



Hydroenergia 2008, On the Crossroads

Conference Conclusions

Hydroenergia 2008 was held for the first time in one of the new Member States of the EU, Slovenia, which was chairing the European Council Presidency in the first half of 2008. Co-organized by the European Small Hydropower Association (ESHA) and the Slovenian Small Hydropower Association (SSHA), the conference gathered over 250 leading experts from the small hydropower sector covering 36 countries in the beautiful town of Bled. This year's program focused on two crucial issues: The role of small hydropower within the EU Energy and Climate Package and Sustainability.

The conference included more than 50 presentations from distinguished speakers representing views from industry, research institutes, the European Commission, NGOs and governments in 12 sessions with the key focus on:

- Policy framework
- New opportunities and image
- Environmental and technical solutions and
- Planning, engineering and innovations

In parallel, a two-day exhibition with 21 exhibitors and sponsors was organised. This included presentation of machinery and electrical equipment for small hydropower schemes, including construction materials and engineering solutions.

OPENING SESSION

Hydropower as the backbone of renewable energy supply for the EU

Janez Potočnik, EU Commissioner for Science & Research, opened Hydroenergia 2008 by acknowledging the importance of hydropower as the backbone of renewable energy in many EU Member States and the inherent research need to ensure further technological development. With more than 17,800 small hydropower schemes and a total of installed capacity 12,333 MW in EU-27, the SHP sector plays an important part in meeting today's urgent need for clean energy.

In his welcoming speech, Bernhard Pelikan, ESHA President, emphasized the importance for the SHP sector of regularly getting together to exchange views and best practice. The Hydroenergia conference tradition started 20 years ago in Spain.

Marko Gospodjinački, the host of the event and the SSHA President, presented key developments in the Slovenian Energy Law and its impacts on SHP development. The new law includes many changes affecting the energy sector and in particular the RES sector. According to Gospodjinački, it is unlikely for Slovenia to reach the RES target of 25 per cent without increase of investor confidence and removal of administrative barriers. At a European level, the latest developments regarding the new RES Directive on the promotion of the use of energy from renewable sources were brought up by Christine Lins, ESHA Secretary General.

WFD vs. RES DIRECTIVE

Reconciling energy and environmental targets

Finding a balance between the Water Framework Directive (WFD) and the RES Directive remained a prevalent theme in many of the conference presentations. Environmental constraints together with administrative barriers are still the main reason for slow SHP growth rates which have remained constantly at an annual level of 1 %. The requirements set by the WFD, which came into force in December 2000, often add cost and slow down SHP development.

At the same time, Europe is at an important crossroad concerning the future of energy. There is an urgent need for clean energy, a need to reduce dependency on energy imports and a need for increased security of supply. The challenges of climate change caused by CO₂ emissions need to be tackled immediately. For these reasons, in January 2008, the European Commission published its energy & climate package containing a proposal for a Directive on the promotion of the use of energy from renewable sources with a binding overall 20 % RES target. In addition to this, the package also includes a Regulation updating national

greenhouse gas emission targets and a Directive to improve and expand the EU emissions trading system (EU ETS).

As a clean, efficient, emissions-free source of renewable energy, small hydropower's contribution to security of supply, stability of energy prices and climate change mitigation is considerable. The future of small hydropower will partly depend on these two directives being transposed in a correctly balanced manner.

TECHNOLOGY DEVELOPMENT & INNOVATIONS

[SHP industry responds with innovative solutions](#)

Europe has maintained a leading position in the field of hydropower manufacturing ever since the technology started to develop. European industry and research institutes have responded to growing environmental requirements with innovative solutions, for example, with bringing fish friendly turbines to the market. Other environmentally friendly technologies also include fish-pass systems, trash rack management systems, multi-purpose schemes combining electricity production with flood control, irrigation channels, waste water treatment and recreational use.

One session of the conference was dedicated to SHP and fish protection. The WFD requires free migration for fish on all water courses by 2015. This session showed an exceptional quality of research on new fish protection systems. Presentations focussed on the results of long-term research on fish repulsion systems based on infrasound as well as on different fish-friendly turbine concepts developed. In addition to this, simulations on the impact of differential velocity or coverage in the fish passage and impact of fish behaviour were presented.

NEW OPORTUNITIES FOR SHP

[SHP potential and needs](#)

The message at the conference was clear: There are exciting opportunities for SHP in Europe and in the developing countries. The European energy potential for SHP is still considerable, in particular the Balkan region offers excellent opportunities for investment. Great potential can also be found in refurbishing existing SHP sites as this can be done without significant authorisation problems but with substantial increase in power output. This represents a very interesting opportunity for the European industry. The constant technological development of SHP equipment building on an already mature base gives an energy transformation efficiency that is three times bigger than with any other technology!

Moreover, outside of Europe, the ETS (Emissions Trading Scheme) and CDM (Clean Development Mechanism) markets bring new opportunities for the SHP sector. In fact, approximately 90 % of all clean development mechanism projects in China are SHP. The off-grid and stand alone possibilities make SHP very suitable for rural electrification also in difficult circumstances.

However, to exploit the future potential there is a need for:

- Technological research to increase power output and exploitation of so far untapped potential (multi-purpose, low-head sites)
- Research and innovation to increase sustainability
- Skilled workforce; need for education and training
- Removal of administrative and licensing barriers
- Financial incentives, such as feed-in-tariffs
- Promotion and image campaigns

It also seemed that a critically important issue still remained on how untapped potential could be exploited in the most environmentally friendly way.

CLOSING SESSION

Future opportunities and challenges

The closing session of Hidroenergija 2008 focused on one clear goal:

To increase the contribution of SHP in the RES mix towards the achievement of 20% for 2020. Achieving this goal means pushing for strong National Renewable Energy Action Plans, including removal of barriers, establishing national one-stop-shops for licensing and improving financial incentives in the Members States.

The closing session which took a form of a roundtable discussion had an intention to put across conclusions to the national and European decision makers. The closing session panellists included representatives from ESHA (Christine Lins & Bernhard Pelikan), SSHA (Marko Gospodjinački), the Slovenian Ministry of the Environment and Spatial Planning (Sašo Šantl) and Focus NGO (Lidija Živčič). A number of interesting contributions were also made from the audience.

In order to achieve the goal the following recommendations were made. It is important to:

- **Raise** awareness of new innovations and progress made in the sector – inform the decision-makers and local residents in order to improve knowledge of the sector and increase SHP production.

- **Continue** the development of the most environmentally friendly ways of generating SHP electricity. ‘Using the potential of water in a sustainable way is a key challenge of the 21st century’
- **Recognise** that the existing and untapped potential for SHP in Europe is still large (particularly in the Balkan region). This represents a very interesting opportunity for the European industry.
- **Ensure** continued economic incentives to reinforce SHP’s role as a clean, sustainable source of power and to further develop sustainable hydro technology.
- **Remind** all stakeholders that energy efficiency together with renewable energies, with a significant contribution from small hydropower, can offer a solution to the EU’s future energy challenges.

ESHA and SSHA would like to thank all the excellent speakers and participants for a successful and fruitful conference! We look forward to seeing you at the next Hydroenergia in 2010 in Switzerland. In the meantime let’s continue with the development and promotion of SHP as a significant contributor of clean energy!

For more information, please see the full coverage of conference presentations and a photo gallery at <http://www.esha.be/index.php?id=81> and <http://www.zdmhe.si/en/conference-conclusions/index.html>.

HIDROENERGIA conferences are the biggest and most important events for the small hydropower sector in Europe. Leading experts meet to convey knowledge and best practice experiences to investors and professionals from different areas. HIDROENERGIA Conferences are organized by ESHA jointly with one of its Member Associations every two years bringing together the leading professionals of the sector to convey knowledge and best practice experiences to investors and professionals from different areas.