

The W-O-W factor

The success of its recycling initiative in India, known as the WOW program, was the driving force for ITC to install a FibreFlow drum pulper from ANDRITZ. The drum, which processes a wide variety of waste paper types, has been called “a game changer” by mill management.

This is a story of how success breeds success.

The first success is a program called Wealth Out of Waste (WOW). ITC's Paperboards and Specialty Papers Division created WOW to improve the collection and recycling of post-consumer waste.

The success of WOW was the foundation for ITC's next success – an efficient waste paper processing system with the flexibility to handle the volume and diversity of the waste paper collected from the local communities.

ITC is one of India's foremost private companies (USD 7 billion turnover). It has a multi-business portfolio, and is the market leader in the Indian paperboard and packaging sector. ITC is the only enterprise in the world of similar size that is carbon-positive, water-positive, and solid waste recycling positive.

This focus on sustainability brought the WOW factor into existence.

WOW – cash from trash!

India in general has a rather low recycling rate, estimated to be 12-15% of total paper consumed. “On average, an Indian city generates around 2,500 tonnes of waste every day,” says Makarand Barhanpurkar, Head of ITC's Kovai Unit. “We decided to take the issues of waste management, source segregation of waste, and recycling directly to the people to see if we could have a positive influence.”

In the cities where it has been rolled out, WOW has resulted in a 30% reduction in solid waste going to landfills. Says Barhanpurkar, “Our monthly collection of waste paper at this mill is now about 3,500 tonnes. We have the potential to expand this to 5,000 tonnes within a year.”

The success of WOW was a good thing for the Kovai mill, which uses virtually 100% recycled fiber in the production of duplex board. “We have reached a point where 100% of the furnish for the filler layer in our board is produced from domestic waste

paper,” remarks S. Masilamani, Production Manager at Kovai.

However, WOW also created a problem. The incoming waste stream includes plastic laminated papers, foiled and colored papers, and some other very hard-to-process post-consumer products. “Our old batch pulpers could not handle the volume and the quality of the waste paper coming into our mill,” says P. Ravindran, Manager of the Stock Preparation department. “They were constantly plugging, which impacted our downstream equipment as well.”

“Since we installed the drum, we have been able to process highly contaminated waste, something that we could not do before.”

S. Masilamani
Production Manager
ITC Kovai

◀ P. Ravindran, Manager of Stock Preparation Operations with some of the difficult-to-process waste paper.

Drumming up a solution

The mill produces 100,000 t/a of duplex board. About 80% of the machine's production is Grey Back. White Back and other specialty grades, such as cup stock, make up the remainder. “The cup stock was not recyclable in our old batch pulpers,” Masilamani says. “We started to look into drum pulping solutions.”

ANDRITZ's Gary Beckingham, Vice President for Pulping and Fiber Preparation Systems in Asia, visited ITC's head office to discuss possible solutions. “ITC was very interested in our FibreFlow drum pulping technology,” Beckingham says. “They wanted to visit references to see how effective the drum pulper was in handling difficult waste paper materials.”

“When you look at our raw material, you see everything from high-quality pressroom cuttings to the most colored and laminated papers imaginable,” says R. Nandha Kumar, Manager of Engineering at Kovai. “We needed to be convinced that the FibreFlow drum could handle this range of furnish without plugging and without fiber losses.”

How it works ... and works

The FibreFlow drum pulper at the Kovai mill is rated for 300 t/d production. “Our batch pulpers cut plastics into very small bits that were difficult to remove downstream,” says G. Suvegan, Deputy Manager for the Mechanical Department and Project



▲ The discharge end of the 300 t/d FibreFlow drum pulper from ANDRITZ.

(Left to right in front of the FibreFlow drum): Wu Xiaoyan of ANDRITZ China with ITC Kovai's P. Ravindran, Stock Preparation Manager; R. Nandha Kumar, Engineering Manager; G. Suvegan, Project Manager; S. Rajendran, Asst. Stock Preparation Manager; and R. Jose Pray Bell, Asst. Instrumentation Manager. ▶



Manager for the FibreFlow drum installation. “With the drum, plastics and other contaminants come out whole. We get continuous production without much variability.”

“Since we installed the drum, we have been able to process highly contaminated waste, something that we could not do before,” Masilamani says. “We no longer have to deal with plugging and jamming of our downstream equipment. The fiber loss with this drum is extremely low. We can see only plastics coming out of the drum pulper.”

“Now that we have educated ourselves about the full capabilities of the drum, we are in the process of upgrading our downstream equipment to handle the rated capacity of the drum,” says Barhanpurkar.

Another tribute to the drum's flexibility and efficiency is the fact that the waste paper pre-sorting operation is no longer needed. “We used to have about 50 people pre-sorting our imported waste paper, to remove

things that our batch pulpers could not handle,” Masilamani says. “Today, there is no need to pre-sort as the drum pulper can handle just about everything.”

Kovai also added a hot dispersing system from ANDRITZ for the filler layer at the same time the drum pulper was installed. “This helps remove stickies and other contaminants from our filler layer,” says Ravindran. “The level of contaminants has gone down, even with the increased use of lower cost raw materials. The quality of the filler layer has improved.”

“The drum pulper can handle our steadily increasing volume, remove major contaminants intact, and process even the most difficult waste paper streams,” Barhanpurkar summarizes. “Combined with our WOW program, this is a story of success breeding success.”

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▲ S. Masilamani, Production Manager (left), with Makarand Barhanpurkar, Head of ITC's Kovai unit.



▲ High-quality packaging made from Kovai's duplex board.