Tri-Generation & Waste Heat Recovery

Generation of Power, Steam, Cooling, Hot Water and Desalinated Water

Why Tri-Generation?

High Efficiency

System Optimization

Security of Supply

Lower Emissions

Grid Investment

Thermal Storage

Overview

- Centralized System and Generation of:
- Electrical Power
- Steam and Hot Water
- Cooling (Chilled Water for A/C or Process Cooling Water)
- Hot Water and Desalinated Water.
- Operation and Maintenance of the proposed facilities.
- Generated Energy Consumption Rates at affordable low prices

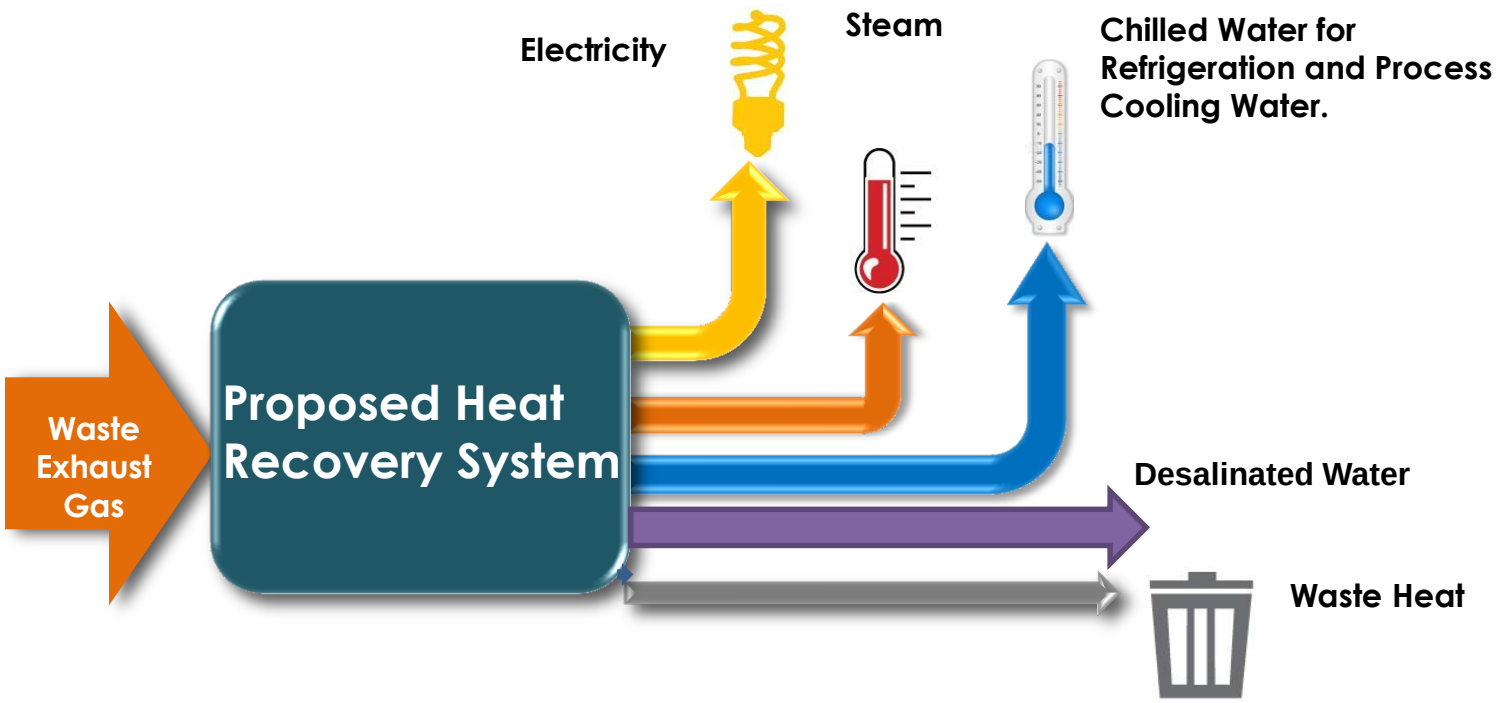
- **Technical overview**
- Systems are able to run 24 /7 over summer and winter months providing full Power, Cooling, steam and hot water the whole year.
- Performance guarantee for the supply of the above services.

- **Commercial overview**
- EPC / OR / IPP Contract
- System may be financed by Developer and Operator with no recourse to End User.
- Long term Operation and Maintenance managed by Operator through O&M Contract
- Long term agreement (20 years)

Heat recovery Generation Systems

Heat Recovery & Co-Gen. Systems are able to generate:

- Steam, Power, Chilled Water and Desalinated Water through Plant Waste Heat.
- Overall Heat Plant Efficiency shall increase up to 85%

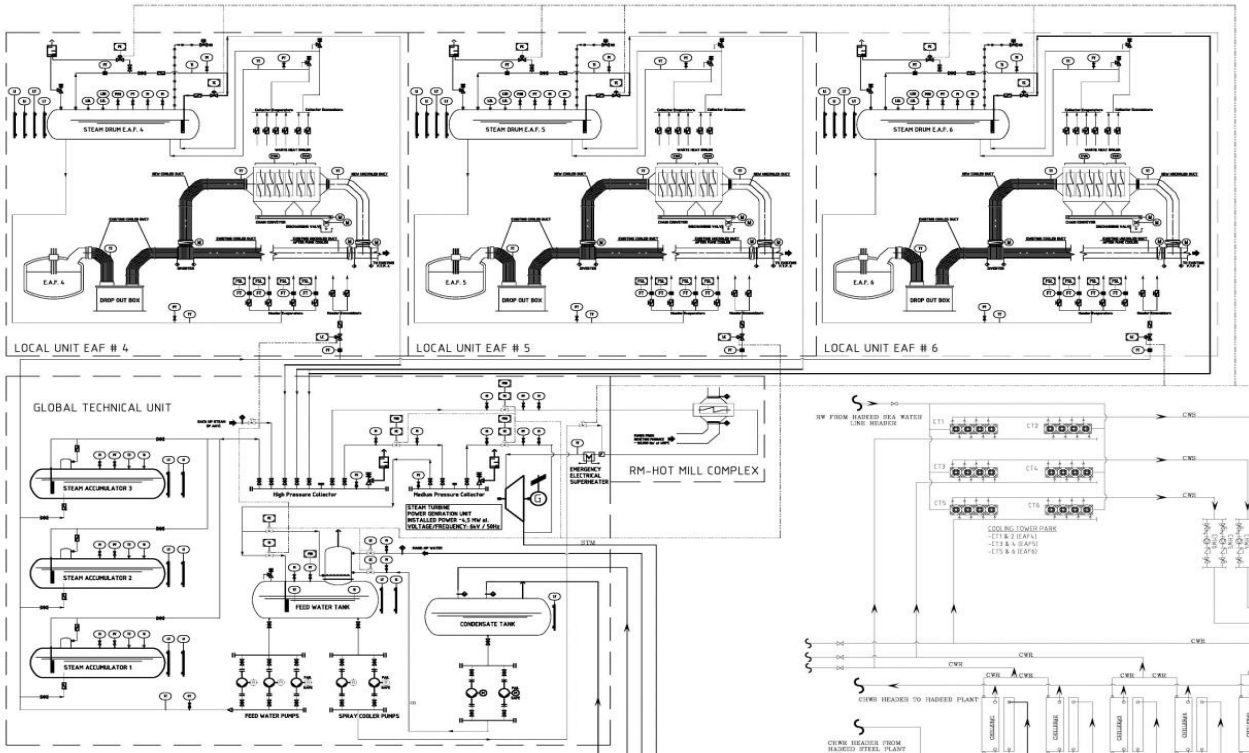


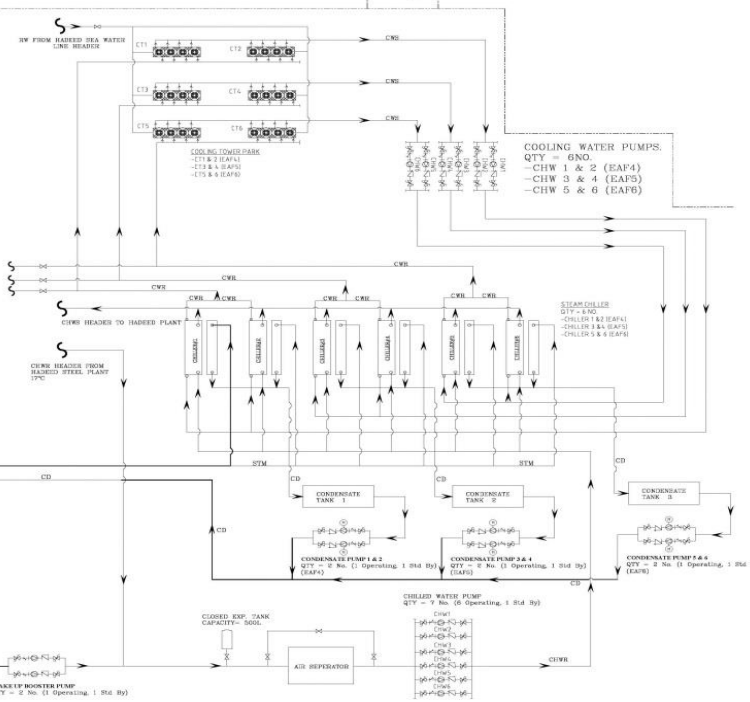
Proposal For Buildings

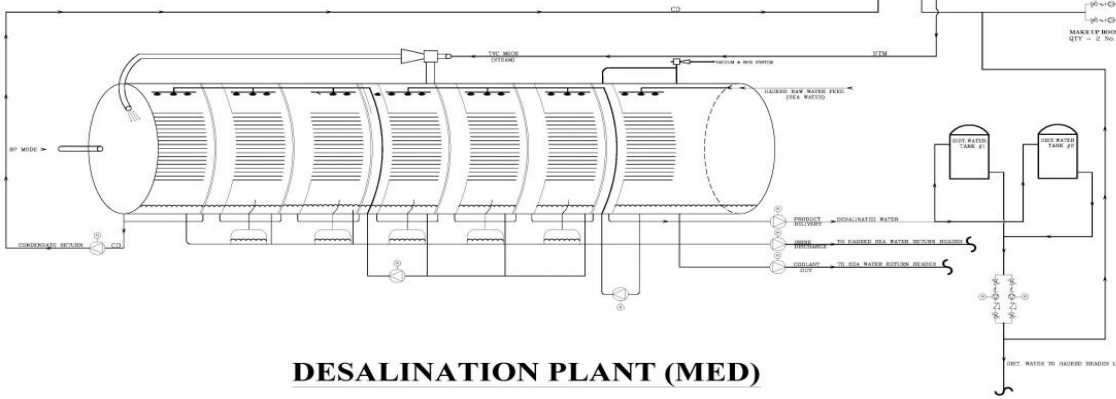
Typical Proposal

Power Requirement : 60 MW
Cooling : 22000 Ton

Quad Energy Systems Technologies







Tri-Generation in steel plant

Potential Customers

- Compounds, large Buildings and Towers.
- Hospitals
- Airports
- Military Cities
- Industrial and Petro-Chemical Plants
- Facilities in remote areas

Waste Heat Boiler

- The waste heat boiler cools down the waste gases from approx. 550 - 650 ºC to approx. 200 – 250 ºC
- Heat transfer mainly by convection
- Consist of different modules / heat exchangers: evaporator, economizer and / or super heater


UEST
Quad Energy Systems Technologies
Al-MUHAIDIB Head Quarters,
AAA
DAMMAM,
ABSORPTION CHILLERS INSTALLATION

Automation

- Heat recovery system is managed and controlled automatically by a dedicated PLC board
- The progress status of entire cooling system is displayed and monitored on dedicated synoptic
- The system parameters such as relevant physical characteristics, valves working conditions, flows, etc. are continuously monitored through Human Machine Interface (HMI)