

## ALTERNATING CURRENT (Session-2)

Scientific and Economical benefits of AC over DC in Energy transmission:-

\* Scientific benefit - interms of Efficiency

Energy loss in Supply Cable:  $E = I^2 R t$

So current in the supply cable is decreased by using step up transformer near the generating station. Step up transformer increase the secondary / supply voltage and decrease current to reduce the energy loss and becomes more efficient.

Economical benefit: interm of demand - supply analysis for cost - benefit decision.

Electricity distribution companies adjust the price of 1kwh on the basis of electricity produced. Consumer has to bear the loss of electricity by any mean in financial terms.

If energy loss is reduced that greater part of produced energy is available to consumer to fulfill his demand. Hence cost of 1 unit (1kwh) to be adjusted by authorities is reduced.