

7. Conclusion

The contribution of the NATO SfP Programme for upgrading and wide spreading the zeolitic WWTTs can be considered useful and effective. The project has resulted in (1) a patented zeolite modification method and a WWTT based on modified zeolite addition, (2) pilot- and industrial-scale applications of the WWTT developed at twelve WTPs in Hungary, (3) three scientific papers, (4) eight conferences presentations, (4) six TV presentations, (5) five radio reports, (6) twenty-one publications in daily newspapers and magazines.

Table A: Standard Values and Fines for Effluent Water in the Category of „Other Protected Area” According to the 9/2002. (III.22.) KöM-KöViM Decree

Parameter	Standard value* (mg/L)	Penalty (EUR/kg _{pollutant} *)
COD	75	0.56
BOD ₅	25	2.10
NH ₄ -N	5	2.80
Total-N	15	2,80
Total phosphorous	2	22.40
Suspended solids	100	0.56

Remark: Quantity of pollutant discharged above the standard concentration by WTP

Due to the numerous media presentations, the majority of the Hungarian population is acquainted with the NATO SfP-Zeolites project and realized that NATO has a peaceful mission as well as a military one.

The above results have been jointly accomplished by the University of Florida and the Living Planet Environmental Research, Ltd.. The inventors of the patent are the key scientists of the US and the Hungarian NATO partners. The patentee is 100% the Living Planet Environmental Research, Ltd.

The NATO grant was allocated to the NATO partners:

- University of Florida: 33,465 EUR
- Living Planet Environmental Research, Ltd.: 154,558 EUR

The University of Florida used 20,736 EUR for travel and 12,729 EUR for consumables, as well as the project administration.

The NATO grant made possible for the Hungarian NATO partner to procure a number of scientific instruments and software enhancing the scientific infrastructure in Hungary, improve the international co-operation in the field of zeolite research and biological WWT. The Living Planet Environmental Research, Ltd. spent 102,251 EUR for equipments, 13,116 EUR for computers and softwares, 3,032 EUR for books and journals, 226 EUR for publications, 3,132 EUR for the invitation of foreign experts, 10,804 EUR for travel and conference participation, 13,116EUR for consumables (natural zeolite, chemicals, sprayers) from the NATO grant. The sum of the other costs (patent application, project website, air carrier, zeolite modification and transportation, subcontractors) was 16,642 EUR.

The project and its results were implemented practically in 100% by the NATO partner organizations. The collaborating institutes (IGAC-BTU and CCRI) participated only in the first year of the implementation of project tasks, and presented invoices to the Living Planet Environmental Research, Ltd. in values of 304 EUR (IGAC-BTU) and 950 EUR (CCRI).

The NATO participation in the joint US – Hungarian project however, was more than a simple financial contribution to the project budget. The NATO consultant (Prof. E. Vansant) and adviser (Dr. P.

Raynoud) actively participated in the implementation of the project and its results, and helped “to open the wallet” of decision makers and potential end-user representatives in Hungary. The Hungarian National contribution to the project budget was 48,268 EUR, the direct financial support obtained from the end-users was 21,824 EUR. The end-users’ payment in kind was 24,500 EUR. Contribution of the Living Planet Environmental Research, Ltd. to the project costs was 83,116 EUR.