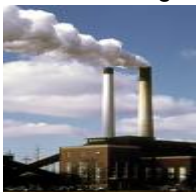


Steps	Brief Description
1	Incandescent light bulb (ILB) throws on inclined pad.
2	ILB fall on pan of balance and pan move downward.
3	Lifted arm of balance pull out the lock and ball is free to flow.
4	Ball strikes on pad of handle, and hence handle activates and string is released.
5	Piston moves down and presses the water into cylinder.
6	Water sprays on cup at edge of spring and activate spring to compress.
7	Finger at edge of spring lift & the forward moving lever activates.
8	Contacts are opened and leave the weight to fall down.
9	Weight strikes on balance pan to move it downward.
10	Ball soot out from the pan due to sudden pull.
11	Ball fall on arm of lever to move it downward.
12	String is cut by the activation of the catchy.
13	Weight fall down due to cut down of the string.
14	Balloon lifts up one arm (pan) of balance.
15	Ball falls on inclined fixed rack from arm(pan) of balance.(to free run on rack)
16	Jug tilt and water drain out from it..
17	Cup in the hand fills with water fall from jug and activate.
18	Moving arm is lift up and open the contact with fixed arm, also released string .
19	Weight falls on lever pan and activate it.
20	Ball triggers and run on the rack.
21	Ball opens the door of the cage and carrot activates the roller chain while it run on it.
22	The forward moving hand comes out the box and strikes hammer.
23	ILB is destroyed by hammer attack.
24	Weight fall down to ground and activate the gear arrangement.
25	Bottom hook arm activates and open the contact with upper one.
26	Ball triggers due to hand at bottom of rack activation, and ball starts to run down through rack.
27	Ball dumps on the pad and move it downwards.
28	Ignition stick moves downward and ignite the candle also push the front part (attached with plunger) in back.
29	Plunger hit the ball to fall it down.
30	Ball dumps on balance pan and activate the gear arrangement.
31	String lifts the rolling message and display a picture (of energy awareness).

**Answer-1**

Incandescent light bulb (ILB) converts only 1-3 % of the energy in coal provided to power plant to generate useful energy output. The overall efficiency of the power plant is about 30-32 %.The cascade efficiency of the T & D system about 80-85 %.The utility like ILB (lighting) have efficiency about 10-20 % depends on photometry, size etc and remaining is heat loss. Thus from coal to ILB , the overall efficiency is just about 1-3 % .



Generation



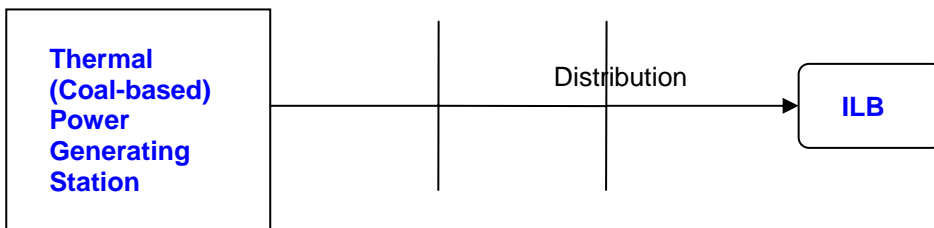
Transmission



Distribution



Utilization



### **Answer-2**

The input to a CFL is electrical energy and output from CFL is light and heat. **Light** is useful energy from CFL and heat is just wasted in the atmosphere. The useful energy output of a CFL is about **20-30 %** (vary from CFL to CFL and manufacturer to manufacturer) of the electricity input.

### **Answer -3**

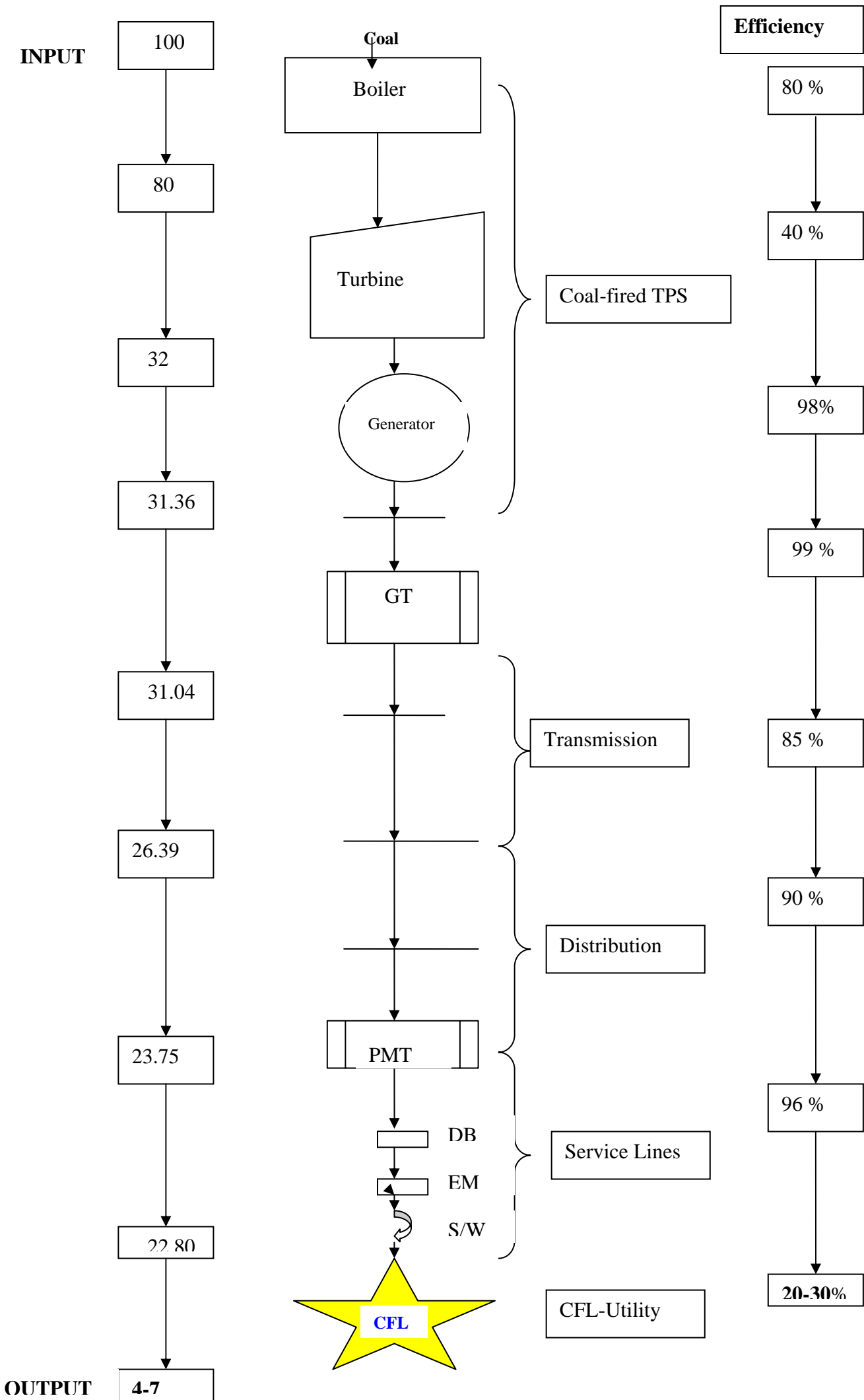
Energy losses occurred at various elements such as :-

- a. Direct fuel loss in storage, transportation & distribution of coal.
- b. Heat losses in steam generator and its auxiliaries.
- c. Power losses in electric generator.
- d. Power losses in transforming the electric power (GT & other transformers)
- e. Power losses in T&D networks
- f. Power losses in service equipments (s/w,wires, holders,control gears, fuses)
- g. Heat loss in CFL

The below depicted schematic show the input and successive outputs on left-side (the difference is the energy loss in that element) and efficiency of successive element/components on the right-side. The energy is lost in each element of the way from coal to electricity used by CFL.

#### **\* Nomenclature in the answers**

ILB-Incandescent Light Bulb  
CFL-Compact Fluorescent Lamp  
GT-Generator Transformer  
PMT-Pole Mounted Transformer  
DB-Distribution Board  
EM-Energy Meter  
S/W- switch



I try my best to illustrate the steps of ILB destroying machine and solve the answers of the questions as above.  
Please, receive it and do the needful.

**Submitted By (Total 4 pages) :-**  
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