



## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure	Sector: <b>CHEMICAL</b>
Year to be filled by BEE	<b>Energy Efficient Tunnel Kiln Furnaces for Re-Baking of Impregnated Electrodes</b>	Technology: <b>PRODUCT HEATING</b>
<p>Description of the energy conservation measure:</p> <p>HEG has installed New innovatively designed Tunnel Kiln Furnace for Re-Baking of Impregnated Electrodes without use of Met Coke (as packing material) &amp; avoiding Large mass of Conventional Baking Furnaces. This Tunnel Kiln Furnaces is a Continuous Type Furnace against Batch Type Old Baking Furnaces. Loaded Kiln car is pushed inside the chamber at regular interval (2 hours).</p> <p>Electrodes are heated in different Temperature Zones in the Kiln as per desired Temperature Curve. These are Preheating, Heating, Pre-cooling &amp; Cooling zones the Hot Flue gases are circulated in these Zones carrying the Heat of Hotter Zone to the next Zone. Burning Furnace Oil in Combustion Chamber produces the additional heat required for makeup; preheated combustion air is fed to this chamber. The Pitch Volatiles emanating during the Re-baking process are passed through a Combustion chamber for incineration. This incineration not only leads to cleaner air into the atmosphere but also generates some heat in process.</p> <p>This technology is therefore very energy efficient and requires very less amount of fuel for heating.</p>		
<p><b>Picture/ sketch/ drawing before modification</b> (if available)</p>		<p><b>Picture/ sketch/ drawing after modification</b></p>
		
<p>Agency that executed the project (with complete address and email): HEG - Project &amp; Design Depts., Mandideep.</p>		
<p>Total investment, Rs.: 4443.1 Lacs</p>		<p>Year of implementation: <b>Feb'2007</b></p>

First year energy cost savings, <b>Rs.: 867.3 Lacs</b>					
First year other savings, <b>Rs.: 239.48 Lacs</b>					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Furnace Oil (kL)	Other
Energy consumption before				210 Kg /Ton	
Energy consumption after				41 Kg/ Ton	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...				18 Rs./Kg	
Company complete address:  HEG Ltd. (Graphite Division), Mandideep Industrial Area, Nr. Bhopal, Dist. Raisen – 462 046 (MP) Ph.: (07480) 233524 to 27 Fax: 233522  Contact person who could be contacted for more information: V B Gupta, Manager (Energy), HEG Ltd. (Graphite Division), Mandideep, Nr. Bhopal				We authorize Bureau to use this information for dissemination  Signature  Date	