

SUPPLY CHAIN COSTS OF BIOMASS COFIRING

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Abstract:

In order for cofiring to continue to play a long-term role in a greenhouse gas emissions reduction strategy it must be competitive with other emission reduction technologies. The recent decrease in the cost of competing renewable technologies and the increasingly stringent requirements regarding the sustainability criteria associated with biomass utilisation have the potential to impact negatively the attractiveness of cofiring. The supply chain costs and emissions associated with the production, transportation and utilisation of wood pellets, the preferred type of biomass used in electricity production, are assessed. An estimated levelised cost of electricity and the cost of CO₂ abatement which are compared to solar and wind generation is then used to determine the competitiveness of cofiring compared with other generation technologies. This shows that, currently, cofiring can be competitive with other renewable technologies while its future competitiveness remains uncertain since it is dependent on a number of market and policy factors. Prices for biomass fuels are dependent on the future demand for biomass in emerging markets and the implication of this on internationally traded wood pellet prices. Other factors effecting cost includes future government policy, in particular, the introduction of more stringent sustainability criteria. It is suggested that cofiring can still play a role in a long-term emission reduction strategy especially in areas where the supply is located close to demand.

This presentation is based on a study undertaken for IEA-CCC published in report CCC/286 (May 2018).