

## How cost/health effective is the production of our electricity?

The time is right to take stock of the effectiveness of the production of our electricity.

In Gibraltar we have three power stations:

1/Gib Elec

2/Oesco

3/MoD

The three stations use antiquated **diesel** engines which are noisy, inefficient and expensive to maintain.

Consequently, the generation of our electricity is an expensive and dirty business! With the understanding that new power stations for Gibraltar will be using fossil fuel technology (ie diesel generators), the ESG wishes to promote the advantages of *Combined Cycle Combustion Turbines*, as a more efficient option due to the following reasons:

**Combined Cycle Combustion Turbines** are versatile, being able to burn a wide range of liquid and gaseous fuels from crude oil to natural gas and their efficiency can be increased by the installation of heat recovery systems or waste-heat boilers onto the turbine's exhaust. These heat recovery steam generators can provide steam for heating or industrial processes.

Gibraltar will soon need another new power station to cater for the new developments on the Eastern side and other areas of Gibraltar.

Now is a good time to plan to install the best available technology (see **photos a and b** for examples of non-appliance and resulting energy waste and pollution).

Combined Cycle Combustion Turbines have fewer moving parts (over diesel engines) which would reduce the maintenance and downtime of the equipment. It would mean that Gibraltar would only need one power station.

The use of Combined Cycle Power stations would enable us to produce electricity using tried and tested off- the- shelf equipment.

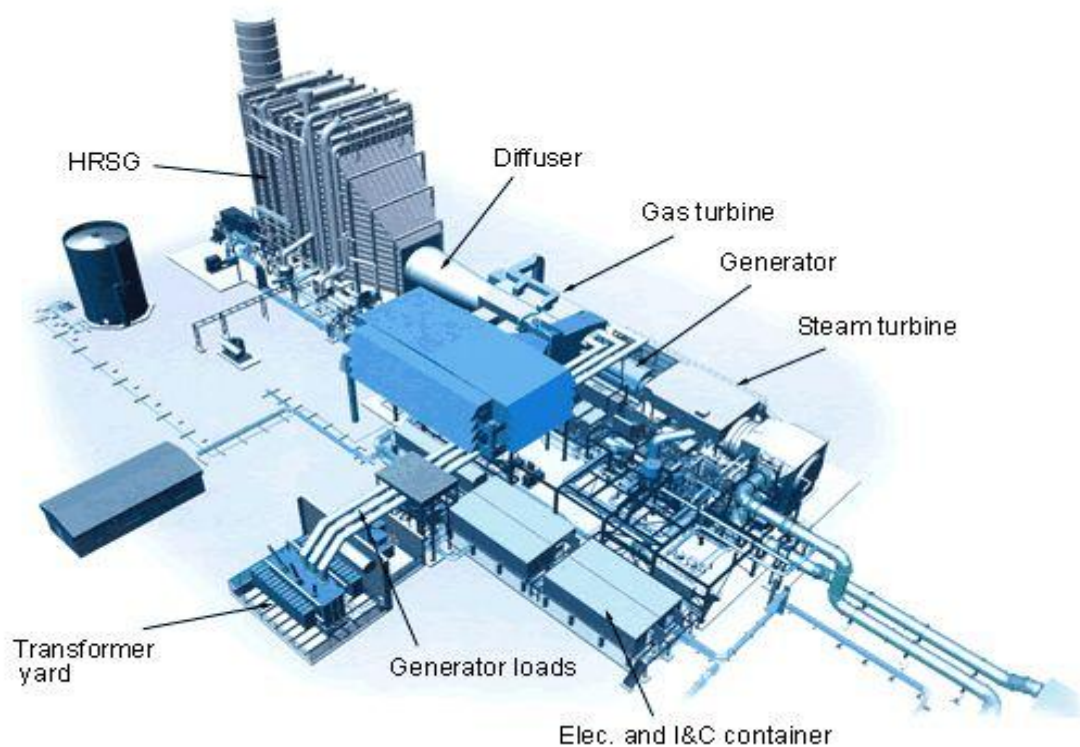
There are economic and health benefits to be gained.

It should be possible to reduce by more than half the cost of fuel used, as the efficiency of the plant is increased to around 70% from about 30% of diesel generators this would allow the cost of electricity to fall by a proportional amount.

Emissions will be cleaner and the greenhouse effects will be lessened.

Emissions and noise from turbines are easier to control than diesel engines as they tend to burn fuel more efficiently and hence produce fewer emissions and run quieter due to less moving parts.

The use of combined cycle combustion turbines would prove to be an excellent interim measure until such time as we introduce **solar energy** on a large scale throughout the Rock.



Schematic Diagram of “Combined Cycle Power Plant.”

**Photo a.**



OESCO Power Station  
Poorly applied technology

**Photo b.**



CEPSA Chimney flaring  
- Fossil fuel pollution

Naturally, other renewable energy systems can also be incorporated into supplying Gibraltar's energy needs and these will also be explored in future articles.

**Environmental Safety Group**

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