

Southeast Europe is seeing an explosion in hydropower investment as developers finally wake up to the potential of the last unexploited rivers in Europe. However, inadequate regulation and oversight of the sector are raising concerns about both the environmental impact and whether these investments are sustainable, especially given the expected impact of climate change in the coming decades, which is being so vividly illustrated by the current Lucifer heatwave that is bringing scorching temperatures across Southern Europe.

The hydropower resources of most Southeast European countries, especially those in the Western Balkans, are relatively untapped compared to the intense development of the great rivers of Western Europe. Data from the International Hydropower Association shows that unlike most world regions, Europe is already using the lion's share of its hydropower potential, but this is not yet true for the southeast corner of the continent, even though on average countries in the region have more water per capita than the EU member states. The region is home to the Vjosa in Albania — considered to be the last wild river on the continent — and many smaller rivers that have also escaped any major changes to their natural shape, such as the construction of dams or flood barriers.

This is changing dramatically, however. While comprehensive data is hard to come by, research by the Save the Blue Heart of Europe campaign, set up to save the rivers of the Balkan peninsular where “the Blue Heart of Europe beats”, shows that a staggering 2,700 hydropower installations, large and small, are either planned or under construction in the Western Balkans and Bulgaria. An interactive map prepared by the NGO shows dams are planned on every major river in the region, with hundreds more on smaller waterways. “Literally on every kilometre there is a project,” says Ulrich Eichelmann, CEO of NGO Riverwatch and coordinator of the Blue Heart of Europe campaign.

This is not surprising given that the region has a history of hydropower use, although most governments and private investors have lacked the funds to fully exploit the potential. Albania generates all of its electricity from hydro, which accounts for more than a third of power generation in Bosnia & Herzegovina, Croatia and Montenegro. A combination of hydropower and coal is frequently used in countries across the region.

Aside from the state utility companies, some foreign investors have also entered the region. In Albania, Norway's Statkraft has been developing the Devoll River Cascade under a concession agreement with the government. However, a spokesperson for the company told bne IntelliNews that it has “no current plans for new investments in the country. The reason for this is strategic”.

London-based Aliquantum Energy picked Serbia for its first investments in the region where, according to its website, “around 60% of the economically viable hydropower

potential still awaits investors”. Other private sector international investors in Southeast Europe’s hydropower sector include Austria’s Energy Eastern Europe Hydro Power and the Kelag group, as well as companies from Italy and Germany. International financial institutions such as the World Bank and European Bank for Reconstruction and Development have also supported the sector.

This is generally welcomed by local authorities in countries like Albania where, says Alessandro Bosio, co-founder of Hydev, a Tirana-based company that develops hydropower projects in the Western Balkans for foreign investors, “the potential is still very high but most local companies have simply no money to build, so it’s a perfect field for foreign investors”.

Another factor supporting development of the sector is that the countries in the Western Balkans are all aspiring EU member states whose commitments to the Energy Community Treaty include setting a target of generating 20% of their energy from renewable sources by 2020 (the same as in EU member states). In most of these countries the plans are almost exclusively for more hydropower rather than other forms of renewable energy.

Drying up

On the other hand, the sheer number of hydropower installations being considered has raised concerns that this growth may not have been well planned or coordinated. Another issue coming up for hydropower investors is that global climates are changing, a particular issue in the hydropower sector where the average life of a plant is three decades or more. The Western Balkans is no exception to the threat of climate change, which could see global temperatures rise by as much as 4°C by the end of this century. In fact, a World Bank study identifies the region as one of the planet’s warming hot spots, characterised by frequent heat waves, a 20-30% decline in rainfall (under a 4°C warming scenario) and a 20% increase in drought days.

Hotter, drier summers like that being experienced this year, with temperatures soaring toward 40°C, are likely to become the norm in Southeast Europe if global warming continues. A report from German development agency GIZ, which is carrying out a seven-year study of climate change adaptation in the Western Balkans, forecasts that “Albania, Kosovo, Macedonia and Montenegro, as well as Serbia, will be particularly vulnerable to the negative impacts of climate change.” Across Europe, deaths caused by extreme weather could reach 152,000 a year — 50 times the current level — by 2100, according to research published by The Lancet Planetary Health on August 5.

The growing threat of climate change requires governments and investors alike to take projections of changing weather and climate patterns into account when making decisions,

yet many appear to have neglected this. The lack of data makes this more difficult; in some parts of the region investment decisions are being made based on data from as far back as the 1960s.

While fluctuating annual temperatures and rainfall make it difficult to track climate changes in the short term, there are anecdotal signs of the changing climate in the region.

Earlier this year, the Jablanica reservoir in Bosnia dried up almost completely, highlighting the issue as images of a long submerged cemetery on the lake bed were published in local and international media. Worryingly for Bosnia's energy security, the reservoir dried up in January, the month of peak energy demand. Six months later, wildfires were raging along the coasts of Albania, Croatia and Montenegro, threatening the suburbs of Croatia's second city Split and high-end tourist resorts on Montenegro's Lustica peninsular. Three years ago, large parts of Bosnia and Serbia were devastated by the worst flooding on record, a disaster that has also been linked to climate change.

Data on power generation has been mixed recently. Favourable conditions in Albania in 2016 allowed the country's main power producer KESH to boost generation to the highest level since 2010. On the other hand, data from Bosnia and Croatia this year shows a fall in hydropower generation in the first half of 2017. Given that rainfall patterns fluctuate from year to year, it's impossible to make inferences about climate change from short-term data. However, studies forecast that over the next few decades generation capacity could be hit by climate change.

"Hydropower, which plays an important role in the region's electricity supply, will be at risk. In Albania for example the annual average output from large hydropower plants could be reduced by 15% and 20% for smaller plants," says the World Bank report, "Turn Down the Heat: Confronting the New Climate Normal".

"Accompanying the expected decreases in annual river discharge and changing seasonality of river flows, overall hydropower production in Europe including the Western Balkans is expected to decrease by 1.66 TWh, or 1.43 percent compared to 2005 production levels," says another report by GRID-Arendal, a Norwegian agency set up to support environmentally sustainable development, citing a 2012 study. Another study looking specifically at Croatia forecasts that energy generation from hydropower could decrease by 15-35% if global temperatures increase by 4°C.

"The temperature signal is clear in the western Balkans - it has been warming and you can also say that the region as a whole has also received less precipitation compared to 50 years ago, although when you look more closely within the region, some countries and areas are receiving more, some are receiving less. The projections into the future are all quite in

agreement though – it will get drier,” says the leader of GRID-Arendal’s polar and mountain environments programme, Björn Alftan.

“Countries with more than about one-third hydro in their energy mix are already having problems with climate change,” Pippa Gallop, research coordinator at Bankwatch, tells bne IntelliNews.

In the Western Balkans, “Rainfall has been hugely fluctuating in recent years because of the changing climate, and so I think a lot of these countries should be very careful about increasing the share of hydropower in their mix. If you have a dry period, the amount of electricity production really can go down significantly,” Gallop adds.

Eichelmann warns that lower or more unpredictable rainfall is a particularly big problem for small HPPs; 92% of all the projects identified by the Blue Heart of Europe campaign are smaller than 10MW. As weather patterns change, with more downpours, alternating with long dry periods, unlike larger installations they can’t store large amounts of water. “These are especially sensitive to climate change issues because you don’t have big reservoirs,” he explains.

Regulation and corruption

Bosio is less convinced that climate change will result in major problems for the sector. “I believe in climate change and sustainable development, but I haven’t seen a dramatic trend in falling water levels,” he says. He believes that while water levels fluctuate from year to year, the region is likely to be less affected than higher mountain areas such as the Alps or Caucasus where many rivers originate in glacier melt, and considers a bigger issue in the region is poor or poorly enforced legislation.

“What is missing in Albania and some other countries is simply a law that regulates the ecological flow and so on, there’s no law and no law enforcement,” he says. “The producers are quite free to do what they want, taking all the water and drying up a significant portion of the river, so the issue here is to regulate the ecological system when you give a concession to use the water for hydropower. In other European countries like Italy, you can’t take all the water in the river for hydro.”

Others have raised concerns about the unchecked development and lack of law enforcement creating strong possibilities for corruption.

Eichelmann refers to high levels of corruption in the sector, claiming that while few criminal cases have been launched, “the money being offered is crazy” and the existence of corruption in Albania and other countries “is common knowledge”. This is aided by the fact that new HPPs are being planned “in remote areas of remote countries”.

While hard evidence in the sector in the Western Balkans is difficult to come by, this does fit

a pattern seen in other countries, particularly mega-dam building projects in the developing world. The size of some projects, coupled with the need to handle issues ranging from environmental protection to resettlement and compensation of local populations, open up great scope for corruption.

Albania saw a period of wild development of its hydropower resources in the 1990s and 2000s, when Sali Berisha was first president and later prime minister. Many of the projects initiated under Berisha, in the energy and other sectors, were cancelled when Edi Rama from the rival Socialist Party came to power in 2013.

Several high-profile cases have been launched concerning the sector in Albania, such as that involving a €235mn project on the Vjosa launched by Italian investor Francesco Bechetti and financed by Deutsche Bank. After the project failed, the Albanian authorities sought to have Bechetti extradited from the UK, where he is the president of Leyton Orient football club, to face trial for suspected involvement in a money-laundering scheme related to the project. However, this request was turned down by a British court.

Another scandal erupted around the Albanian politician Ilir Meta, who recently became the country's new president. Former economy minister Dritan Prifti has accused Meta of asking him to favour a business in the tender procedure for the Egnatia Shushice hydropower concession. This was backed up by hidden-camera footage that appeared to show Meta trying to corrupt a hydropower concession. However, the High Court in Tirana acquitted him in 2012 due to insufficient evidence.

Albania is not the only Balkan country where the ownership of projects has been questioned, and the links to top officials highlights the lucrative nature of the sector.

In Montenegro, relatives of Milo Djukanovic, who has served as either president or prime minister for most of the last 25 years, are deeply involved in the hydropower sector.

Djukanovic's son Blazo Djukanovic is the owner of BB Energy, which is carrying out the Slatina and Vrelo hydropower projects, while his godfather Vuk Rajkovic is linked to Synergy, which holds the concession for the Vrelo project and, indirectly, the Bjelopoljska Bistrica HPP. More projects are financed by Prva Bank, known locally as the Djukanovic family's "private ATM".

Environmental groups fight back

Given this top level involvement in several countries, it is small wonder that opponents to hydropower developments, especially those in protected areas, has struggled.

It's not clear at this stage how many of the mooted 2,700 installations will actually go ahead, and several major projects face strong opposition from environmental campaigners. While hydro is generally considered an environmentally friendly form of energy, building

dams has a major impact on rivers by blocking silt from flowing downstream — causing erosion close to the river mouth — and at the same time preventing species from navigating the river.

This has brought the efforts to develop the Vjosa, home of the endangered huchen (Danube salmon), and other rivers in the region to international attention. “The region is very valuable in terms of biodiversity, and most of those valuable areas are not protected at all. There are a lot of plans for hydropower plants in areas where they just wouldn’t be allowed in the EU because of the habitat and species that are present,” says Gallop.

“The rivers in the Balkan peninsula are probably the most valuable remaining rivers in Europe, and for certain a global biodiversity hotspot,” agrees Eichelmann. The Blue Heart of Europe campaign’s research has found that 30% of rivers in the region are in a pristine or near natural state, with a further 50% having good or acceptable status, which Eichelmann says is “extraordinary, outstanding within Europe”.

The NGO is trying to build awareness of the issue, stressing that governments have a choice: “Do you want Balkan salmon, or do you want dams?”

It had a significant victory earlier this year, winning in the first instance after it filed lawsuits against plans by the Albanian government working with Turkish companies, to dam the Vjosa. This was unexpected, says Eichelmann, alluding to Albania’s notoriously corrupt judicial system (wide-reaching reforms are in progress but vetting of judges and prosecutors has not yet been launched). Since the initial verdict, however, the government has filed an appeal.

Environmentalists also won a long battle in Bosnia in 2015, when plans to build two large hydropower plants were dropped. The dams, to the north of Banja Luka, were originally planned back in the 1990s and the Coalition for Vrbas River Protection, which mobilised to block them, argued that they were now going ahead with no effort to look into the impact on the local environment despite being planned in what is now a protected area.

Looking forward

Hydropower certainly has a strong role to play in the Western Balkans, and this is set to continue. Plans to boost renewable energy generation are almost all based on a hike in hydropower production, with other forms of renewable energy generation like wind and solar playing only a small part.

“They have this attitude that renewables like solar and wind are the side salad, not the actual meal,” says Gallop, adding that most have not internalised the fact that solar and wind costs have fallen dramatically in recent years. “These factors – and unfortunately corruption and special interests are playing a role too – mean they stick to what they know:

coal and hydro.”

She advocates a more balanced mix than the current hydro/coal combination, incorporating wind and solar energy as well, which so far are little used in the region.

“From an energy security point of view, increasing hydro in countries that already produce more than a third of their electricity from hydro is unwise,” Gallop stresses. “Even though wind and solar are intermittent, much more diversity is needed because hydro — which was quite reliable — is now less and less so, as we really cannot tell when the rainfall is going to be. The governments in the region haven’t internalised this at all.”

Source: intellinews