

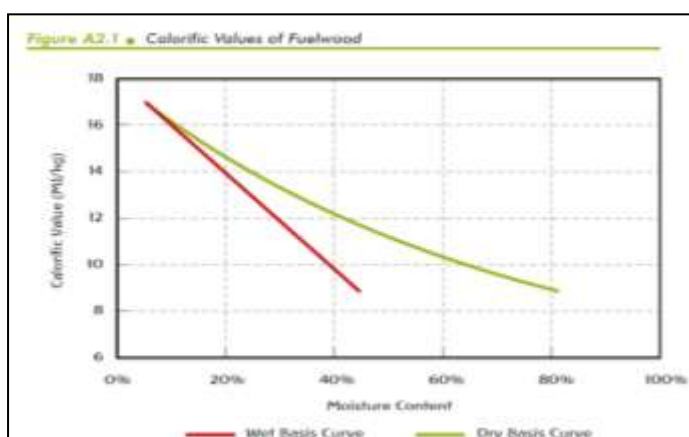
Exercise REN.1:

Open the file AQ_Ren_Exercises.xls.

Open the first worksheet (i.e. Exercise REN.1)

A country produces 1000 kt of wood.

In the worksheet, a graph is given with the fuel wood calorific value (MJ/kg) trend against moisture.



Part 1: Use the graph to calculate the energy content of fire wood (i.e. TJ) starting from the mass (in kt).

In the worksheet, production, transformation, and consumption for this wood are given in physical units (mass).

Part 2: Complete the cells highlighted in yellow and fill in TABLE 2 "SUPPLY, TRANSFORMATION, ENERGY SECTOR & END USE".

Here are some clues to start your investigation:

***How do you use the calorific value to convert mass units in energy units?**

***How do you pass from MJ/kg to TJ/kt?**

***What is firewood? Is furniture wood included?**

Exercise REN.2:

Open the second sheet (i.e. Exercise REN.2)

Fill in table 2 “SUPPLY, TRANSFORMATION, ENERGY SECTOR & END USE” and table 4 “PRODUCTION OF SOLID BIOFUELS AND BIOGASES” using the given information about biogas and solid waste production and consumption.

Exercise REN.3:

Open the third sheet (i.e. Exercise REN.3).

Fill in table 2 “SUPPLY, TRANSFORMATION, ENERGY SECTOR & END USE”, given the information given about liquid biofuels production and consumption.

Here are some clues to start your investigation:

Exercise REN.4:

Open the fourth sheet (i.e. Exercise REN.4)

Fill in tables 1, 2, and 3 using the information given at the top of the worksheet.

Here are some clues to start your investigation:

*** What is the electricity utilization rate? How many hours are in the year?**

*** For the Bonus Question: how can we use solar thermal energy?**