Dear stakeholders and promoters of cogeneration

The project has estimated the total potential of cogeneration in India to be greater than 9,000 MW_{el} described in electrical generation capacity. Please visit our website for detailed information on this topic (www.energymanagertraining.com/chp). However, it is not known how much of this potential has been realised.

Therefore, we have announced an award for receiving most precise and complete information on cogeneration plants. Please fill in the attached questionnaire and participate in the award scheme (you also can download a copy from our website and process it electronically, which would help us, www.energymanagertraining.com/chp).

The Award categories are as follows:

- 1st Prize: 20,000 Indian Rupees
- 2nd to 5th 10,000 Indian Rupees each

Prizes will only be awarded if the number of feedback is more than 50. We will not share your information with others, but we will provide a general feedback to all of you.

Please revert your information till 11th February 2008 electronically (preferred) to:

chp@energymanagertraining.com

or by regular snail mail to:

Thomas Schmitz
Indo-German Energy Programme
Bureau of Energy Efficiency,
4th Floor, Sewa Bhawan, R. K. Puram,
New Delhi – 110 066

1 General data

General	
company name	
Main products	
industrial sector	
Address	
Plant name	
Street	
City	
State	
contact person	
Phone	
Email	

2 Questions on the Cogeneration plant

2.1 Electrical generation with cogeneration

Please indicate, if the cogeneration plant is connected to the grid: **(yes / no)**

Please provide technical details on installed cogeneration technology, such as backpressure steam turbine, extraction cum condensing steam turbine, gas turbine with heat recovery system, combustion engine with heat recovery system etc. (Please also see annex for further technology examples):

	Type, make and supplier of electricity generating set	El. capacity	Annual generation	Year of commiss-ioning
	(please specify)	[kW_{el}]	[MWh_{el}]	[year]
1				
2				
3				
4				
5				

If the above mentioned generating set is a steam turbine, please provide the following data according to the number in the above table:

	Life steam parameters			Extraction 1 (or backpressure)			Extraction 2 (if any, or backpressure)			Condensing mode (if any)		
	[kg/cm2]	[°C]	[t/h]	[kg/cm2]	[°C]	[t/h]	[kg/cm2]	[°C]	[t/h]	[kg/cm2]	[°C]	[t/h]
1												
2												
3												
4												
5												

2.2 Thermal generation with cogeneration

Please provide details on steam extraction from cogeneration plant in order to estimate thermal generation (steam is not used for power generation in turbine!!!):

	Annual steam consumption	Steam extraction			Comments
		Pressure	Temp.	Average mass flow	
	[t/a]	[kg/cm^2]	[°C]	[t/h]	
Extraction 1					
Extraction 2					
Extraction 3					
Extraction 4					
	[t/a]	[kg/cm^2]	[°C]	[t/h]	
Boiler feed water (before deaerator)					

If process heat is not steam, please provide technical details.

2.3 Fuel consumption of cogeneration plant

Please indicate fuel details of the cogeneration plant.

	Unit	Fuel 1	Unit	Fuel 2	Unit	Fuel 3	Unit	Fuel 4
Commercial name	[-]		[-]		[-]		[-]	
Gross Calorific Value								
Annual consumption								

↑ Please state unit! ↑ Please state unit! ↑ Please state unit! ↑

3 Other electricity and process heat generation units beside cogeneration plant

3.1 Process Heat

Please provide details of additional thermal generating units not operated in cogeneration mode, such as low pressure boiler, thermo oil heater, etc. (unit is not used for generate electricity!!!)

	Type of heat generating unit	Live steam (fluid) pressure	Live steam (fluid) temp.	Capacity	Annual generation	Main fuel used	Year of commiss-ioning
		[kg/cm^2]	[°C]	[t/h]	[t/a]	(com. name)	[year]
1							
2							
3							
4							
5							

3.2 Electricity

Please provide details of additional captive electricity generating units not operated in cogeneration mode, such as Diesel Gen-set (with no thermal heat use, such as waste heat recovery etc.).

	Type, make and supplier of electricity generating set	El. capacity	Annual generation	Year of commiss-ioning	Used fuel
	(please specify)	[kW_{el}]	[MWh_{el}]	[year]	(com. name)
1					
2					
3					
4					
5					

4 Export and Import of electricity from and to public grid

Please provide details about the connection of the industrial plant to the grid.

Annual electricity import from the grid	[kWh/a]	
Annual electricity export to the grid	[kWh/a]	
Cost of electricity purchased from the grid (if not confidential)	[IRs/kWh]	
Price of electricity, if sold to the grid (if not confidential)	[IRs/kWh]	

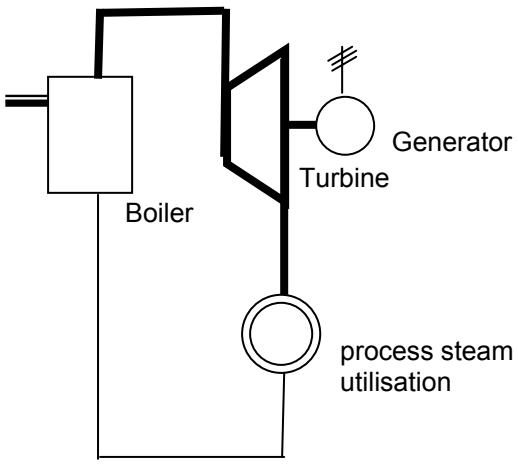
5 Layout drawing of cogeneration plant

Please indicate which of the following examples comes closest to your cogeneration plant. Please give comments and some details on your specific plant, which is special and provide basic parameters.

However, if possible, please attach also a detailed layout drawing of the specific plant.

In case you want to draw a layout electronically, please download the Excel file from www.energymanagertraining.com/chp.

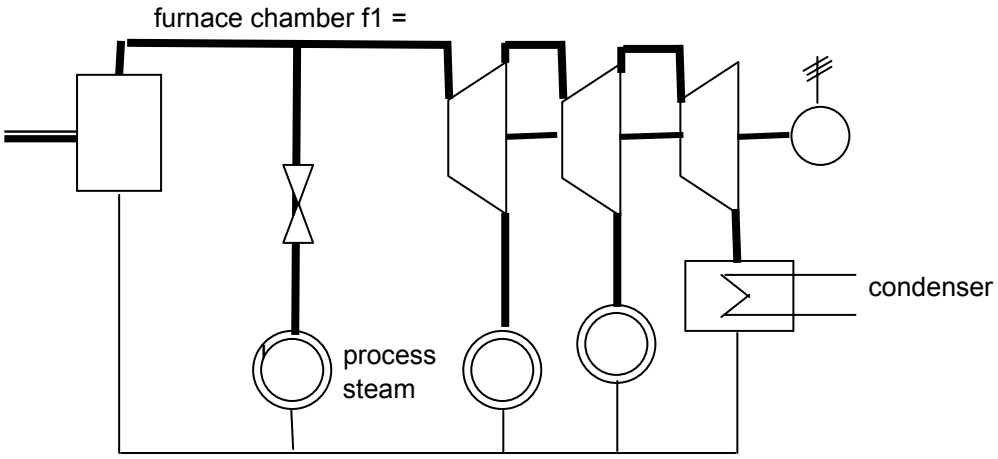
1. Backpressure Steam Turbine



(yes / no)

(If yes, please provide details)

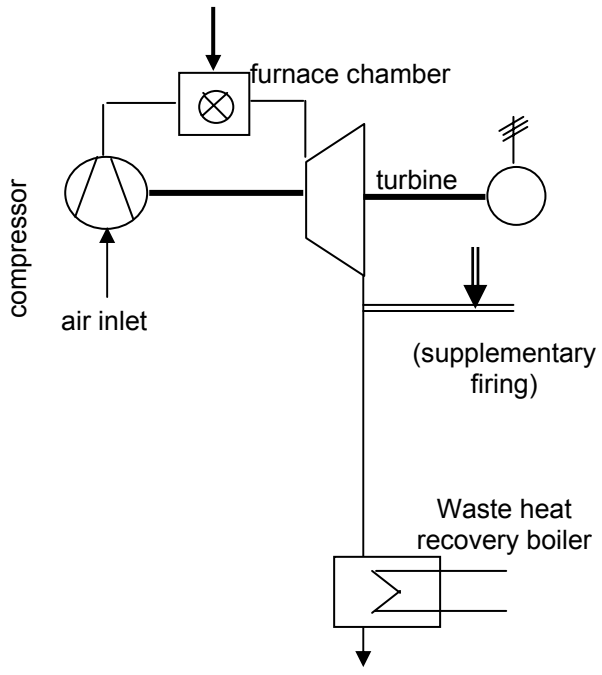
2. Steam Condensing cum Extraction Turbine with Live Steam Extraction



(yes / no)

(If yes, please provide details)

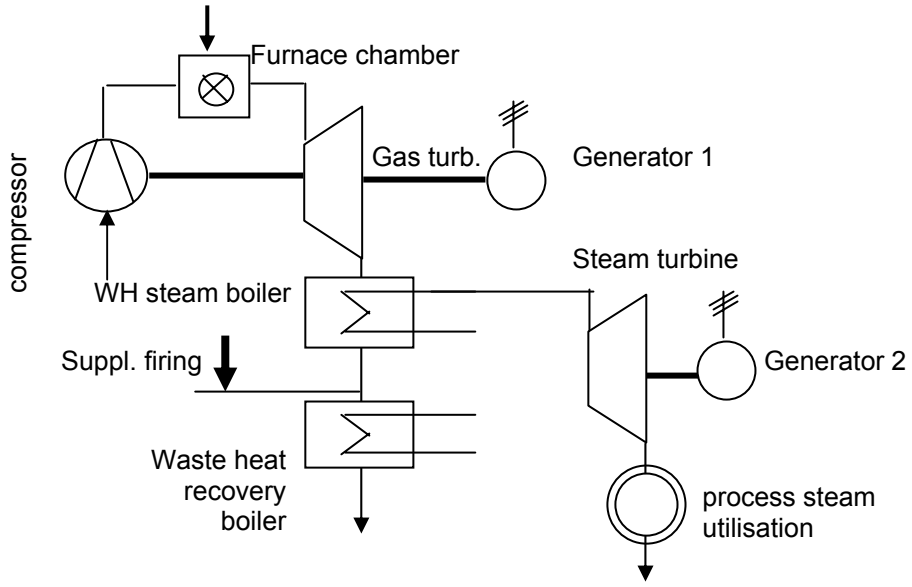
3. Gas turbine with waste heat recovery boiler (and supplementary firing)



(yes / no)

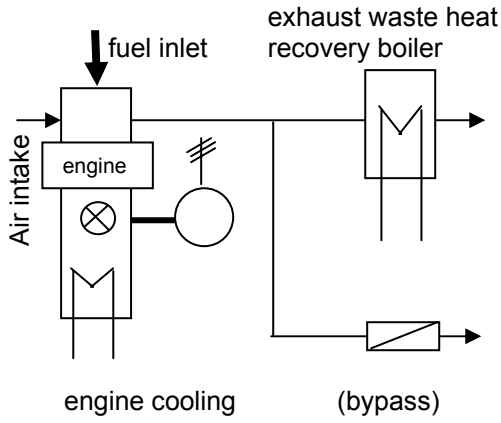
(If yes, please provide details)

4. Combined cycle gas turbine with heat recovery (supplementary firing)



(yes / no)
(If yes, please provide details)

5. Combustion engine with heat recovery (and bypass)



(yes / no)
(If yes, please provide details)

6. The cogeneration plant is <u>very</u> different to all options provided.

(yes / no)
(If yes, please provide details)