

Do small hydropower plants have ecological status in Lithuania?

Ten small hydropower plants were selected, and the ecological status of water bodies was assessed in different parts of Lithuania. The studies were performed at the riverbed upstream from the SHPs, where the hydrological regime has not changed, and downstream from the SHPs.

What are the characteristics of a small hydropower plant in Lithuania?

SHP characteristics. Lithuania is a low-lying country; therefore, the country's small hydropower plants are mostly low-head (up to 5 m) or medium-head (between 5 and 15 m). These plants operate on a run-of-the-river basis but involve relatively large water storage.

Do small hydropower plants affect macroinvertebrate composition?

However, dams of small hydropower plants (both low-head and medium-head) had a significant but local impact on the macroinvertebrate composition in these rivers. Surveys were carried out on SHP dams of different heights in Lithuania in four rivers of the third to fourth order.

Do small hydropower plants outweigh large hydropower?

However, the results of investigations of cumulative biophysical effects of small (<50 MW) and large hydropower plants in China's Nu River basin reveal that biophysical impacts of small hydropower may outweigh those of large hydropower, particularly with regard to habitat and hydrologic change.

Do small hydropower plants affect environmental conditions?

The impact of large HPPs on the ecological conditions of surface water bodies have been extensively studied, but less attention has been paid to environmental impact studies of small hydropower plants (SHPs).

Are small hydropower plants sustainable?

The construction capacity of large hydropower plants (HPPs) is currently limited, but the construction of small hydropower plants (SHPs) is considered a renewable and sustainable energy supply alternative [5,6] with a minimal impact on the environment [7,8,9,10].

Small hydro contributes 0.25% to the electricity mix in Lithuania and the total hydro contribution is not significant--about 3% of total electricity generation. Small hydro and total hydro contributions to renewable energy-based electricity production are dominant in Lithuania (11.2% and 88.9%, respectively).

The small hydropower plants change the regimes of suspended solids, particulate matter, and nutrients in Lithuanian rivers. Our studies show that small hydropower plants do not affect the physico-chemical values of water ...

While other European countries have widely invested in this technology, Lithuania and other Baltic countries

are still behind with their potential development rate. A search for potential micro-hydro sites was carried out, and a methodology for assessing water resources for an ungauged wastewater network is proposed herein.

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To assess the change of hydropower resources of Lithuanian rivers in the past (1961-2020) and in the near (2021-2040) and distant (2081-2100) future, to study the impact of small hydropower plants on the hydrological regime of rivers, and to develop recommendations for the efficient use of hydropower resources in respect to

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