



ON SMALL HYDROPOWER DEVELOPMENT IN UKRAINE

Policy on the development of renewable energy sources in Ukraine should take into account not only the current energy needs and compliance with international obligations, but also protection of future generations' interests and provision of a safe and healthy environment.

Adoption of the Law of Ukraine "On Amendments to some Laws of Ukraine on Establishing a Green Tariff" (No. 601-17 dated September 25, 2008) stimulated large-scale planning and implementation of "green" electricity generation projects, including small hydropower.

Since 2008, NO national strategy or plan for the development of small hydropower plants (SHPPs) in Ukraine has been developed. There are no realistic environmental regulatory requirements to the construction and operation of SHPPs. Planning of SHPPs on the local level is chaotic. Cumulative impact of SHPPs on environment, better environmental options, efficiency issues and risks for communities are not considered.

Besides this, the majority of SHPPs projects, especially in mountain areas, are implemented and operated with violations of environmental and construction legislation. Local communities are often under the pressure of project lobbyists. EIAs are not done according to best practice and therefore usually do not reflect the real situation. Environmental mitigation and compensation measures (such as fish passes, habitat restoration etc.) are not implemented within the framework of the SHPPs projects.

Despite the high impact of SHPPs on the river environment and ecosystem services, public money in the shape of green tariffs is driving further development and the provision of financial support is not linked to environmental and social conditions.

As a result, the uncontrolled construction of SHPPs in Ukraine leads to the extinction of unique fish species and most aquatic organisms, deterioration of water quality in the rivers, changes in hydromorphological regimes, drainage of rivers, etc. It also creates social tensions in the region and can lead to environmental disaster.

WWF in Ukraine states that further development of SHPPs should be regulated by governmental policy, which ensures transparent and balanced planning procedures and compatibility with international and national environmental legislation. Environmental conservation must be guaranteed. The following principles should be applied:

1. Strategic documents and a plan for the development of SHPPs in Ukraine should be developed at the state level. All stakeholders, including NGOs, research organizations and businesses, should be involved in development of the strategic documents. The main goal of the strategic documents is to achieve a reasonable balance between opportunities-needs-consequences. To achieve maximal electricity generation by any means is not acceptable and SHP is among the least efficient ways of energy production to start with. The strategic documents must take into account environmental and social aspects
2. Use of SHPPs in hydropeaking mode of electricity production for covering peak loads should be legally prohibited. This will prevent the formation of artificial floods caused by discharges of large volumes of water through the hydro turbines and drying up of the river bed due to the water accumulation in the power plant reservoirs during the period of electricity consumption reduction

SHPPs of Ukraine due to the small share (up to 0.3%)<sup>1</sup> in the overall energy balance cannot significantly affect the country's energy supply. The potential of SHPPs in regulating electricity production is sufficiently low to cover peak loads..

*Statistical Yearbook of Ukraine, 2016. State Statistics Service of Ukraine, Kyiv, 2017 – p.257*

3. The number of free-flowing rivers in Ukraine is decreasing day by day, leading to constant decline in biodiversity and ecosystem services for local communities. That is why natural free-flowing rivers should be conserved and protected from anthropogenic pressure. Areas of high conservation value should be defined. **«No-go areas» should be declared and legally protected. SHHPs construction in these areas should be banned**
4. In order to prevent the negative impact on the nature protected areas, construction of SHPPs should be prohibited both in the nature protected areas and upstream on rivers that flow through nature protected areas
5. The strategy for SHPP development and the Strategy for flood regulation in Ukraine should not be combined or connected - SHPPs are not technically suitable to provide anti-flood functions

Ensuring reliable flood protection and hydropower development in the region by using the same method is impossible. These issues are incompatible and not related to each other. Storage reservoir should be empty for flood regulation purpose. In case of SHPPs, the storage reservoir must be at least partially filled.

*National Tisza River Basin Management Plan, 2012*

6. The following normative documents on design, construction and operation of SHPPs should be transparently developed with the involvement of NGOs and scientific organizations:
  - Environmental Regulatory Requirements for design, construction and operation of SHPPs;
  - Normative documents (DBN, DSTU, etc.) on design, construction and operation of SHPPs and reservoirs that correspond to current legislation and take into account characteristics of the lowland and mountain rivers, etc.
7. For SHPPs projects that do not fall into “no go” areas and those that have already been constructed, modern environmentally-friendly solutions and effective environmental mitigation/compensation measures must be developed and implemented, for example:
  - technological: fish passes that allow fish to go in both directions, remote automated control of the minimum sanitary water level, SHPPs without dams, etc.
  - organizational: a minimum sanitary river water level should be guaranteed. Runoff control during the flood and dry water periods should be reviewed monthly in accordance to meteorological forecasts with the involvement of scientific organizations and NGOs
8. Each SHPP should be implemented and operated in accordance with the national legislation
9. The process of involving commercial organizations into SHPPs projects should be on the tender basis with obligatory transparent public participation process. **Any pressure on local communities should be banned!**
10. Nano-SHPPs (up to 20 kW) is a perspective direction for SHPPs development in Ukraine. Nano-SHPPs can be implemented on industrial runoffs and existing reservoirs of lowland rivers for local electricity supply to households, farms, hotels, etc. in combination with other RES
11. The possibility of public control over proper operation of SHPPs should be developed and legally approved (in particular, “dogwatch” group on a minimum sanitary river water level and satisfactory operation of fish passes, etc.)
12. The conditions for granting “green tariff” support to small hydropower plants should be revised

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