



1. ID: 65	Title of measure	Sector: Mining
2. Survey Year: 2007	Modification of secondary and tertiary crushers control systems	Technology: Crushers
3. Name of the Company	: Hindustan Zinc Limited, Rampura Agucha Mine, Distt. Bhilwara, Rajasthan, INDIA	
4. Agency that executed the project	: In-house	
5. Year of Implementation	: 2006-07	
6. Unit Profile:	<p>Hindustan Zinc Limited is an integrated Zinc manufacturer in India and owns captive Zinc mines that supply complete requirement of Zinc concentrate for its smelters. HZL operates mechanized open cast (Rampura Agucha Mine) as well as underground mines (Rajpura Dariba and Zawar Mines) in the state of Rajasthan. Rampura Agucha Mine was commissioned in the year of 1991 and it is located in Rajasthan. The present capacity of the mine is 3.75 million MTPA ore production with 13.54% Zinc, & 1.97% Lead and beneficiation plant to produce zinc and lead concentrates of 53-54% and 60-65% respectively.</p>	
7. Description of Energy Conservation Measure:-	<p>Minor modification In the unit, the lubrication of the Secondary and Tertiary crushers used to run continuously. The in-house team recommended that after doing some minor modifications in the control circuit, energy can be saved. The modifications were carried out in the control circuit and the lubrication was made to stop 30 minutes after stopping of the crusher.</p>	
8. View of Rampura Agucha Mine	Picture After Modification	
		
	Lubrication pump of Crusher with interlock	
9. Total investment :		500 US\$
10. First year energy cost savings :		6,500 US\$
11. First year additional savings beyond energy (i.e. water, raw materials etc.):		Nil
12. Annual electricity consumption before, MWh		230
13. Annual electricity consumption after, MWh		170
14. First year electricity savings, MWh		60
15. First year tons of CO ₂ mitigated		60
16. Assumed sustainability, years		10
17. Expected tons of CO ₂ mitigated throughout life cycle		600

1. ID: 66	Title of measure	Sector: Mining
2. Survey Year: 2007	Auto operation of Sump pumps	Technology: Automation Systems
3. Name of the Company	: Hindustan Zinc Limited, Rampura Agucha Mine, Distt. Bhilwara, Rajasthan, INDIA	
4. Agency that executed the project	: In-house	
5. Year of Implementation	: 2006-07	
6. Unit Profile:	<p>Hindustan Zinc Limited is an integrated Zinc manufacturer in India and owns captive Zinc mines that supply complete requirement of Zinc concentrate for its smelters. HZL operates mechanized open cast (Rampura Agucha Mine) as well as underground mines (Rajpura Dariba and Zawar Mines) in the state of Rajasthan. Rampura Agucha Mine was commissioned in the year of 1991 and it is located in Rajasthan. The present capacity of the mine is 3.75 million MTPA ore production with 13.54% Zinc, & 1.97% Lead and beneficiation plant to produce zinc and lead concentrates of 53-54% and 60-65% respectively.</p>	
7. Description of Energy Conservation Measure:-	<p>In the unit, the sump pump had to be started and stopped only from the field. The in-house team took the initiative to control the starting and stopping of this pump to save energy. After modification in its control circuit it can now be started/stopped from Distributed Control System (DCS).</p>	
8.	<p>View of Rampura Agucha Mine</p>	<p>Picture After Modification</p> <p>Sump Pump with DCS operation</p>
9. Total investment :		2,250 US\$
10. First year energy cost savings :		4,250 US\$
11. First year additional savings beyond energy (i.e. water, raw materials etc.):		Nil
12. Annual electricity consumption before, MWh		181
13. Annual electricity consumption after, MWh		147
14. First year electricity savings, MWh		34
15. First year tons of CO ₂ mitigated		34
16. Assumed sustainability, years		10
17. Expected tons of CO ₂ mitigated throughout life cycle		340