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Achieving carbon-negative bioenergy systems from plant materials

Edited by Dr Chris Saffron, Michigan State University, USA



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This collection reviews advances in producing next-generation biofuels from plant materials. Part 1 discusses technologies such as biomass gasification, fast pyrolysis and torrefaction. Part 2 assesses advances in production of biofuels from crops such as jatropha, oilseeds, *Miscanthus*, switchgrass and willow.

About the editor

Dr Chris Saffron is an Associate Professor in the Department of Biosystems and Agricultural Engineering at Michigan State University, USA. He has published widely in the areas of biofuels, bioproducts, and bioenergy system analysis.

Achieving carbon-negative bioenergy systems from plant materials

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Achieving carbon-negative bioenergy systems from plant materials

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Part 1 Technologies

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2. Fast pyrolysis for biofuel production: *David Shonnard, Olumide Winjobi and Daniel Kulas, Michigan Technological University, USA*
3. Producing biofuels with torrefaction: *Donald R. Fosnacht, Natural Resources Research Institute – University of Minnesota, USA*
4. Production of biodiesel from renewable sources: *Dan Zeng, Daidi Fan, Le Wu and Yuqi Wang, Northwest University, China*
5. Production of biodiesel from oilseeds: *Jatropha curcas: Rahmath Abdulla, Universiti Malaysia Sabah, Malaysia*
6. Production of biodiesel from oilseeds: canola/rapeseed: *B. Brian He and Dev Shrestha, University of Idaho, USA*
7. Sustainable use of *Miscanthus* for biofuel: *Paul Robson, University of Aberystwyth, UK; Astley Hastings, University of Aberdeen, UK; John Clifton-Brown, University of Aberystwyth, UK; and Jon McCalmont, University of Exeter, UK*
8. Sustainable use of switchgrass for biofuel: *John Fike, Virginia Tech, USA; Vance Owens, South Dakota State University, USA; David Parrish, Virginia Tech, USA; and Rana Genedy, Cairo, Egypt*
9. Sustainable production of willow for biofuel use: *M. Weih, P.-A. Hansson, J. A. Ohlsson, M. Sandgren, A. Schnürer and A.-C. Rönnberg-Wästljung, Swedish University of Agricultural Sciences, Sweden*
10. Sustainable use of seaweed for biofuel: *Jay Liu, Boris Brigljević and Peyman Fasahati, Pukyong National University, South Korea*

Part 2 Materials