

# Croatia on course for nuclear power

Croatia needs to re-assess and upgrade all its energy sources in order to safeguard future power supplies. Energy experts are lobbying for a nuclear power plant, but it remains to be seen whether the population will agree to such a step.

*Slovenia's nuclear power plant in the town of Krsko, some 10 kilometers from the border with Croatia. Photo: Matej Leskovsek/AFP/Getty Images*



| by Anke Truijen

Tractors and harvesters toil up and down the rows in the vineyards of Erdut and Dalje, two villages in the remote north-east of Croatia, close to the Serbian border. The harvest is just beginning. 'A bad harvest spells disaster for us here, but the construction of a nuclear plant is something else – that's an outright catastrophe!' exclaims an elderly Croatian farmer in his dusty tractor, almost spitting with disgust.

In Croatia, candidate to join the European Union in 2010, the public debate about nuclear energy remains fraught, despite the widely-felt concerns about future power shortages and an existing shortfall in production capacity. The Croatian Energy Strategy 2008-2020, presented in November, targets three specific goals: stable power supplies, sustainable energy development and deployment of the energy sector as a motor for economic growth. Croatia is dependent on imports for all its energy sources, a dependency it plans to reduce over the next decade to become self-sufficient. To keep pace with energy consumption – currently growing at a rate of 4.3 percent a year – this requires the construction of 3500 MW additional capacity by 2020.

The strategy white paper outlines three possible scenarios for the development of energy. Energy specialists have expressed a preference for a scenario with a nuclear power plant of 1000 MW, a 400 MW gas-fired electricity plant and a coal-fired plant with a capacity of 600 MW. The three options are all being put to the Croatian people in public debates. But despite this apparently democratic process, the government looks to have already made up its mind. In recent months the Croatian prime minister Ivo Sanader has been testing the waters via local media. Under the slogan 'This country needs to break the taboo on nuclear power' Sanader is trying to get Croatians accustomed to the nuclear idea. In this he's backed up by the state electricity company HEP, which says that 'if Croatia wants to reduce its energy dependency over the long term, then the construction of a nuclear power plant is inevitable'. A nuclear plant would not only help meet the rising demand for energy, it would at the

same time meet the need to reduce carbon dioxide emissions.

#### Foreign investment |

According to the strategy white paper, Croatia needs to invest some 10 billion euros in its energy sector over the period to 2020. Around half of this amount will be invested in new power plants capable of producing 3500 MW, thereby virtually doubling existing capacity. Croatia currently has a production capacity of some 4000 MW and imports more than 20 percent of its annual energy requirement. If the country does aim to build a 1000 MW nuclear power facility and other electricity plants, then the state-dominated energy sector will have to open up to private and foreign investment.

Branimir Horacek, head of the department of energy and mines at the ministry of

Since the war in the early Nineties which killed thousands and decimated local industry, economic development in the region has faltered. The local authorities in Erdut aim to create a sustainable, eco-friendly recreation zone to boost the local economy through tourism, agriculture and wine production. The construction of a nuclear power plant would scupper such plans, as the location earmarked for the planned plant flanks the delta of the Donau and Drava rivers that feeds into the marshy terrain of the nature park designated by the local authorities as an ecological tourist attraction.

Krunar Kartus of the independent environmental organisation and website 'alertonline.org' backs the Erdut local authority in its campaign against the construction of a nuclear power plant. His

*'This nuclear plant will ruin our natural environment'*

economic affairs, avoids mention of the word 'nuclear power plant'. But from his answers it transpires that he's not averse to the nuclear solution. Particularly now that the energy sector has been earmarked as a key driver for boosting economic growth. Horacek: 'When you look at our electricity plants, then the choice is limited.' Investing in a nuclear plant could have a positive and direct impact on the national economy through job creation, organisational changes and technological development.

But the nuclear plans are likely to run into opposition even in a country such as Croatia, whose neighbours Hungary, Slovenia, Romania and Bulgaria all already operate nuclear power plants. In Erdut's tiny village café Rivers D, customers voice their concern: 'We don't want a second Chernobyl', says one, sipping at his beer. He wears a large pair of Eighties-type glasses, the heavy frames perched low on his nose. The local economy depends on agriculture and wine, not on energy, he emphasises.

organisation has mounted an information campaign and last September it hosted an international conference on the nuclear plans. Kartus: 'The most important argument against are the environmental concerns. This nuclear plant will ruin our natural environment. And if that happens, what reason can there be to live and work here?'

Croatia is no stranger to the nuclear issue. In the early Eighties, Slovenia and Croatia forged a joint venture for the construction of a nuclear power plant in Krsko, on Slovenian soil. Now some 20% of Croatia's annual power supply comes from Krsko. There are plans to expand the power plant but these have led to political disagreements between the two countries – an added incentive for the Croatian government to build its own nuclear plant.

#### Transit country |

The rapid demand growth for gas and oil and a perceived need to diversify its import sources has prompted Croatia to



Croatian Prime Minister Ivo Sanader. Photo: Olivier Hoslet/EPA

look to new gas and oil routes as part of its Energy Strategy. The country imports close on 80 percent of its oil and 40 percent of its natural gas. Geographically speaking it could prove interesting for Croatia to link new gas and oil pipelines up to the Italian and Central European markets.

The recent war in Georgia has alerted Europe's energy-dependent countries to

options. The government needs to make haste with the liquified natural gas (LNG) terminal on the Adriatic island of Krk, so that central European countries can reduce their dependency on Russian gas.'

The Croatian government has stressed it will give priority to the construction of the LNG terminal on Krk, with a planned capacity of no less than 10 billion cubic

Horacek of the country's energy ministry says he has no concerns about the relationship with Russia. 'Croatia has always regarded the Russian Federation as a trustworthy partner when it comes to energy. At present we're engaged in negotiating the extension of the gas import contract INA-Gazprom that expires in 2010. In addition we're interested in extra gas from the Russian Federation – we also support the South Stream project.' The latter is a pipeline Eni of Italy plans to build together with Gazprom for the transportation of gas from Russia to Italy.

### *'This country needs to break the taboo on nuclear power'*

Russia's position. As a major importer of Russian gas, Croatia was previously hit by the political fall-out of Russia's disputes with Ukraine. 'We need Russian gas, but we mustn't become dependent on it,' opines Damir Pesut, second in charge at Zagreb's energy advisory institute Hrvoje Pozar. 'Now that the European project to build the Nabucco pipeline has fallen behind schedule we need to look at other

metres a year. Much of this gas would then be destined for export. The terminal was due to have come on line in 2011, but this projection proved too optimistic: the new start date has been set for 2014. The project - a cooperative venture between Eon Ruhrgas (31.15 percent), OMV (25.58 percent), Total (25,58 percent), RWE (16.69 percent) and Geoplin of Slovenia (1 percent) – is slated to cost 800 million euros.

INA, Croatia's national oil company and for the most part a joint venture between Hungary's MOL (47.25 percent) and the Croatian state (44 percent), currently imports some 1.17 billion cubic metres of Russian gas a year, and wants to increase that to 2.5 billion in 2011. But at 32 eurocents per cubic metre, the import price is almost double the sales price in Russia itself. INA and the Croatian government are pressing Gazprom to lower its prices.

In a bid to stave off total dependence on Russian gas Croatia has turned its attention to gas routes in the south of the region such as the Ionian-Adriatic gas pipeline, which Horacek describes as an important project for Croatia. This gas pipeline runs from Azerbaijan to Albania and could offer an alternative to Russian gas. Croatia wants to link up with the Ionian-Adriatic pipeline by constructing a new high-pressure pipeline of some 523 kilometres which would run from Albania to Montenegro, through Bosnia-Herzegovina and via Croatia to northern Italy. Croatian gas transporter Plinacro, an INA subsidiary, has said it wants to build the pipeline. The political will exists in the countries concerned, but there are still studies needed to gauge the pipeline's profitability. According to Croatia's strategy white paper, a new gas route linked to the Ionian-Adriatic project could supply five billion cubic metres a year to the region. Even more interesting would be if this route were also used to supply the European market, as this could push gas throughput to ten billion cubic metres.

Damir Pesut of the energy advisory institute outlines the advantages: 'We aren't major consumers. But if we position ourselves strategically in the construction of various gas routes, we could become a major transit country.'

#### Five years behind |

For oil, too, Croatia is forced to turn to the Russians. Compared to its Balkan neighbours Croatia has quite sizeable oil reserves, but even so oil production is limited. The Croats produce 20,000 barrels per day, but consume 99,000. To meet rising demand the government is eager to pursue talks with Russia about the slated Druzba-Adria pipeline. At present Croatia imports Russian oil via the Adria pipeline, owned by the Croatian oil transport company JANAF. This pipeline runs from the Adriatic port of Omisalj to Sisak in the east and then splits in two, branching out to Hungary and Serbia. The Druzba-Adria pipeline project envisages linking the Adria-pipeline to Russia's Druzba-pipeline, which transports oil to the west. The Druzba pipeline is controlled by Russia's

state-owned Transneft and runs through Belarus, Ukraine, Slovakia, Hungary and Croatia. From the port of Omisalj, Russian oil could then be exported to the European market. However, since the participating countries signed a political accord in 2002, progress on the slated pipeline has been slow due to continuing disagreements about environmental impacts and tariffs. In the short term the pipeline is projected to handle 100,000 barrels per day, with volumes rising to 300,000 barrels per day in the long run.

The country has also signed up for the development project of the so-called Pan European oil pipeline PEOP. The route for this pipeline starts in the Romanian port city of Constanza and runs to Trieste, where it would link up with the Trans Alpine oil pipeline serving the Austrian and German markets. PEOP's participating countries – Italy, Romania, Serbia and Croatia – and the European Commission signed the ministerial declaration opening the way for

energy production. 'Currently we use just 1 percent of our renewable energy sources,' he says. 'Croatia imports 20 percent of its electricity. That's the same amount as the standard the EU has set for sustainable energy production in ten years' time. Why not fill the gap?' Kartus believes the government should formulate better policies for production from renewables and also do more to encourage households to switch to green energy sources. Sustainable energy should be generated principally by new hydropower installations and wind turbines, Kartus maintains.

Horacek of Croatia's energy ministry says that the 250 applications the ministry has received from potential investors for sustainable energy projects are proof that the country has succeeded in implementing an investor-friendly policy. 'The majority of applications are for wind, biomass and solar energy projects', he says. 'Next year and in 2010 we will experience rapid growth in

*'Croatia has always regarded the Russian Federation as a trustworthy partner when it comes to energy'*

PEOP in 2007. The investment conference is due to be held next year. The 1300-kilometre pipeline – of which 420 km is in Croatia – is slated to cost some three billion euros. Capacity is expected to be between 440 million and 660 million barrels a year.

Croatia also has big ambitions with regard to sustainability. In view of its candidate status for EU membership, Croatia aims to reform its energy sector in line with EU directives for sustainable energy where possible. The country's Energy Strategy stipulates that national energy consumption should be reduced by 20 percent by 2020 through greater energy efficiency and sustainable power use.

Alertonline's Kranur Kartus feels that more attention should be paid to sustainable

sustainable energy production from the projects that have been set up over the last few years.'

Pesut maintains that the key issue in Croatia is that the country – like its counterparts from the former Yugoslavia – is having problems in reforming its energy sector. 'We're experiencing the same problems as every other country in transition. We're five years behind when it comes to setting up new institutions and structures to modernise our energy sector. It's not easy to transform a monopoly sector in one go. The situation isn't dependent on the planning but on the implementation of new energy legislation and strategies.' In this context Croatia's status as EU candidate country constitutes a good incentive, the advisor on energy believes. ■