



EUROPEAN SMALL HYDROPOWER ASSOCIATION

Contradictions between the Water Framework Directive and the RES-electricity Directive

Both the Water Framework Directive (WFD) and the RES-electricity Directive have some contradictory impact on the further development of Small Hydropower.

These impacts are closely related to the main targets of the mentioned Directives:

The RES-electricity Directive aims at a significant increase of renewable energy production, including hydropower together with all the other renewable energy sources. The European as well as the national targets are precisely defined and to be reached at a certain deadline. At least on national level some interim results are not really encouraging. The time remaining will have to be utilised intensively in order to achieve the fixed targets.

The WFD finally aims at a good ecological status of all water bodies. In case of heavily modified water bodies, the target is merely a good ecological potential. To reach these targets there are two general and simple obligations:

- any decrease of ecological quality is strictly forbidden;
- any alteration has to increase ecological quality.

The construction of a SHP plant is in any case changing or modifying the water body (river) used. Generally, the starting position is more natural than the final state after the implementation of any project. Even the wide range of ecological mitigation measures may not be able to compensate all the impacts and to avoid any decrease of ecological quality.

The second obligation is even more critical. An increase of ecological quality can only be achieved if ecological deficiencies (flood control, river regulation etc.) exist in the first place. In these cases and only in these an increase of ecological quality combined with new hydropower exploitation is possible (in theory).

Applied on still existing plants any increase of ecological quality will lead to

- additional investment cost
- additional operation cost and

- reduced energy production.

In reality the WFD may influence the future development of SHP intensively and in great variability:

- The erection of new sites will become extremely difficult – in the great majority it will be prevented
- In diversion type SHP the amount of reserved flow (synonymous for residual flow or ecological flow) will be increased (simultaneously with the increase of ecological quality)
- New construction or enlargement of existing fish bypass systems
- Reduction of the distance of the trash rack bars
- Shutdown of small sites due to low profitability

The result of implementing the targets of the WFD related to SHP will be

- Stagnancy of new SHP exploitation to a large extent
- Reduction of the recent electricity production due to reserved flow up to 15%
- Reduction of the profitability of existing plants due to “ecological investment”
- Reduction of recent production due to shutdown

As an indirect result of reduced profitability some projects will not be realised and the overall willingness of potential investors will slow down.

SHP is in many European countries the backbone of renewable energy. The strict implementation of the WFD will in fact cause a remarkable reduction of SHP production combined with higher costs. The targets of the RES-electricity Directive can never be reached in matters of SHP if there is no harmonisation between absolutely different targets.

The modification of some targets of the WFD is urgently needed. In the last decades the SHP scene has become very familiar with ecological demands and is really open to fulfil some requirements, if they can be financed. One of the best possible steps to a compromise is a regulation on how to compensate the financial losses. Other solutions may be found in a more precise definition of some terms in the WFD to make its transposition clear and predictable. Finally, it is of significant importance that the contradictions between different European directives are made obvious. A solution should be found on how to overcome this.

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