

**Thermal Energy**

 **Solution Card No.1: Reducing pipes network heat losses by insulating steam/hot water pipes**

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| **Inputs** |
| Hotel | \*\*\* |
| Boiler Type | Fire Tube Boilers / Water Tube Boilers |
| Fuel Type | Natural Gas / Diesel / LPG |
| **Assumptions** |
| Exchange Rate | 16 EGP/USD |
| Type | steam / hot water pipe |
| Pipe Length | 1 m |
| Insulation Thickness | \*\*\* mm |
| Consumption Profile | \*\*\* hr/day | \*\*\* days/year |
| **Constraints** |
| Fuel Prices | \*\*\* EGP/MBTU (2020/2021) |
| **Proposed Solution** | **Before Insulation** | **After Insulation** |
| Surface Temperature | \*\*\* °C | \*\*\* °C |
| OPEX | EGP \*\*\* | EGP \*\*\* |
| Annual Energy Saving |  \*\*\* kWh (\*\*\* MBTU)  |
| **Economic Features** |
| Average CAPEX | EGP \*\*\* |
| Annual OPEX Savings | EGP \*\*\* |
| Payback Period | \*\*\* years |
| Lifetime | 10 years |
| Annual CO2 Reduction | \*\*\* kCO2e |