



# Hindustan Unilever Limited Shift to Biomass Fired Burners

## CASE STUDY



Figure 1: Nashik Biomass Boiler



Figure 2: Orai Burner for incorporation of Vegetable Oil Residue

### Summary

Hindustan Unilever Limited (HUL) has more than 20 manufacturing sites, where fossil fuel is being used to generate steam and hot air for process heating. To minimize our dependence on conventional fossil fuels and reduce CO<sub>2</sub> emissions, the company started focusing on renewable energy opportunities since 2009. Prior to this, only 5 of our sites had biogenic fuel firing. A long-term road map for conversion of major fuel consuming sites was drawn-up. Since then, the company has commissioned 10 biomass fired Boilers and Hot Air Generators in India. Presently, more than 60,000 T of biogenic fuel is utilized annually for our process heating.

### Objective of Intervention

The objective of the case study is to demonstrate the impact of biomass-based fuel usage on CO<sub>2</sub> reduction along deliverance of cost savings.

### Type of Intervention and Location

The intervention is to increase the share of renewable energy in HUL's overall energy consumption portfolio by maximizing utilization of biomass fired fuels and reducing dependence on fossil fuels. The



sites of intervention are the following locations where biomass-fired burners have been installed post-2010. These include biomass fuel-based Hot Air Generators (HAG) and Boilers (BMB): Chiplun (HAG), Goa (BMB), Haldia (HAG), Haridwar (BMB), Hosur (BMB), Mysore (BMB), Nashik (BMB), Orai (BMB), and Rajpura (HAG and BMB).

### **Description of Intervention**

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Since 2009, we have invested more than INR 60 crores in installation of Biomass Fired Steam Boilers and Hot Air Generators. Continuous upgrades are done year on year, wherever applicable, for increasing the uptime and efficiency of the units. In 2–3 locations, where there are coal-fired boilers, we have modified the firing and the emission control techniques to facilitate feeding of briquettes. Apart from conventional biomass based briquettes, we have also developed capabilities to burn process waste. As described in the initial section on best practices, we have been able to tackle the issue of disposal of spent coffee and tea, generation of which are inherent to the production process and cannot be eliminated. We have successfully created a waste to wealth opportunity. With vegetable oil residue firing, we have pioneered the technology within Unilever globally. We plan to replicate this technology wherever viable.

### **Intangible or Tangible Benefit**

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The projects are sustainable, replicable, and economically viable with payback periods lesser than 3 years. This is also substantiated by the fact that we have increased our biomass fuel footprint from 5 sites in 2008 to 15 sites in 2015. Renewable energy share of our manufacturing sites, has increased from 12.6% in 2008 to 28% in 2015 YTD. In 2014, we have emitted 44,924 tonnes of CO<sub>2</sub> lesser than 2008, inspite of growth in production volumes. Quantifying in terms of Fuel Oil, we have reduced its equivalent consumption by more than 17,800 tonnes in 2014 vs 7,460 tonnes in 2008.

### **About HUL**

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Hindustan Unilever Limited (HUL) is India's largest Fast Moving Consumer Goods Company with a heritage of over 80 years in India and touches the lives of two out of three Indians. HUL works to create a better future every day and helps people feel good, look good and get more out of life with brands and services that are good for them and good for others. With over 35 brands spanning 20 distinct categories such as soaps, detergents, shampoos, skin care, toothpastes, deodorants, cosmetics, tea, coffee, packaged foods, ice cream, and water purifiers, the Company is a part of the everyday life of millions of consumers across India. Its portfolio includes leading household brands such as Lux, Lifebuoy, Surf Excel, Rin, Wheel, Fair & Lovely, Pond's, Vaseline, Lakme, Dove, Clinic Plus, Sunsilk, Pepsodent, Closeup, Axe, Brooke Bond, Bru, Knorr, Kissan, Kwality Wall's and Pureit. The Company has over 18,000 employees and has an annual



turnover of INR 30,170 crores (financial year 2014-15). HUL is a subsidiary of Unilever, one of the world's leading suppliers of fast moving consumer goods with strong local roots in more than 100 countries across the globe with annual sales of ₹48.4 billion in 2014. Unilever has 67.25% shareholding in HUL.