks the industry stands for something very positive. The company's motto is "enriching the future" and writes:

"Nuclear power is increasingly seen as the number one commercial choice for a sustainable energy supply, free from the uncertainty and inherent environmental dangers of the diminishing fossil-based fuel alternatives. Urenco is proud to play its part and strongly believes that nuclear energy is the only viable option to meet the world's growing demand for electricity."

Fredrik Loberg

fredrik.loberg@ostran.se