Formulas for Economics

$$O\&M\ costs(€/year) = AEP * O\&M\ costs$$

$$AR = AEP * ESP$$

$$ANI = AR - O\&M\ costs(€/year)$$

$$NPV = \sum_{P=1}^{20}\left\{\frac{ANI}{(1+R)^P}\right\} - CI \text{ , for using function NPV: } NPV(R(ANI; ANI; ..xP) - CI$$

$$PVM = NPV(R(O\&M\ costs(€/year); O\&M\ costs(€/year); ..xP)$$

$$PV = FV\frac{1}{(1+R)^P}, \text{ for using function PV: } PVDC = PV(R; P; ; DC)$$

$$PVC = PVDC + PVM + CI$$

$$LAC: PMT = \left[\frac{-PVC*R}{(1-(1+R)^{-P}}\right], \text{ for using function PMT: } PMT(R; P; PVC)$$

$$LCoE = \frac{LAC}{AEP}$$

AR - annual revenue from selling the electricity (€/year)

AEP - annual energy production (kWh)

ESP - electricity selling price (€/kWh)

ANI - annual net income (€/year)

NPV – net present value (€)

CI – capital investment (€)

R - Annual discount rate (%)

P – Period of years (years)

DC - decommissioning costs (€)

PVDC - present value of the cost of decommissioning (€)

PVC - present value of all the costs (€)

LAC - levellised annual cost (€)

LCoE - levellised cost of energy (€/kWh)

O&M cost - annual operating and maintenance cost (€/kWh)

PVM – present value maintenance and repair cost

FV – future value

PV - the value today of an amount of money in the future.