Supply of Electricity and CO₂ Displacement from Logging Residues

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Abstract

Timber harvest residues are a potential source of biomass that could be used for producing bioenergy and consequently displacing CO₂ emissions from burning fossil fuels. This study estimates the supply curves of electricity generated and CO₂ emissions displaced by substituting coal with logging residues in electricity generation. According to the 2002 Forest Inventory and Analysis data, approximately 35.5 dry million tonnes of logging residues could be recovered annually in the U.S., which could generate about 66 TWh of electricity and displace some 17 million tonnes of carbon. About 82% of the electricity could be produced at a cost of $50/MWh or lower; nearly 80% of the carbon displacement could be achieved at less than $70/t C. The South and Northeast regions would be most cost-competitive for such operations.

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