WORLD SMALL HYDROPOWER DEVELOPMENT REPORT 2013

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SLOVAKIA
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European Small Hydropower Association, Stream Map; Jana Imrichova, United Nations Industrial Development Organization

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Electricity sector overview

In 2011, Slovakia produced 28,135 GWh and imported 727 GWh more electricity than it exported (from neighbouring countries).³ The energy mix of Slovakia is very heterogeneous with the majority covered by two nuclear plants, followed by gas and fossil fuels and finally renewable sources (figure 1).

At the national level, Slovenské Elektrárne is the biggest electricity provider with coverage of 82 per cent of the country’s generation market. It is the main supplier of electricity for the three biggest regional distribution companies in Slovakia (ZSE, Západoslovenská energetika, SSE, Stredoslovenská energetika and VSE, Východoslovenská energetika) and also supplies electricity to large businesses.⁴ Due to the closure of some nuclear reactors, the country has gone from being net exporter to net importer of electricity.

Small hydropower sector overview and potential

In 2010, Slovakia had 279 small hydropower plants and a total installed capacity of 80 MW, generating 303 GWh per year (figure 2). By 2020, the aim is to have 380 plants with a total installed capacity of 140 MW generating 443 GWh. Among the existing hydropower plants, an installed small hydro capacity of 32 MW is privately owned. Sixty MW is planned over next 10 years. Most small hydropower planned is located on rivers Hron and Vah.⁵

![Figure 2: Small hydropower capacities in Slovakia](source_stream_map)

Note: Potential is based on planned capacity by 2020.

Up to the end of the last ruling Government, there had not been sufficient support from the State for small hydropower as 50 per cent of the renewable energy sources support was directed to solar power plants, causing an unprecedented boom (480 MW in photovoltaic plants) and a significant rise in electricity prices. This widely criticized policy was abandoned by the new Government and better times for small hydro are expected.⁵

The following relevant strategic documents have been issued since 2007:⁵

- The Concept of Utilizing the Hydropower Potential of Water Courses of the Slovak Republic until 2030.
- Resolution No. 178/2011 of the Slovak Republic. The significance of this last document is to be emphasized as it represents a detailed inventory of all existing and planned plants with their main parameters and assessment of environmental constraints included.

The Government is committed to achieve the 2020 target using the hydropower sector as a significant component of the renewable energy mix. This commitment can be clearly seen in the hydropower development master plan – a highly competent and comprehensive document developed by the Research Institute of Water Management which was recently adopted by the Slovak Government as a National Policy Strategic Act (Resolution No. 178/2011). It can be seen from this and other official documents that the plans for
further large hydro development on the Danube and Váh rivers are consequently supported and small hydro is ever more welcome.5

Renewable energy policy
Slovakia has encouraged renewable projects by offering tax incentives and keeping current feed-in tariffs relatively low. The renewable energy target of Slovakia by 2020 is 14 per cent of energy consumption, according to its National Renewable Energy Action Plan (NREAP).6 The electricity from renewable sources is promoted through a feed-in tariff, based on the Renewable Energy Sources Act No. 309/2009 (Act on the Support of Renewable Energy Sources). In December 2010, the Slovak Parliament adopted an Amendment to the Renewable Energy Sources Promotion Act. Effective of 1 February 2011, only solar rooftop facilities or solar facilities on the exterior wall of buildings with capacity not exceeding 100 kW are promoted in the form of additional payment on a feed-in tariff after the Amendment to the Act.7

Legislation on small hydropower
Small hydropower plant owners enjoy additional payment for electricity supplied within the period of 15 years from putting the facility into operation or from the year of reconstruction or upgrade of a technological part of the facility. The energy price resulting from additional payment is calculated as a percentage of the base price announced by the Regulatory Office of Network Industries (URSO). The typical value of the base price is 6-11 euro cents/kWh depending on plant capacity. URSO establishes the price individually for each facility based on the submitted proposal, taking into account various factors, including time passed since the re-commissioning and investment assistance have been granted. The support is granted in full value for power plants with capacity up to 10 MW. In case of higher capacities, the additional payment is granted for electricity production from the 10 MW.

Barriers to small hydropower development
The small hydropower sector in this country is relatively weak compared to large hydro. There is also no representation of the small hydropower sector in Slovakia although some efforts to establish a national association have been reported by the Hydropower Association of the Czech Republic.5

Small hydropower projects with capacity over 5 MW; dams with leveling height of over 3 metres as well as reservoirs of sufficiently high volume capacity or free surface area may be subject to an EIA or ascertaining procedure. In case of erecting a small hydropower plant without changes in the civil engineering structures, water authority consent is sufficient. If the installed capacity exceeding 1 MW, a declaration of project compatibility with the long term energy policy concept is required.5

In the past few years, there has been stronger opposition against further development of cascades at some rivers.5

References