

Some of the energy conservation measures – Cement industry

- Optimization of grinding mills and upgradation of the grinding circuit
- Use of vertical roller mills and roller press
- Use of high efficiency classifiers
- Increased manufacture of blended cements
- Installation of low pressure drop cyclones and other modifications in the preheater circuit
- Duct modifications to reduce pressure loss
- Waste heat utilisation from cooler vent
- Arresting false air leakage in compressor circuit
- Use of FRP blades in cooling towers
- Optimize operation of various energy consuming equipment and avoiding idle running of equipment
- Plant lighting optimization
- Optimization and use of high efficiency of fans and using variable speed drives
- Use of flat belts in place of V belts
- Slip power recovery system
- Improving distribution voltage coordination and power factor improvement to reduce distribution losses.
- Blending silo upgradation
- Use of better quality refractories
- Use of mechanical conveying systems (bucket elevators)
- Retrofitting of cooler
- Dense phase conveying
- Optimisation of cement mill with changes in internals
- Clinker cooler hammer mill modifications
- Use of slurry thinners
- Fuzzy logic control
- Installation of mechanical seals in kilns

Reference:

Energy Management Policy – Guidelines for Energy Intensive Industry in India,
Chapter 4, pp 36-65 by Bureau of Energy Efficiency