

From Waste to Energy. What is the current contribution of the Portuguese Biogas?

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Abstract

It is a fact that biogas can give a valuable contribution to waste valorization, energy production and environment protection. This is recognized, for example, in the European Union Directive 2009/28/EC on the promotion of the use of energy from renewable sources, which considers “the use of agricultural material such as manure, slurry and other animal and organic waste for biogas production has, in view of the high greenhouse gas emission saving potential, significant environmental advantages in terms of heat and power production and its use as biofuel. Biogas installations can, as a result of their decentralized nature and the regional investment structure, contribute significantly to sustainable development in rural areas and offer farmers new income opportunities”. Despite all this advantages, legislation deficiencies can pose serious obstacles to the development of the renewable energies sector in general and of the biogas segment in particular. In this context, this chapter analyses and discusses the current state and legal framework of the Portuguese biogas sector at the light of the country’s and European legislation on waste management. Some important pieces of international environmental law are reviewed, followed by the identification of the European and Portuguese legal instruments that are related to the production, impacts and management of waste and to the biogas sector. The important link between waste and biogas is highlighted and the value attached to it prized. As far as the potential and current state of the Portuguese biogas production are concerned, despite the fact that the organic effluents are a relevant energy source (873 Mm³ biogas year⁻¹; 4890 GWh year⁻¹) and that new, more favorable, feed-in tariffs were established in 2007, biogas valorization to energy is still at an early stage. The country’s current biogas electricity installed capacity is around 20% of its potential (229 MW). For this reason, and for all the environment benefits of the biogas energy recovery, it is desirable to strengthen the national biogas market.

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