

### Esercizio 1:

Ggas =	665 kg/s	
TOT =	610 °C	
cp,m =	1.13 kJ/kg-K	
G1 =	76.8 kg/s	
h1 =	3508 kJ/kg	
h2 =	3093 kJ/kg	
G3 =	15.6 kg/s	
h3 =	3041 kJ/kg	
h4 =	3603 kJ/kg	
G5 =	10.4 kg/s	
h5 =	3065 kJ/kg	
T6 =	331 °C	
h6,l =	1532 kJ/kg	
h6,v =	2667 kJ/kg	
T7 =	230 °C	
h7,l =	990 kJ/kg	
h7,v =	2802 kJ/kg	
T8 =	144 °C	
h8,l =	605 kJ/kg	
h8,v =	2738 kJ/kg	
T9 =	225 °C	
T10 =	150 °C	
h10 =	612 kJ/kg	
DTsc =	5 °C	
cp,l =	5 kJ/kg-K	
Perdite th =	0.6 %	
h9 =	987 kJ/kg	
Qw HP (eco+eva+sh) =	193613 kW	
QRH =	47935 kW	
QshIP =	3728 kW	
QshLP =	3401 kW	
QevalIP (incluso DTsc)	28657 kW	
Qtot acqua =	277334 kW	
Qfumi =	279008 kW	
DT fumi =	371 °C	
Tfumi out IP eva =	239 °C	
DTpp IP =	8.7 °C	
Tfumi TG =	610 °C =	883.15 K
Tfumi camino =	82 °C =	355.15 K
T ambiente =	15 °C =	288.15 K
Exergia fumi camino =	7.6 kJ/kg	
Exergia fumi TG =	307.7 kJ/kg	
Exergia persa =	2.5 %	

## Esercizio 2:

Pel =	850 MWe
eta =	43 %
PCI =	24 MJ/kg
yCO2 =	70 %
yS =	3.5 %
eta FGD =	95 %
MMC =	12 kg/kmole
MMS =	32 kg/kmole
MMCO2 =	44 kg/kmole
MMSO2 =	64 kg/kmole
EC =	0.0292 kgC/MJth
ECO2 =	0.107 kgCO2/MJth
ECO2 =	0.249 kgCO2/MJe
ECO2 =	895 kgCO2/MWhe
ES =	0.0015 kgS/MJth
ESO2 (pre FGD) =	0.0029167 kgSO2/MJth
ESO2 (pre FGD) =	0.0067829 kgSO2/MJe
ESO2 (pre-FGD) =	24.42 kgSO2/MWhe
ESO2 (camino) =	1.221 kgSO2/MWhe
Tassa SO2 =	5 €/kgSO2
Carbone base:	
Ccarb =	60 €/t
Ccarb =	2.50 €/GJth
Ccombustibile =	5.81 €/GJe
Ccombustibile =	20.9 €/MWh
CSO2 =	6.10 €/MWh
Ctot =	27.0 €/MWh
Carbone basso S:	
yS =	0.6 %
Ccarb =	100 €/t
Ccarb =	4.17 €/GJth
Ccombustibile =	9.69 €/GJe
Ccombustibile =	34.9 €/MWh
ESO2 (camino) =	0.2 kgSO2/MWhe
CSO2 =	1.05 €/MWh
Ctot =	35.9 €/MWh