

Generating electricity with rice straw

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Rice straw is the waste product of growing rice. Normally, it is simply burned adding sooty pollution to the local air and nudging up atmospheric carbon dioxide levels. What if there were a better alternative to simply burning this material? Writing in the *International Journal of Environment and Waste Management* a team from India offer

an alternative. Pardeep Aggarwal and Anu Prashaant of Amity University in Gautam Budh Nagar, India, suggest that rice straw could instead be utilized for power generation or bioethanol production.

Unfortunately, the team explains, some farmers believe that rice straw open burning can remove weeds, control diseases and release nutrients for the next crop. There is little evidence that rice straw burning does anything but pollute. Rice straw length, low elevation land, and even the great distance from farmhouse to farmland are additional factors that influence the field burning of rice straw. Rice straw cannot be used as [cattle feed](#) either and there is very little time between successive crops to do much with the fields other than eradicating the stubble.

In order to make the alternative proposition viable both commercially and logistically, they explain that there is a need for a sustainable supply chain management of rice straw. At the moment, there is but a single 12-megawatt power plant that uses 100% rice straw as its fuel, one million tonnes annually, but that is a fraction of the tonnage of this agricultural waste product. The team points out that the numbers of rice straw power plants in China too is low and actually falling. However, the environmental and [economic benefits](#) of utilizing a ubiquitous [waste product](#) could make power production and bioethanol production tenable given the right geopolitical conditions.

The team concludes from the study that "only when such infrastructure with proactive planning is available, a secured supply of rice straw can be maintained for continuous year-long operations of a power plant."

More information: Pardeep Aggarwal et al. Economic utilisation of rice straw - an effort for preventing social hazard, *International Journal of Environment and Waste Management* (2019). [DOI: 10.1504/IJEW.2019.097606](https://doi.org/10.1504/IJEW.2019.097606)

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