

## Combined Heat and Power Potential in India

ECA	Sector	Subsector	[MW <sub>el</sub> ]	[MW <sub>el</sub> ]	Comment	
1	<b>Aluminium</b>			<b>x</b>	No data available to us.	
2	<b>Fertilizers</b>	Nitrogen based fertilizers	1,228	<b>1,228</b>	(estimated el. efficiency 10%, thermal efficiency 75%)	
		Phosphate based fertilizers	x			
		Potassium based fertilizers	x			
3	<b>Iron and Steel</b>			<b>x</b>	No data available to us.	
4	<b>Cement</b>			<b>0</b>	Waste heat recovery only, no CHP possible.	
5	<b>Pulp and Paper</b>	Paper, wood based	642	<b>1,590</b>		
		Paper, agro based (bagasse etc.)	506			
		Paper, RCF based (recycling)	442			
6	<b>Chlor Alkali</b>	Caustic soda	10	<b>388</b>	(Caustic soda: transition of technology away from mercury process)	
		Soda ash (solvay process)	273			
		Soda ash (modified solvay process)	18			
		Soda ash (dry lime process)	87			
7	<b>Sugar</b>			<b>3,500</b>	Source: MNRE	
8	<b>Textile</b>			<b>959</b>		
9	<b>Chemicals</b>			<b>x</b>	No data available to us.	
10	<b>Railways</b>			<b>x</b>	No data available to us.	
11	<b>Port Trust</b>			<b>0</b>	CHP is not applicable.	
12	<b>Transport Sector</b>			<b>0</b>	CHP is not applicable.	
13	<b>Petrochemical</b>	Oil refineries	669	<b>669</b>	To be increased with use of other technologies, such as gas turbine etc. (Estimate: 50% of consumed energy is suitable for thermal generation in CHP plant)	
14	<b>Thermal Power Stations</b>			<b>0</b>	CHP is not applicable.	
15	<b>Commercial Buildings</b>	Hotels	x	<b>x</b>	Large potential for trigeneration assumed. No data available to us.	
		Hospitals	x			
		Malls, office, government buildings	x			
sector not covered by ECA (2001)	<b>Drying industry</b>			<b>x</b>	No data available to us.	
	<b>Food and beverage industry</b>	Rice Mills	Parboiled rice	458	<b>879</b>	(Rice Mills: load factor 0.50)
			Fresh milk	137		
		Dairy	Milk products	179		
			Cooling	x		
			Butter	17		
		Distilleries	Whiskey	44		
	Other spirit		36			
	Breweries		9			
	<b>Total</b>				<b>9,212</b>	<b>MW<sub>el</sub></b>
General assumptions:		Load factor CHP plant	0.92	[-]		
		Electrical efficiency	0.20	[-]		
		Thermal efficiency	0.65	[-]		
Electrical generation capacity estimated based on heat demand of each industrial sector						
Figures are based on latest published production figures.						