

**Summary of EE technologies identified under PAT programme:**

Sl. No.	Name of technology	Applicable Sector (s)	Approximate energy saving potential (%)	Average investment (INR Lakhs)	Payback period (in months)
1.	Micro turbine/Back pressure turbine (HP/MP to LP expansion)	Paper	10%	INR 15-16 lakh	18
		Chlor-Alkali	2-5 %	INR 52 lakh (365Kw Back Pressure turbine)	0.7
		Textile	5 %	INR 50 lakh	12
2.	Scrap Preheating	Iron & Steel	15- 20 %	INR 50 lakh (for small size furnace)	12
3.	Regenerative burners	Iron & Steel	Approx. 20 %	INR 150 lakh (burner cost)	12
4.	Nano-thermal fluid to improve the efficiency of close loop heating/cooling system	Commercial Buildings	25-35%	Depend on case-to-case basis from Rs.15 lakh to Rs. 2-3 crore	For retrofit and New installation- 12-24 Months
5.	VAM( Vapor Absorption Machine) System	Cement	20-25%	INR. 80 lakh for VAM in Cement	24
		Chlor Alkali	1-2 %	INR 60 lakhs per TR	24
6.	Turbo Blowers	Paper Sector	30	INR 2-10 lakh per blower as per capacity	24-36
7.	Increase in AFR (Alternate Fuel and Raw Materials) utilization	Cement Sector	10-15% TSR according to material availability	Rs 7000 Lakhs	48-60
8.	Waste heat recovery from pre-heater outlet	Cement Sector	25-27%	Rs. 1200 lakh/MW	48
9.	Installation of Kiln Shell radiation recovery system in Kiln for CPP (Captive Power Plant) makes up water heating	Cement Sector	30%	Rs. 100 Lakhs	36
10.	Installation of Top Recovery Turbine and Pulverized Coal Injection (PCI) in Blast Furnace.	Iron & Steel Sector	TRTs can produce 15–40 kWh/t-HM	INR 320 Lakhs for 1 MW generation INR 11900 lakh for 1 million T/y production.	20 months for TRT 24 months for PCI.

11.	Direct Rolling in mini steel plants	Iron & Steel Sector	5-9 %	INR 220 Lakh	4
12.	Boiler Conversion: Fluidised bubbling to Spouted bed	Pulp & Paper Sector	10 %	INR 100 lakh	08
13.	Installation of Extended Delignification System for cooking of wood (to reduce steam consumption)	Pulp & Paper Sector	7-15 %	INR 4000 lakh	36-48
14.	Pulser dyeing technique.	Textile Sector	30%	INR 100 lakh	24
15.	Waste heat recovery in centrifugal compressor	Textile Sector	30%	INR 30 lakh	12