Forest bio-energy at regional level in Europe: A case study

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Forest biomass has turned out to be one of the most interesting energy sources in the change to a sustainable energy model, because of its consideration as a renewable resource as well as a reducing agent of the greenhouse effect gas emissions. Forest residue can be an energy source to substitute the use of CO₂-emitting fossil fuel. Therefore, the management of the forests can affect the global carbon cycle. Asturias is a region located in the North part of Spain. The natural vegetation is formed by characteristic species of humid areas. Forest biomass is studied like forest residue suppliers and natural key resources for a bio-energy industry. For forest the cleaning is not carried out in a periodic way, mainly because the management of this kind of residue is very complicated as a consequence of the orography and the lack of suitable machinery. Nowadays, in general, biomass residues from cleaning, thinning and forest exploitation (branches, etc.) have no clear application in Asturias. A fraction of the residue due to the nature of the raw material was unavoidable, but improvements in evaluation, operating practices and processing equipment can improve the situation. The results show forest biomass as an alternative energy resource to fossil fuels at regional level.

Biography

J P Paredes-Sánchez is a lecturer in the Department of Energy at University of Oviedo, Spain. He has been associated with energy projects at the Oviedo Higher Technical School of Mining and Engineering since 2007. He is the author or co-author of papers, books and conferences on energy. He is also involved in EU programs for updating renewable energy research and higher education.

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