**Thermal Energy**

**(TE11)**



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| **Fact Sheet TE11: Optimize boilers systems by using economizer/air preheater** |
| **Overview** |
| *Objective* | Maximizing boiler’s efficiency and reducing the thermal energy used by preheating air or makeup water |
| *Action* | Installing HEX on exhaust gases for makeup water preheating or air preheating |
| *Key Challenges* | The system’s current condition, initial CAPEX and availability of space. |
| **Process** |
| *Complexity* | High – system’s calculations and implementation |
| *Equipment & Material*  | Economizer or air preheater, pipes |
| *Human Resources* | Engineers & technicians  |
| **Considerations** |
| *Regulatory Aspects* | None |
| *Economic*  | Moderate CAPEX, Low OPEX, High savings – depends on every system/Hotel separately |
| *Advantages* | * Decreasing Natural gas / Diesel monthly bill.
* Reduction in CO2 emissions.
* Waste heat recovery.
 |
| *Disadvantages* | System’s shutdown to install new equipment and initial CAPEX |
| **Impacts** |
| *Environmental* | Pollution reduction as a result to CO2 reduction |
| *Employment Opportunities* | Moderate – technical labors |