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**Inventiveness towards Environmentally Friendly Solutions for Lignocellulosic Panel Products**

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**Abstract**

In order to move to a greener economy, Panel Industry needs to imply convention development and environmental sustainability. The three important measures to characterize environmentally friendly solutions would comprise of 1) the raw material from sustainable sources, 2) minimal waste generation and 3) process conformance with health and safety standards. In a bid to become more environmentally friendly sustainable, Indian plywood Industries Research and training Institute has carried out research on the suitability of fast growing plantations species for the manufacture of wood composites viz plywood, particle board, medium density fiber board, compregs, laminated veneer lumber. These panel products conform to the requirements of Indian standards. Adhesives from renewable sources such as lignin, tannin, soya, black liquor etc. by replacing phenol in Phenol formaldehyde adhesives. Technology for utilisation of various agro and forest residue such as rice straw, rice husk, wheat straw, casurina, chirpine needle, Coir as raw material to manufacture wood alternatives has been successfully developed by IPIRTI. Low formaldehyde or no formaldehyde emission adhesives for panel products that conform to International standards have led to the development of green technology by minimizing the greenhouse gas emissions. Utilising the industrial waste such as fly ash for the manufacture of wood geopolymer composite would be a new insight for the green construction industry. The Efforts made by IPIRTI in innovating green technology/process have stood the Indian wood based industry in good stead for the benefits of people of the country.

**Keywords:** Green technology, Plantations species, Forest conservation, Environment