



Still not quite finished: Europe's largest pumped storage power plant stands south of Nowodnistrowsk.

Ukraine

Cognac and hexachlorobenzene

Next year, Ukraine is in the spotlight, because half of the European Football Championship will take place there. A journey through a young state, which has to manage a difficult heritage.

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Lviv, in mid-July, Sunday

High up on the tower of the City Hall one has a beautiful view over Lviv. Down the streets female tourists are strolling. The city has made it. The old buildings are freshly painted. But one can also see into the courtyards, decaying.

In Lviv the Ukrajina stadium was converted for 85 million Euros, because in it the European football championship games will be played next year. Oleg Listopad says, football is the last thing that interests him. He holds the European Championship to be unnecessary; stadiums and hotels are being built, which nobody needs afterwards.

Oleg has worked in the Greenpeace office in Kiev during the early nineties. After a few months he no longer got along with the new bosses who came from nowhere and suddenly dominated the environmental organization. Oleg left. Little later the office was closed, "because of poor management" as Oleg put it discreetly. He does not tell details, but someone had run away with the cash - and since then, Greenpeace no longer has an office in Ukraine. Oleg turned to be an environment journalist and these days he helps organizing a press tour on the Dniester River for the ENVSEC organization. ENVSEC stands for "Environment and Security", and is supported by the UN



Old chemical factory in Kalush: Highly poisonous hexachlorobenzene threatens to contaminate the groundwater.



The hydroelectric plant of Nowodnistrowsk: For the construction works 250 000 people had to be resettled.

Organizations, but also by the Organization for Security and Cooperation in Europe (OSCE). The aim of ENVSEC is to address environmental problems before they lead to political conflicts. For this the Dniester is the right place, because millions of people in Ukraine and Moldova are dependent on its water. And in its catchment area, there are some ugly problems. Therefore, ENVSEC has invited twenty journalists to spend a few days on the stream.

Next year, the media will be compelled to describe the country because of the European Football Championship. During three weeks one will get to know where Kharkov lies and how the Ukrainian currency is called. In the early nineties, when I first was there, the money was laying on the street. And in the truest sense of the word: The wind blew small printed slips through the streets. On them were threes, fives or fifties, emblazoned next to the St. Michael Monastery of Kiev, with its distinctive dome. My friends said that these were the coupons and not worth anything. I picked them up anyway; these gray, green or pink pieces of paper. Officially the currency was named karbovanets, but no one called them that way, they all spoke only of coupons. That was just as well, since the official designation had something unpleasant: The karbovanets had in fact made it once before; shortly after the October Revolution it was for a short time the first currency in the Ukrainian People's Republic. But when the Nazis occupied the Ukraine in 1942, they brought it back. But nobody speaks about it over here; anyway, no one ever speaks of the Second World War and of how so many Ukrainians collaborated with the Nazis. It is as if there would be no history. And this way - after Ukraine became independent in 1991 - the karbovanets could be revived untroubled. But soon the currency crumbled, it had a wicked hyperinflation. In the mid-nineties, you got hundreds of thousands of coupons, if you changed a few dollars.

At that time the windows were still dusty, and throughout Kiev, there was only one small supermarket, which sold western food. It was a gray time one likes to forget. Today the streets are colorful and cheerful.

Oleg Listopad is still not happy. He doesn't wish the old days to come back, but he also sees what Ukraine has lost. In the old days, he says, while we were sitting in one of the many Lviv restaurants, all products that came onto the market had been checked by government laboratories. The cans looked bleak, but they contained, what was written on it: Fish with tomato sauce in the fish cans, condensed milk in the condensed milk cans.

With Viktor Yushchenko in power, everything changed, says Oleg. Yushchenko was the hero of the Orange Revolution. In the winter of 2004 thousands of people went on the streets for him when the communist Viktor Yanukovich disputed his election victory. The Orange Revolution triumphed. But that was long ago, and now one can hardly find someone who speaks well about Yushchenko. Yushchenko was the head of the Ukrainian central bank and had closely worked together with the International Monetary Fund (IMF). He is considered the one who got the inflation under control. He introduced the hryvnia instead of karbovanets and sat through a tough IMF-shock therapy. The wages of state employees and pensions shrank at a great pace, and often were paid no wages at all for months. Many state-owned companies went down. But the hryvnia remained reasonably stable.

During the Orange Revolution nobody wanted to hear what Yushchenko stood for. Neither was anyone familiar with the IMF. There was a spirit of optimism. The people believed they could make a difference. Today things have sobered up. Even though hundreds still demonstrate for Julia Tymoshenko, who is currently on trial in Kiev. It is a political process, probably also unfair.

But still, people outside of Kiev show little concern. They used to admire the former comrade of Yushchenko, but the glory is gone. People have understood that Tymoshenko is best at defending her own interests.

Opinions on the new president Viktor Yanukovich, a communist and friend of the Kremlin, are even less favourable. He is regarded as a potential dictator who is already harassing the media today. All this would still be bearable, if at least everyday things were working. Oleg says that Yushchenko had done everything the IMF requested. And the request included to privatize as many companies and institutions as possible. So Yushchenko also privatized food control. In the process he abolished the national laboratories, but failed to ensure that private laboratories perform this task. "Horrible stuff

is on the market today. The foods contain substances that you should never eat. "While what's inside is indicated on the packaging, it's in millimeter-sized letters. Oleg's always takes a magnifying glass with him, to read what is really included in the can. The so-called condensed milk contains palm oil, he says, "and something normally used as wall paint, -This is needed to make the stuff, which no longer has anything to do with milk, at least look white. »

Oleg looks tired. He says that twenty years ago he believed everything would turn for the better, although it would take some time. But it turned out differently;

even those things that used to work before, is going wrong today. "If food-safety inspectors want to check a restaurant, they must announce their visit ten days on beforehand. That is incredible, but it is the law. "

Monday, Kalush

The group is complete. We are less than twenty journalists, mostly from the area between Lviv and Odessa. In Ukraine, every city has its own newspapers, not yet replaced by the Internet, because even now only few can afford an internet connection.

The bus lurches to Kalush, the road is riddled with deep holes, and nothing has changed in the last twenty years.

Kalush is ninety kilometers south of Lviv, in the catchment area of the Dniester. Already for one year, the city is officially marked "ecological disaster area" as fifty percent of the most hazardous wastes, in Ukraine are stored here. Kalush is as much recommendable as a residential area as the contaminated areas of Chernobyl in northern Ukraine. They are also considered an ecological disaster area.

Once the industry prospered in Kalush but then the Soviet Union broke apart, the chemical plants were shut down, and the potash mine ceased its operations. That's roughly what we know when we enter the city with its population of 70,000.

The bus stops in front of a large office building which marks in large letters, "Karpatnaftochim" and "Lukoil" above the entrance door. Inside, all of us receive a blue and red jacket, an orange helmet and an olive-green cloth bag, which contains an oxygen mask. The bag looks like a prop from a Soviet film. The Lukoil-people hand out a note in with safety instructions. It is in Ukrainian, but the icons are clear: No smoking! Make no fire! No photos! No cell phones! Do not eat!

The Russian oil company 'Lukoil' founded Karpatnaftochim several years ago together with the Ukrainian state.

In one factory, chlorine is produced; it smells like a swimming pool all over the place. Chlorine likes to react with oxygen, becomes gaseous, corrosive to the lungs and can be deadly in higher concentrations, hence the gas masks and safety regulations.

We are led through the plant; everything seems new, big white tanks, small steel containers, lots of shiny metal, rust nowhere. On the walls are slogans: "Our most important asset - our people!", "New projects - new perspectives" or "We support the reforms of the president!". What reforms are meant cannot not be learned.

Next door a new factory was opened a few months ago, which uses the chlorine and produces polyvinyl chloride (PVC). The German company Uhde has built this plant as a turnkey project. Fresh PVC trickles like flour in large bags, plastic for all sorts of things .

On the other side of the street industrial equipment rusts away. There is no comment from the Lukoil people about this, like they had nothing to do with it.

Later on, four directors gather in the conference room for a press conference. They manage to talk for forty minutes and to say nothing. The journalists sit there quietly fighting against sleep. By the end one of the young journalists asks, whether it is correct that the sewage water of the plant could not be reused for the production, because it was too dirty and, therefore, was discharged in the river. The Lukoil-men say that it is so, but they would be complying with statutory requirements.

How big is the turnover, then? Silence. Finally, a Lukoil-man somewhat annoyed answered that they would produce 300,000 tons per year of PVC, hence we could figure out ourselves how big the turnover is. The question on how big the profit is, no one dares to ask. Nevertheless, for Ukrainian circumstances, these facilities are gems.

The grim legacy of Kalush can be seen a few hundred meters away. Standing in front of it, it looks like a cosy forest. During nearly three decades, the old chemical plants, rotting away next to the new Lukoil plant, have been dumping here hexachlorobenzene (HCB) waste. Previously, the pesticide was used to protect crops from fungal diseases. However, it is highly

The Dniester



toxic, carcinogenic, and therefore banned in many countries for a long time already. Approximately 11 000 tonnes of HCB were buried in barrels. The barrels are rusted through in some cases; the poison threatens to contaminate the groundwater. Last year a group of experts of the UN and the European Commission have examined the landfill. In many places outside the landfill they found HCB concentrations that exceed the permissible limit more than one hundred times.



Like the old times: Washing day, south of Kalush.



That's not all: Not far from that site lies the disused salt and potash mine of Kalush. Potassium from here has been used for fertilizer production until to the millennium. Then the mine was abandoned overnight and everything left as it was. Wind, rain and sun slowly eroded the buildings. Behind the mine a hill rises which is actually a dam. Above are the "tailings", the finely grained mining wastes from that time mixed with highly concentrated salt water. We stand around; take photographs of the peaceful lake, that does not seem dangerous. If the dam breaks, the salt water will pour over the land like a flash flood, contaminating the soil and groundwater with salt. The brackish water would also get into the Dniester and kill all the fish. Millions of people would no longer have access to drinking water. There are two such salt lakes, of which the dams may burst. In many places thick layers of salt, white as snow, have accumulated on the embankments. This is caused by leaks in the dam wall where liquid can escape.

A year ago, the government has provided almost fifty million dollar for the rehabilitation of Kalush. Several tons of HCB were shipped to the UK for disposal, where they were burned in a special oven. Otherwise, nothing has happened, says Mikhail Dowbintschuk, former MP in the town of Kalush: "But the money is gone." He says he can prove everything; he has everything in writing.

Even if that is so, it will change nothing for the impending disaster. Dowbintschuk nods, just as it always has.

Tuesday and Wednesday, on the Dniester

Two days on the River. The Dniester River south of Kalush is still not very wide and deep, but infinitely silent and peaceful. We are travelling with three inflatable boats. A journey back in time. Sleepy villages sitting along the banks. Two days and no bridge that crosses the Dniester. If people want to go to the other side, they cross over with their little wooden boats. Cows are cooling off in the water. Ivan Rusew, a biologist from Odessa, who accompanied us, knows every bird standing on the shore or flying over our heads. Storks, gray herons, white herons, and more storks.

Children swim between the cows. Women squat by the river and wash clothes. The water is greenish, cloudy, but mostly because of the storms that were passing by in the distance.

The decline of industry has been good for the river. Today it is much cleaner than it was twenty years ago, and you can safely swim in it.

We set up our tents on the shore. On the other side of the river, a black stork is stalking along the shore. It is rare and shy, avoids people, in contrast to the white stork, who happy lives with them.

Slowly it gets dark. We talk about everything under the sun and the fact that in Ukraine more churches are being built than schools.

Someone makes fun of President Yanukovich, who recently bought a helicopter, while the people of Kiev were always so upset about the fact that every morning the road to the presidential office was blocked for forty minutes. Now he has his helicopter and can fly to work.

"Have you seen the golden swans, the taps in Yanukovich's residence?" someone interjects: "That way the Communists are living today!" Everyone laughs, brandy is poured, stories are told, the crickets are chirping.

Someone comes to speak to the French pair that got recently stranded in Uzhgorod at the Ukraine's western border. They could not have children; therefore they hired a Ukrainian surrogate mother who delivered them a child. In this country this is a normal, legitimate business. The price lists are available on the internet. A child with all the business around it will cost about 10,000 €. The only problem is that surrogacy is banned in France. The French embassy refused to

issue documents for the child. When the couple wanted to smuggle the baby across the border, the whole matter blew up. Now they are trapped, cannot adopt the child, cannot return to France, the money is flowing away, they speak no English and no Russian.

Someone says, France is behaving inhumanely. But no, it is inhuman to impose purchased pregnancies on women. But they needed the money to raise the children of their own. A heated discussion ensues. Actually, a paradoxical discussion, because Ukraine is gradually depopulating. When the country became independent, it had a population of 51 million people, today there are still 46 million left. Many people are emigrating, but also because the birth rate and life expectancy have greatly diminished. In places like the Donetsk life expectancy for men is 53 years. Officially, it's 62 for men, 74 for women - in Switzerland, we live twenty years longer.

Thursday, Nowodnistrowsk

A city of building blocks, multi-storey housing blocks built in the seventies, for the men and women who at the time were building the large dam on the Dniester - a gigantic building structure; the lake is now almost 200 km long, and caused 250,000 people to be displaced.

In the morning we drive to Dnistrowska GES, the Dniester river 800 megawatts power plant, which is housed in the dam itself. We are welcomed with a sumptuous breakfast - rice, stew, salad. In this country we would call it a sumptuous lunch. But in the Ukraine one says: Eat in the morning like with a king, lunch like with a friend and in the evening like with an enemy.

The people of the power plant show us the command room, everything new, everything newly renovated. The plant has operated since 1983 and one can be proud of it. They say the dam was primarily built to regulate the river and protect the public from terrible floods. Three years ago was the last big flood, with 6000 cubic meters per second. Maximum 2000 cubic meters could pass through the turbines, the rest burst via additional pipes through the dam. The people below the dam panicked and feared their villages would be flooded. The floods are getting worse and coming more frequently. It may have to do with climate change, but most likely also with the large-scale deforestation in the Carpathians.

The plant belongs to the state and supplies Moldova and Ukraine with energy. Ukraine is suffering from a chronic energy problem; power is constantly short in supply. In winter the power in many cities is regulated according to plan: On one evening the right side of the street has light, the next evening the other side of the street. Fifty percent of the electricity comes from old thermal power plants, a quarter from nuclear power plants. The entire power plant infrastructure is outdated and endless energy is dissipated. Would the country's energy efficiency be increased to the level of Poland, it could save a third of the energy.

Another press conference. This time the men are younger, worldlier and fashionably dressed. They are members of the power plant management and the environmental authorities. The first question: What happens if the reservoir is full, full of sediment, which the Dniester constantly accumulates?

The responsible engineer pulls out a map that explains where the mud is deposited, and says, it would be filled to the brim only after 180 years. The river has been dammed for 30 years, so it has another 150 years to go. That's a long time and yet a inconvenient fact: Even hydropower is not really sustainable. On a global average, the reservoir basins are filled by one percent per year. You can hardly clean them, so after a hundred years, most reservoirs will be full.

Ivan Rusew, the biologist from Odessa, logs in. He has been waiting eagerly for this meeting. He has already written some articles against the

power plant, also this spring, because it threatens the Dniester delta. The wetlands at the mouth of the stream are 500 kilometres south, but if no water leaves at Nowodnistrowsk, they'll dry out without fail. Ivan Rusew says, this spring has seen particularly large dry areas. Many birds that nest there in spring are being threatened. Why they had so little water drained from the reservoir, Ivan wants to know. He gets going, raises one question after the other. The men at the head of the podium remain calm. They would understand his problem, but could not do much. There was soon to be a new regulation.

Ivan insisted, speaking of the rare birds that are threatened with extinction, just because here above one wanted the water to make money. The managers say they are seeing it too. They did what they could; they would even be doing more than they should have. They sound friendly and nice just like modern PR-trained managers.

But the hydro power plant is not the only problem: A few miles south of the power plant, the Soviets had started the construction of the then largest pumped storage power plant in the world and its construction is still ongoing. The plant is expected to finally yield an output of 2000 megawatts; in China and the U.S. there are now even larger ones, but in Europe it will remain the largest pumped storage power plant. After the collapse of the USSR the construction site was lost in the twilight. Only a few years ago, the state energy company Ukrhydroenergo, which also operates the hydroelectric power plant, decided to finish the construction.

We drive up the hill, where the dam of the upper pump basin is located and the turbines are being installed. The construction site looks bizarre, high-tech devices next to rusted metal reinforcements. Large cranes are standing around; the holes for the gigantic turbines are ready. Eventually, there should be seven turbines. Each will cost three million hryvnia, which equals to about 300,000 Swiss francs. Overall, the whole nine billion hryvnia facility costs almost one billion Swiss francs.

A few meters further up, the view opens over the large artificial reservoirs, which are still largely dry. In the back of one reservoir they started to cover the ground with black tarp to seal the underground. In 2013 the plant start its operation. With cheap off-peak power, the artificial lake up on the mountain will be filled with Dniester water and during daytime, when demand is large and the electricity price is high, the water will be allowed to pass through the turbines.

Ivan Rusew says, the pumped storage plant would exacerbate the situation in the Delta, with even less water released in dry periods. Ivan is in his mid fifties, the Delta and the birds are his life. Back in the early nineties he already fought against the construction of a highway through the wetlands, it has started lawsuits, has lost and started over again. He's one of those quiet, educated scientists, of which there are many in Ukraine. They do not make headlines, but they make the country lovable.

Just like the "Femen", who every now and then put the Ukraine in excitement with their protests. They are protesting against prostitution and sexism, and corrupt politicians. When the Femen act out, everybody is watching because they are beautiful, young, slim and blonde haired women - and especially, because they protest topless. In the West some people might consider such protests weird, but in Ukraine it looks cheerful, cheeky and subversive, because it causes embarrassment to the police when they have to arrest these women with their banners - and everybody watching. Only recently they have been protesting against the fact that students are being thrown out of their dormitories in order to reconstruct their houses for the European Football Championship. And this will not have been the last protest action.