

Content of the handbook

The handbook on biomass gasification consist of the following chapters:

1. Introduction
2. History of biomass gasification
3. Practical aspects of biomass gasification
4. Status of small scale biomass gasification
5. Status of large scale biomass gasification
6. Success stories
7. Status of gasification in Asia
8. Feedstock and fuel feeding
9. Update on gas cleaning technologies
10. Syngas production and utilisation
11. Supercritical gasification
12. Entrained flow gasification
13. Public perception and social marketing of biomass conversion technologies
14. Standardisation of tar measurements in producer gas
15. CO and PAH emissions from engines operating on producer gas
16. Health, Safety and Environmental aspects of biomass gasification
17. Economics of biomass gasification
18. European Union policies for the promotion of bioenergy technologies
19. USA renewable energy policies and incentives



Biomass gasification has the potential to offer a major contribution to meeting the targets of the European Union for CO₂ mitigation. It opens the possibility to utilise biomass from traditional low-efficient systems for heating and electricity by steam cycles to high-efficient bio-energy production by gas engines and combined gas- and steam turbine cycles.

International Networks like the European Gasification Network – GasNet – have been established to provide a world-wide forum for the discussion, exchange and dissemination of information on new scientific and technological developments on biomass gasification for the production of heat, electricity and/or combined heat and power. RD&D projects are reviewed to address technical and non-technical issues that inhibit rapid and widespread implementation of gasification technologies.

This handbook describes the main results of the GasNet project, which operated between May 2001 and May 2004. It contains contributions of experts in different areas of biomass gasification. The handbook is meant to be a useful guideline both to newcomers to the subject and those already involved in research and technology development, as well as for industry, policy makers, investors and end-users.

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