



Evaluation Biomass for Power Distributed Generation in IRAN

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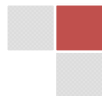
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Abstract

The IRAN has a significant biomass resource, estimated at an annual 20 million tonnes, but only a fraction of this is captured effectively for energy, contributing approximately 4.1% of the IRAN's heat and electricity production. Much biomass combustion technology may be considered as mature, although bottlenecks in the quality and quantity of feedstock are apparent, and further fundamental research is required to increase crop yield in a sustainable manner, with low chemical inputs to ensure efficient energy balance. In the short term, it could be useful for the IRAN to focus on developing a limited number of bioenergy chains, linked to combined heat and power microgeneration and the use of bioenergy for community and public sector projects. This should be linked to a joined up policy and regulatory framework. A clear strategy for land management is also required, since many competing uses for land will emerge in the coming decades, including food production, nature conservation, carbon sequestration, urbanisation and other forms of renewable energy use. This finite resource must be managed effectively. In the long term future, considerable excitement exists about the possibility of new bioscience technologies harnessed to improve photosynthetic gains for bioenergy, including the use of synthetic biology. It may be possible to produce the designer energy plant whose outputs would include high quality chemical and liquid biofuels. Gasification of biomass also requires further technology development.

Keywords: Microgeneration, Biogas resource, Renewable energy, Bioenergy, combined heat and power (CHP).

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