

2nd International Conference on

Green Energy & Technology

April 08-09, 2019 | Zurich, Switzerland

Production and potentials of Biomass residues and wastes for energy and materials recovery

Ashraf Abdelrahim ¹, Simona Di Fraia ¹, Nicola Massarotti ¹ and Laura Vanoli ²¹University of Naples Parthenope, Italy, ²University of Cassino and Southern Lazio, Italy


The increase in global population, coupled with economic development, had led to rapid urbanization and industrialization, which changed the consumption pattern of the population that ultimately led to the increment in demand for energy and associated services. Biomass residues and wastes are potentially major contributors of resources for energy and material production. Bioenergy can be produced from a variety of biomass feed stocks, including forest, agricultural and livestock residues; energy crops; the organic component of municipal waste; and other organic waste streams. This paper presents regional and global review of potential energy production from biomass residues and wastes, considering the amount of residues and wastes from major sources as well as pretreatment and conversion technologies. Four types of biomass energy sources are included: agricultural and forestry residues, animal residues and urban wastes. The potential biomass resource quantity was computed according to statistical reports and

literature review. In Italy country, residues from agricultural and forest, as well as urban wastes represent a large biomass potential. However, assessment of the national biomass availability is made difficult not only by the current lack of reliable official data, but also by a conceptual point: whether "available" is the total availability of biomass in the territory (potential availability), or whether it is the availability which is technically and economically viable.

Speaker Biography

Ashraf Abdelrahim is a doctoral student on Energy Science and Engineering program at University of Naples Parthenope. He majored in Mechanical Engineering at University of Khartoum, Sudan, and received MSc in Energy Engineering from the University of Khartoum in 2012. His research interests include energy management, simulation and modelling, energy consumption and planning and transition to sustainable energy systems, as well as energy efficient buildings and industry. He is involved in Parthenope's Laboratory of Thermo-fluid dynamics, Energy, and HVAC systems (LaTEC), an environment for experimental research in the above-mentioned areas. His doctoral study has been funded by National Research Council (CNR), the largest research council in Italy.

e: ashraf.abdelkhalig@uniparthenope.it

 Notes: