



**B** : Following tasks will then be realised :

Where,

$T_b$  Gross size of the electrical grid.(MWe)

$k_d$  Availability factor of the grid (= 0.90 by default)

$T_r$  Grid capacity with a 50% margin of error (MWe)

$B_{eau}$  water needs for the region.(m<sup>3</sup>/day ; on the basis of minimum 150 litres/habitant/day)

$k$  Conversion factor litres/day en m<sup>3</sup> day.

$C_{sproc}$  Specific consumption of a given desalination process (kW<sub>th</sub> h/m<sup>3</sup>, if distillation, otherwise kW<sub>e</sub> h/m<sup>3</sup>, if RO.

$C_{proc}$  Total energy consumption of the process (MW<sub>th</sub> if distillation, MW<sub>e</sub> if RO.

$P_{elec}$  Total power produced by the reactor (at most = 10%  $T_r$ )

$\eta$  Thermodynamic efficiency of the turbine ( = 0.33 for a PWR ; = 0.48 for a GT-MHR)

$P_{thb}$  Total thermal power of the reactor

$P_{electr}$  Required electrical power of the reactor

$P_{thr}$  required thermal power of the reactor