

Swans glide peacefully over green river waters in the central Croatian area of Karlovac, a tranquil spot popular with fishermen and swimmers that environmentalists fear could be devastated by hydropower projects.

Croatia faces a dilemma as it produces no more than 75 percent of the electricity it needs for its 4.3 million people each year, half of which comes from its dense network of rivers. But to build on its self-sustainability risks damaging the appeal of these picturesque waterways, in a country where tourism brings in 18 percent of gross domestic product (GDP).

In 2016, the Karlovac region alone brought in almost 300,000 tourists.

Several dozen small hydroelectric power projects are now planned across Croatia, built by either the state-run HEP national energy group or private companies.

Activists fear they will have a far-reaching negative impact in a country that prides itself on its pristine nature.

“Small hydro plants are nothing but misleading to the public, since it is implied that their impact is small,” said Irma Popovic Dujmovic from the local branch of environmental watchdog WWF.

“In fact, their impact on small rivers is the same as the impact of large plants on large rivers, notably if dams are constructed,” she said.

In Croatia, the situation is most critical in Karlovac, known as the “town on four rivers” — one of which has already been damaged by hydropower.

“The Lesce plant killed the Dobra river. The Korana, Mreznica and Kupa (rivers) are now at stake,” said Denis Franciskovic of Eko Pan, a Croatian environmental group.

- ‘Significantly fewer fish’ -

The large Lesce plant was inaugurated in 2010 — the first in the former Yugoslav republic since it became independent in 1991 — with the aim of boosting economic activity in an area particularly hard hit during the 1990s Balkan wars.

But barely a year later, authorities named a special team to deal with the plant’s damage after it flooded a 13-kilometre (eight-mile) stretch of one of Croatia’s most beautiful canyons.

Zeljko Capan from a local fishing club said he and fellow fishers had noticed “significantly fewer fish” since the plant was installed.

“We should concentrate on tourism. What else is there to do in Karlovac and its region?”

Eight small hydropower plants are now planned in the area, where unemployment is high and communities are trying to revive their economies with activities for visitors such as canoeing and rafting.

Forty percent of the region is also in Natura 2000, a European Union network aimed at protecting biodiversity across Europe.

Officials acknowledge that the Lesce plant's construction, based on a 1985 environmental impact study, gave hydropower a bad name, but say lessons have been learned.

"The environment will not be destroyed, it will be preserved," said Marinko Maradin, head of Karlovic's department for spatial planning and the environment.

Hydropower has been used in the region for centuries without devastating nature, he said. "There is almost no waterfall without human intervention, from old watermills to modern plants."

- 'Dangers are real' -

Advocates of small-scale hydropower emphasise the need to stabilise and distribute the system, bringing production facilities closer to consumers.

Croatia's accession to the European Union in 2013 has also helped to improve regulations in the sector.

But the financial benefits for local communities are often small. The town of Ozalj in central Croatia, for example, gets less than 10,000 euros (\$10,500) annually as compensation from a plant on the Kupa river.

Nikola Zivcic, a 57-year-old resident of the tiny town of Slunj on the Korana river, is worried about two plants planned in the area known for its picturesque watermills and waterfalls.

"The benefits (of the plants) are small or negligible while dangers and potential damages are real," Zivcic said, stressing that tourism was crucial to the town's survival.

Concerns about new projects go beyond Croatia's borders and across the Balkans, where there is a "tsunami" of plans to construct more than 2,000 plants in the next few years, according to Franciskovic.

"The blue heart of Europe is at risk of a heart attack," warns Balkan Rivers, an ecological campaign group.

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