



Advantages of the Public Water Supply Use for Micro Power Generation

Sérgio Ramos¹ (scr@isep.ipp.pt); António Gomes¹ (aag@isep.ipp.pt); Marílio Cardoso² (joc@isep.ipp.pt); Luís Castanheira¹ (lcc@isep.ipp.pt)¹;

¹ Department of Electrical Engineering, Polytechnic Institute of Oporto, Portugal
GECAD – Knowledge Engineering and Decision Support Group
{scr, aag, lcc}@isep.ipp.pt

² Department of Computer Engineering, Polytechnic Institute of Oporto, Portugal
GECAD – Knowledge Engineering and Decision Support Group
joc@isep.ipp.pt

Instituto Superior de Engenharia do Porto
Rua Dr. António Bernardino de Almeida, 431
4200-072 Porto
Phone: 00351 22 83 40 500 (Ext. 1114)
Fax: 22 83 21 159

Abstract. The public water system consists of several stations water, pumping plants, primary interconnection networks, tanks and secondary distribution networks to final customers.

There are expressive differences of elevation value between the various components of the storage and distribution of water system. Thus, there are high levels of available kinetic energy in these installations.

This work focuses the use of this energy for electricity energy generation, through the integration of micro hydric in public water distribution networks.

Key words: Renewable energy, hydric energy, endogenous resources, micro generation.

References

- [1] Castro, Rui M. G., “*Introdução à energia Mini-Hídrica*”, Março de 2008.
- [2] Penche, Celso, “*Guide on How to Develop a Small Hydropower Plant*”, Thematic Network on Small Hydropower (TNSHP), European Small Hydropower Association – ESHA, 2004.
- [3] Moura, Domingos, “*Aproveitamentos hidroeléctricos de pequena potência*” (preliminary drafting), manuscript text, IST, 1987.
- [4] P. Vilas Boas, Graça Medina, Manuela Portela, “*A metodologia de projecto de uma pequena central hidroeléctrica*”, Seminário Avançado Tecnologias das Fontes de Energia Eléctrica Descentralizadas, IST, Maio 1986.
- [5] Betâmio, A. de Almeida, “*Planeamento de pequenas centrais hidroeléctricas*”, Seminário Avançado Tecnologias das Fontes de Energia Eléctrica Descentralizadas, IST, Maio 1986.
- [6] European Commission, Directive 2001/77/EC for the promotion of electricity from renewable energy sources in the internal electricity market, 27 September, 2001.
- [7] Conselho de Ministros, Resolução do Conselho de Ministros n° 154/2001, 27 September 2001.
- [8] Conselho de Ministros, Resolução do Conselho de Ministros n° 63/2003, 28 April, 2003.