

Bio-based plastics and nanostructured polymers as promising options for reducing energy use and related environmental impacts

Conférence de l'Institut Coriolis pour l'Environnement de l'École Polytechnique

The production of bulk materials - i.e. chemicals and plastics, steel, nonferrous metals and nonmetallic minerals - is responsible for approximately 20% of global primary energy use and further energy is required for processing these materials to final products. Energy use is a major reason for the environmental impacts caused by industry. It is therefore of great importance to ensure that new materials reduce the burden on the environment. This lecture will present results of energy analyses and of environmental assessments related to the production and use of bio-based plastics and nanostructured polymers. Limitations and weaknesses related to the methodologies will also be discussed. The lecture provides a first understanding whether emerging bulk materials have a potential to reduce our environmental footprint.



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Lundi
21 mars 2011

ÉCOLE POLYTECHNIQUE
Amphithéâtre Becquerel
14 h

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