EBS & MAED

Hands-on 6: Entering Input Data

Learning outcomes

By the end of this exercise, you will be able to:

1. Enter Base Year Data
2. Enter Scenario Data
3. View Results

Activity 1: Adding Base Data

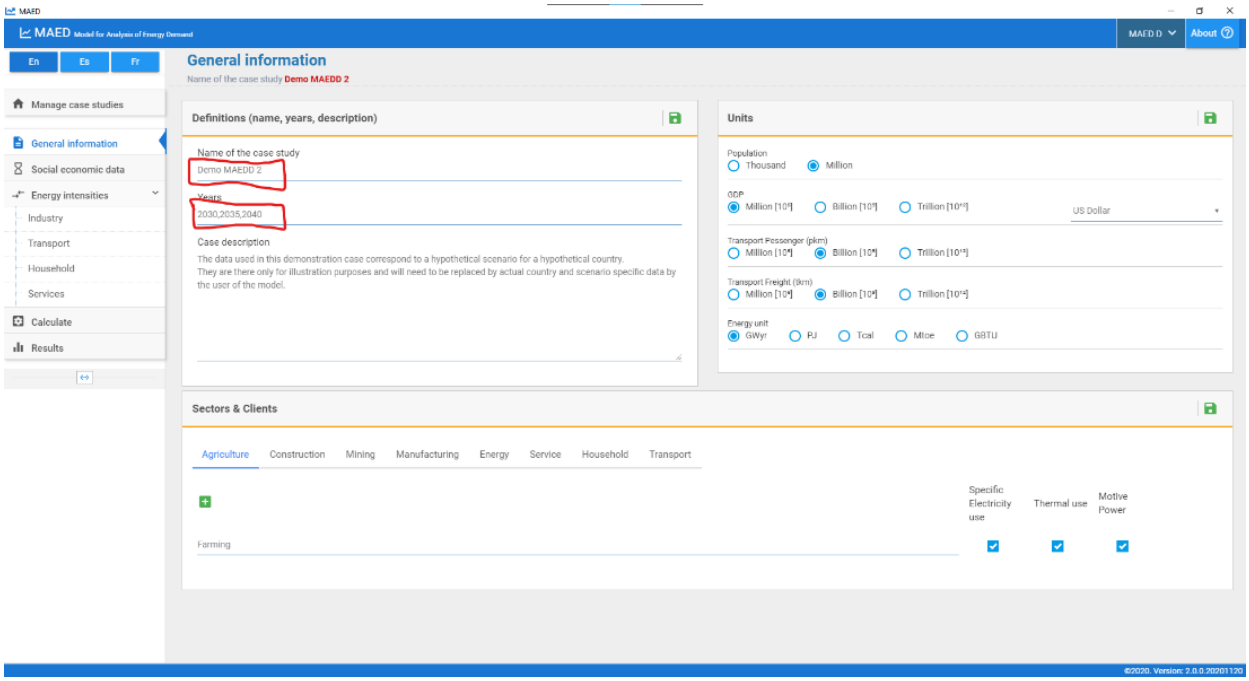
In the previous hands-on, we configured the model structure. All the input and output data tables now correspond to the defined structure. The model is now ready to be loaded with input data.

Input data are usually entered in two phases. The first phase involves reconstructing the base year. The second phase involves entering scenario data. The scenario data are input data with the assumptions about future years.

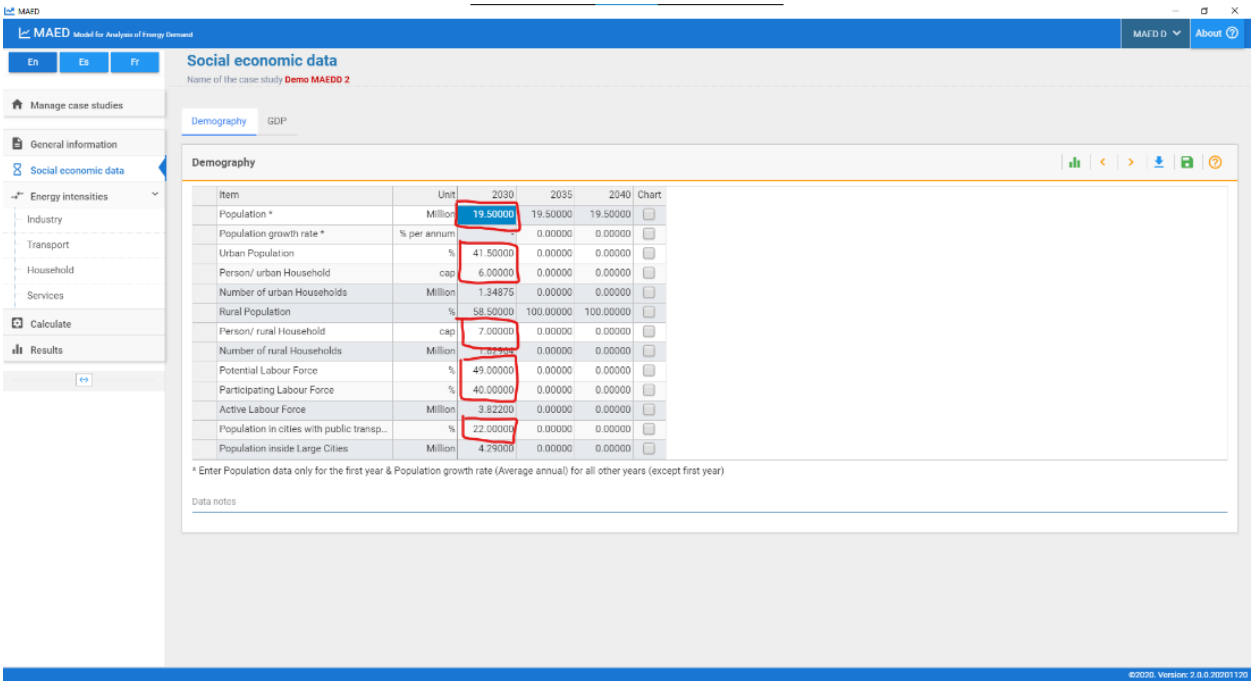
When phase one is completed and the reconstructed data for the base year are entered, it should not be changed. To test other scenarios, we need only repeat phase two and enter new scenario data based on new assumptions about future years.

We shall practise this procedure by entering some demonstration data in the two phases described above. We shall first create a copy of Demo MAED 1 and rename it Demo MAED 2. This will have the same structure as the case Demo MAED 1, because it is a copy of it. However, we shall change the planning period to practice adding new data. Change the planning years to "2030,2035,2040", as shown below. Because this is a new planning period, all input data should now be zero. This is done to avoid conflicts with the demo case data.

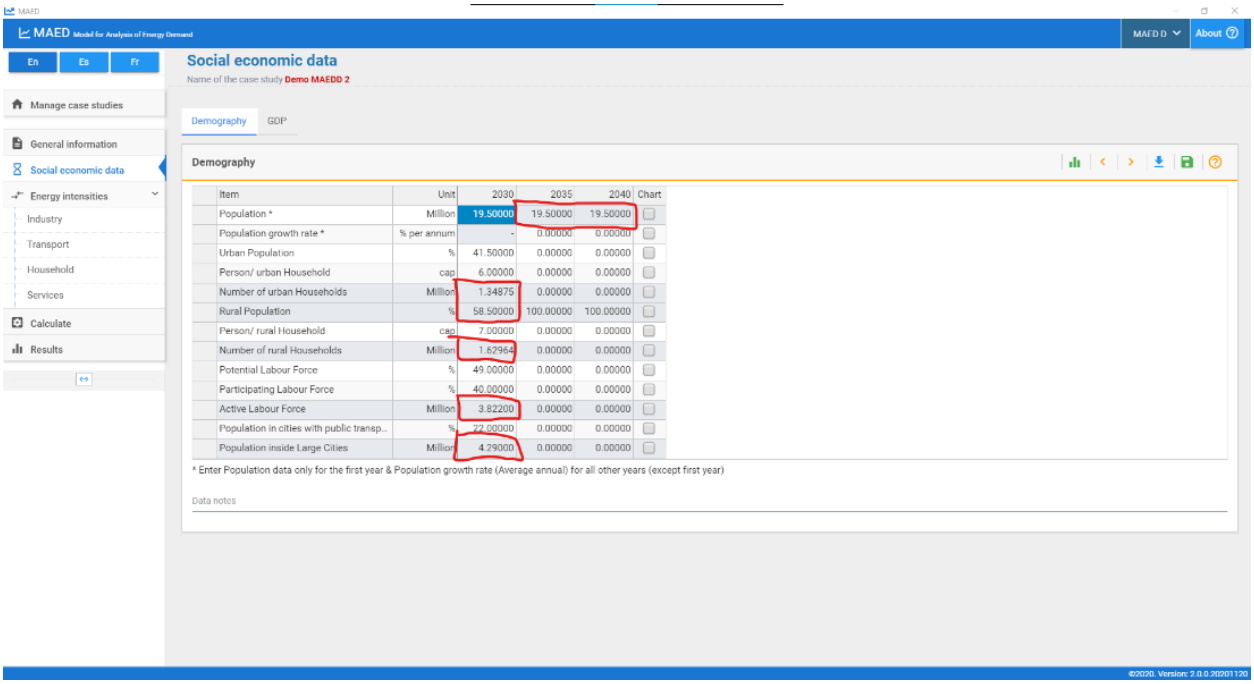
In this example, 2030 is our base year so we will assume we have fast-forward into the future and 2030 is a year in the past for which we have input data.



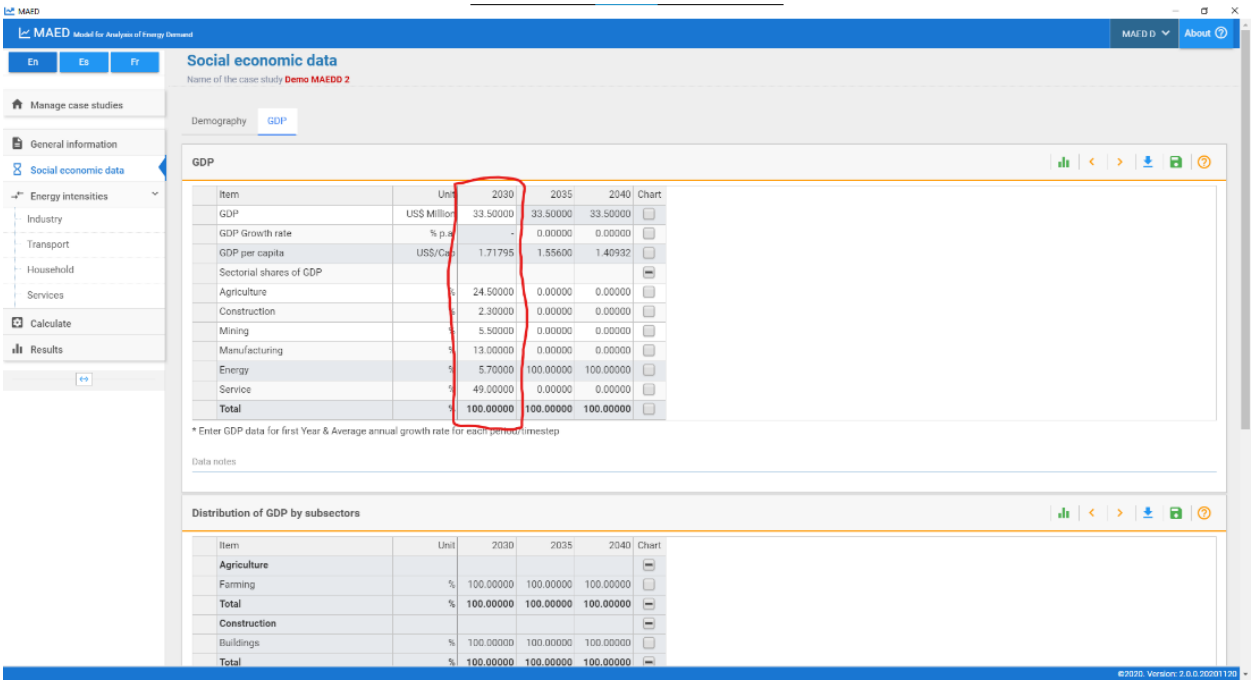
Let us start with entering the data for demography. As the base year is 2030, we must only enter data in the white cells for that year. Enter the data given in the screenshot below. Don't forget to click the Save button, every time you change data.

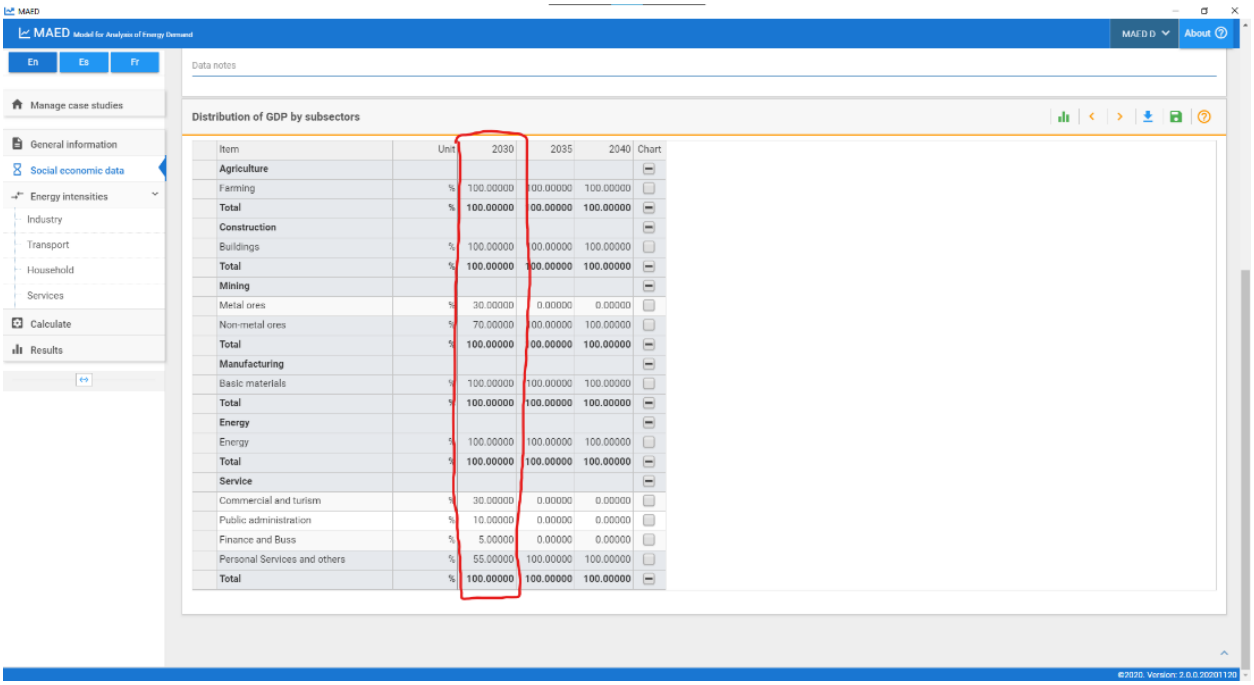


The data in the shaded cells should automatically be calculated. For example, the percentage of the rural population is calculated as the difference between 100% and the declared value of the percentage of the urban population.

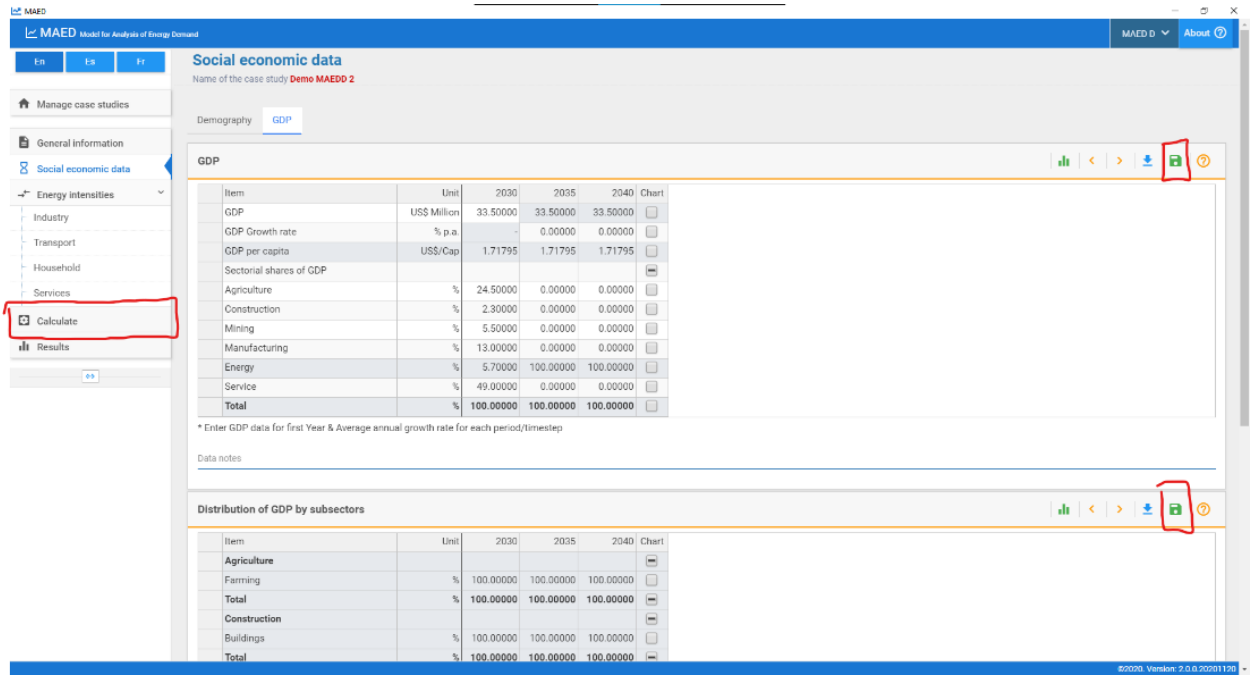


We shall similarly introduce data for the economy for the base year. Enter the data given in the screenshot below in the GDP and Distribution of GDP by subsectors tables.

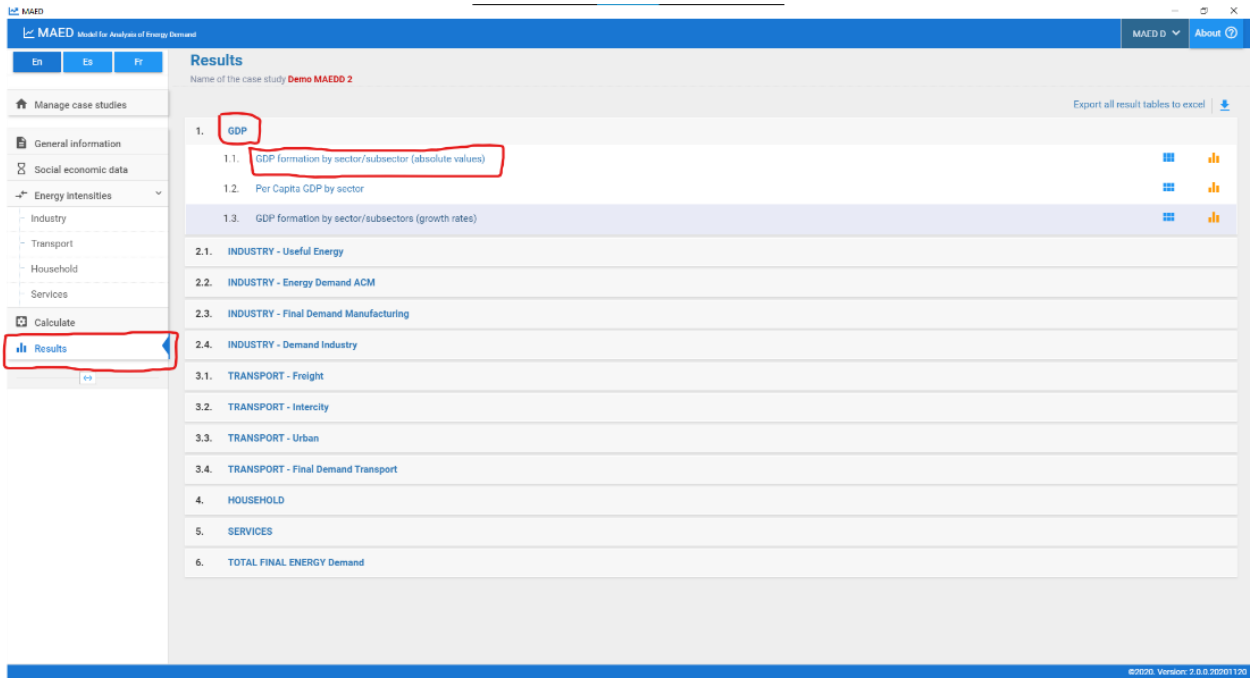




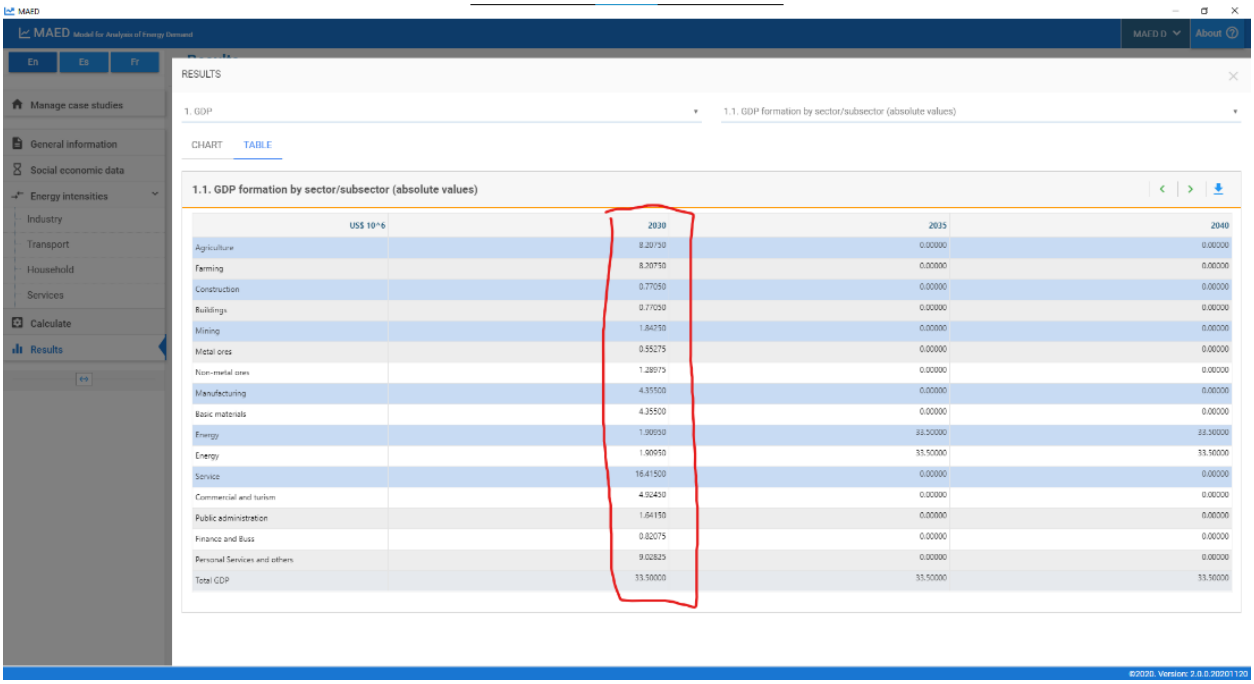
Save the data that you have entered and click the "calculate" button from the main menu.



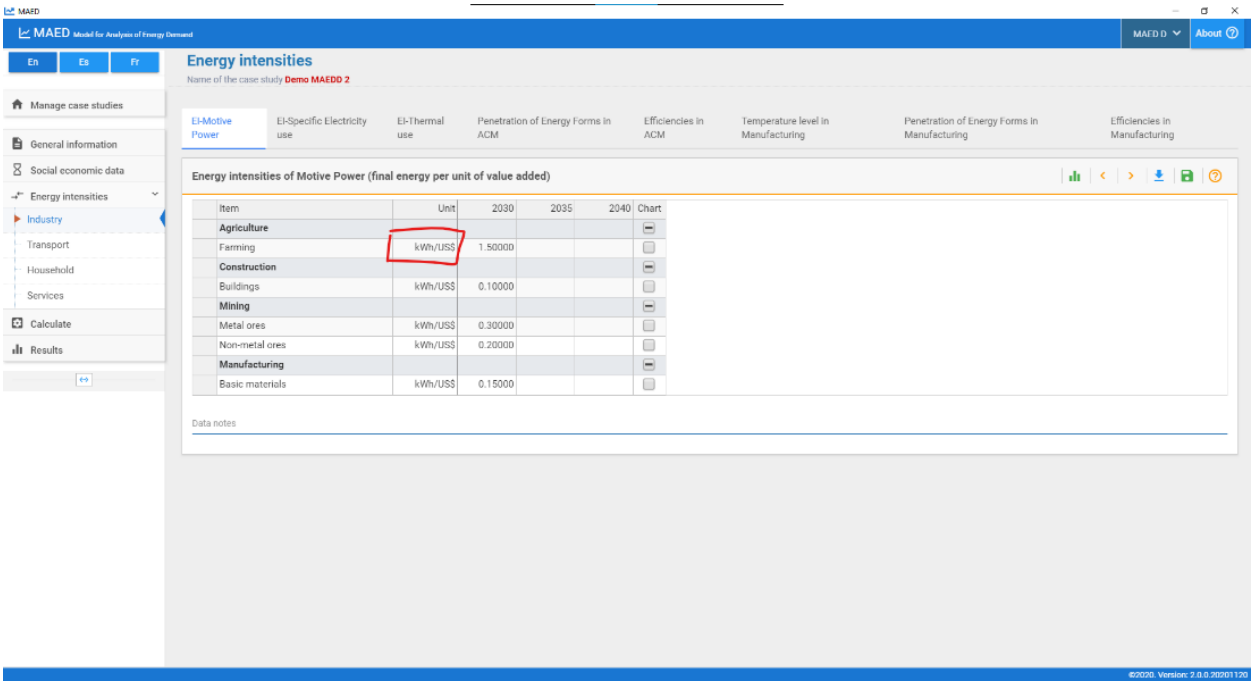
Even with the little data that we have introduced, we should be able to see some intermediate results. Clicking the calculate button should already bring you to the Results page, if not, click the results button. Now click the GDP title on the Results page. This should show subresults for the GDP. Click GDP formation by sector/subsector (absolute values).



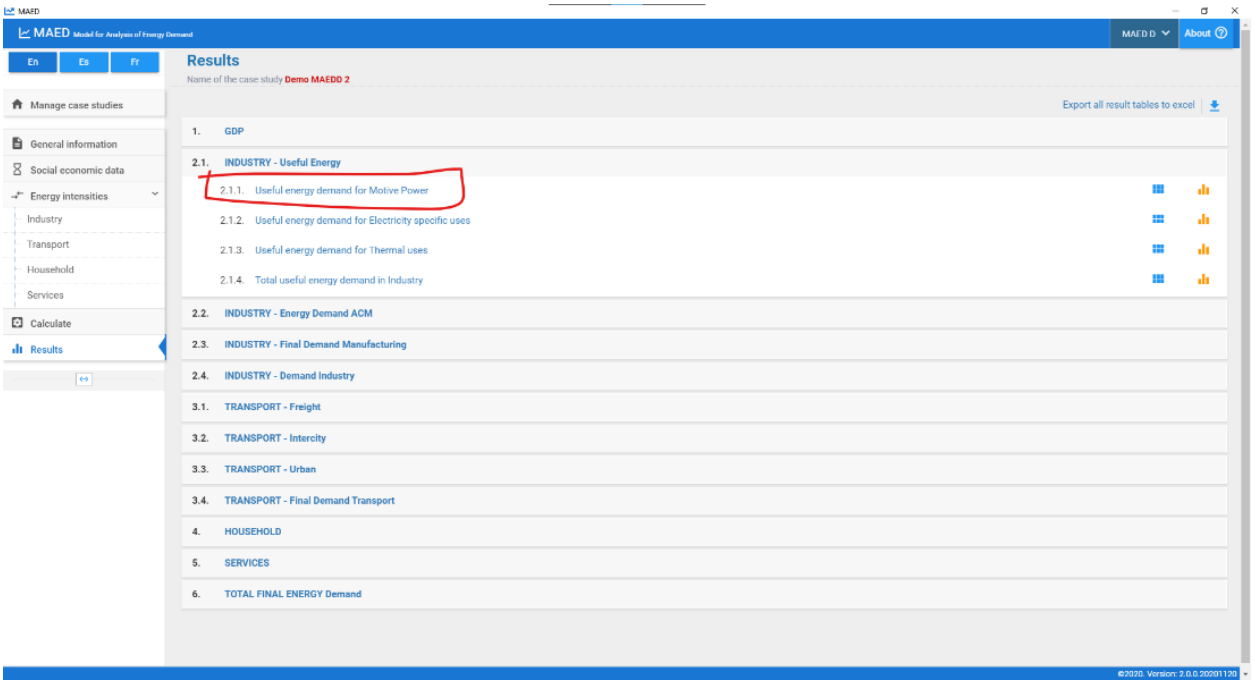
This table shows the contribution to GDP of each subsector, in the base year.

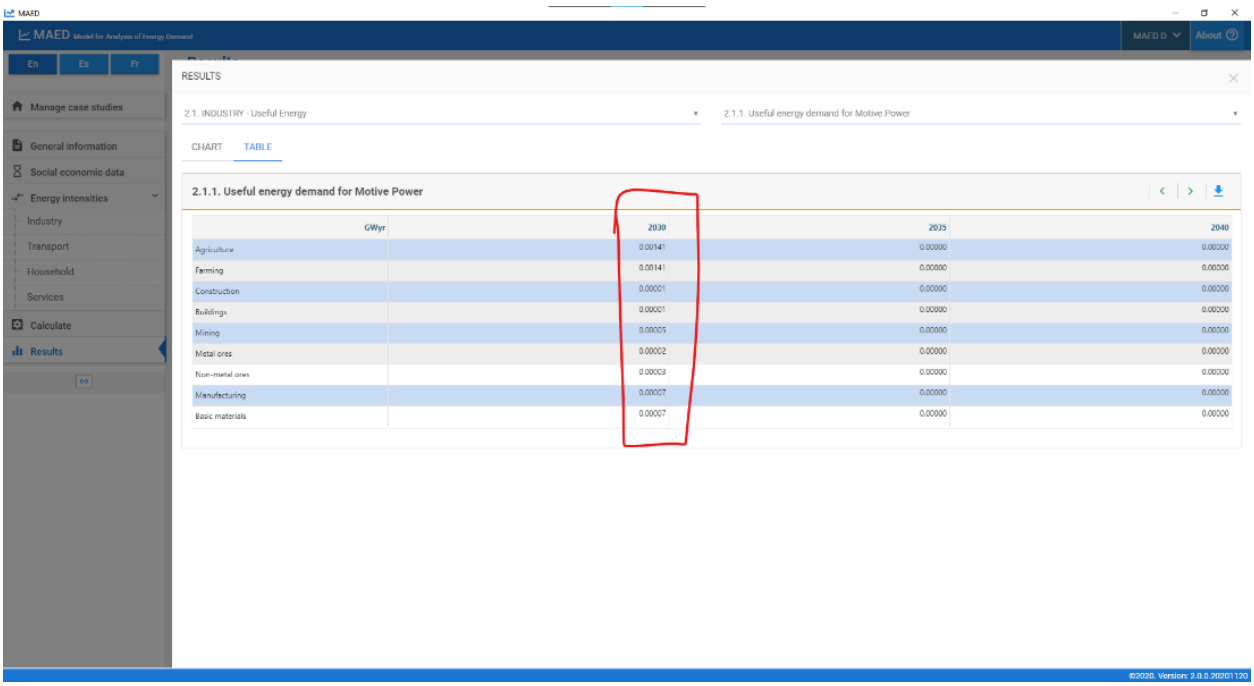


Let us introduce more data. We shall now introduce the energy intensities for the motive power in each subsector of the Industry. Go to the Energy Intensities for Industry page and add the data for the base year shown below. Be carefully with the energy unit, highlighted by the red box. In this case, we have kWh/US$.



As soon as the values of the energy intensities for the motive power are introduced, some interesting results can be seen. For example, after clicking Calculate, we can see the values of the useful energy, used to produce the motive power in the Industry for the base year.





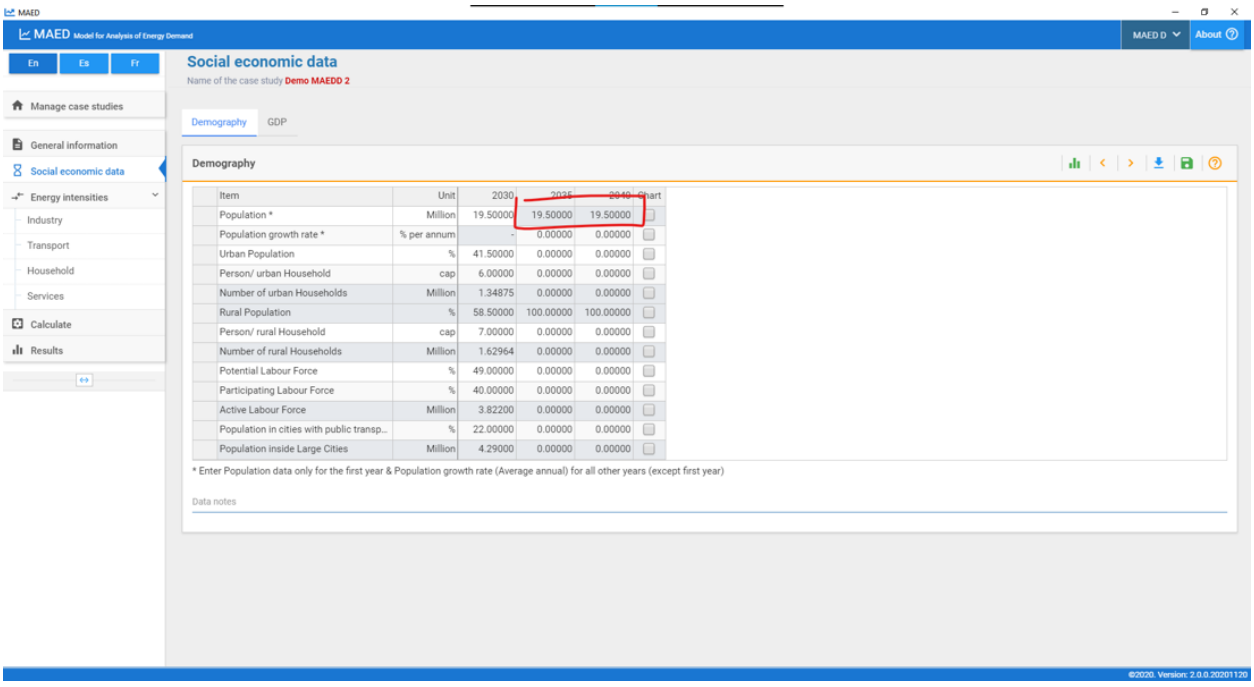
It is at this point in the process that the results from the MAED model should be compared to recorded data to confirm the accuracy of the reconstruction of the base year.

Activity 2: Adding Scenario Data

Let us move on to the scenario data. We shall start with the population and other parameters of the demographic data. The base year data have already been entered. We are now going to enter data for future years; these are referred to as the scenario data.

To add population scenario data in MAED-D, we need to enter the assumed population average annual growth rates for future years.

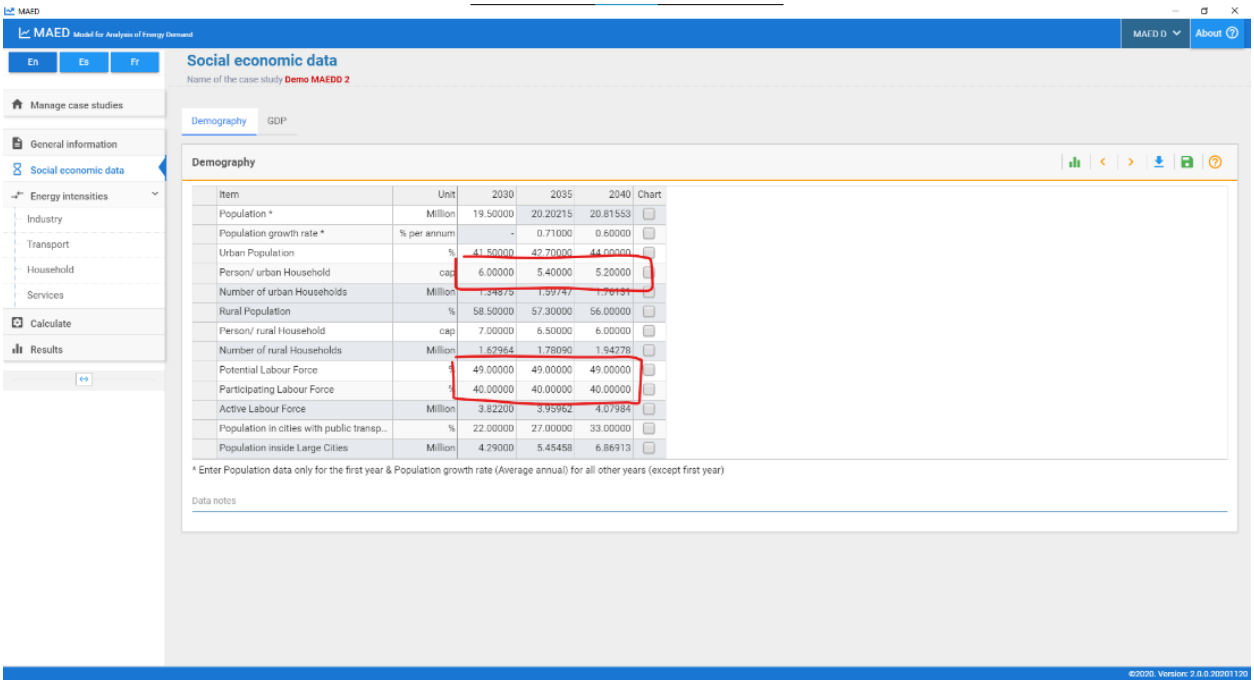
If we do not enter any data, the model interprets the growth rate as zero and assumes that the population remains constant.



Note that the growth values for each interval are the average growth rates. In our case, the values are the average growth rates over the 5-year intervals. The model calculates the total population in the future.

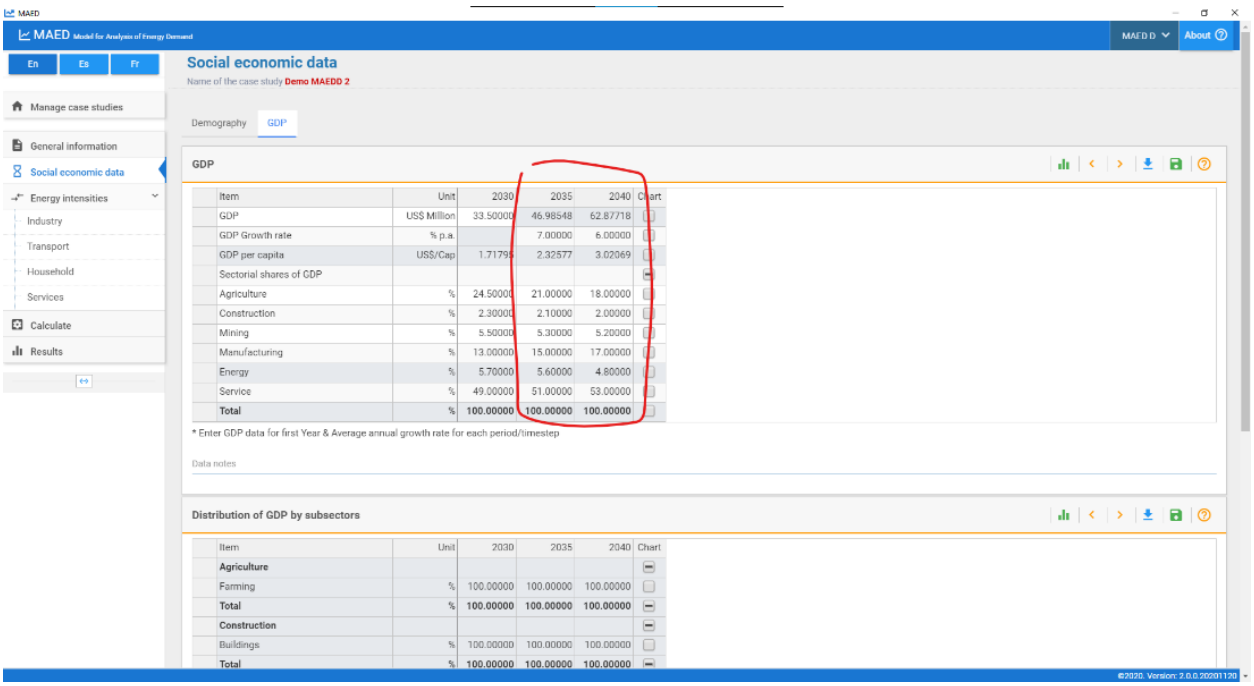
Columns for the years 2035 and 2040 will contain the scenario data for the corresponding parameters. For example, according to this scenario, the size of the households in the urban area will be reduced, from 6 persons per dwelling in the base year, to 5.2 persons per dwelling at the end of the study period. At the same time, the proportion of potential labour is considered constant in this scenario.

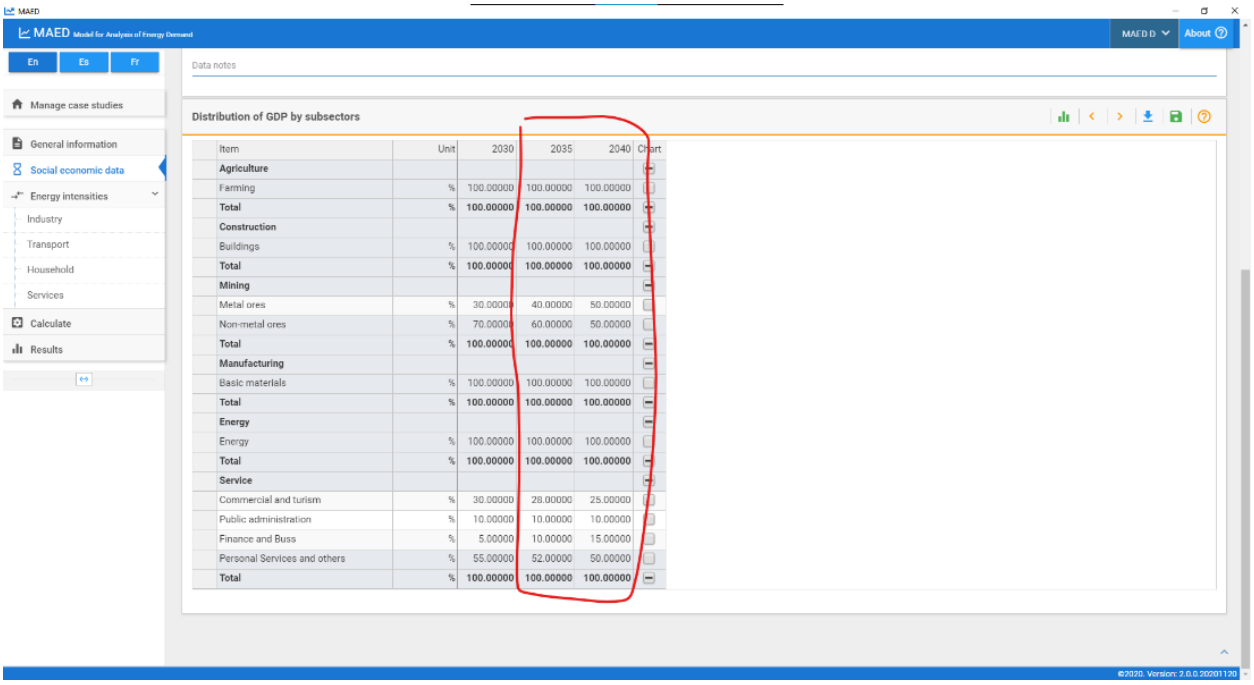
Please, enter all these data shown below.



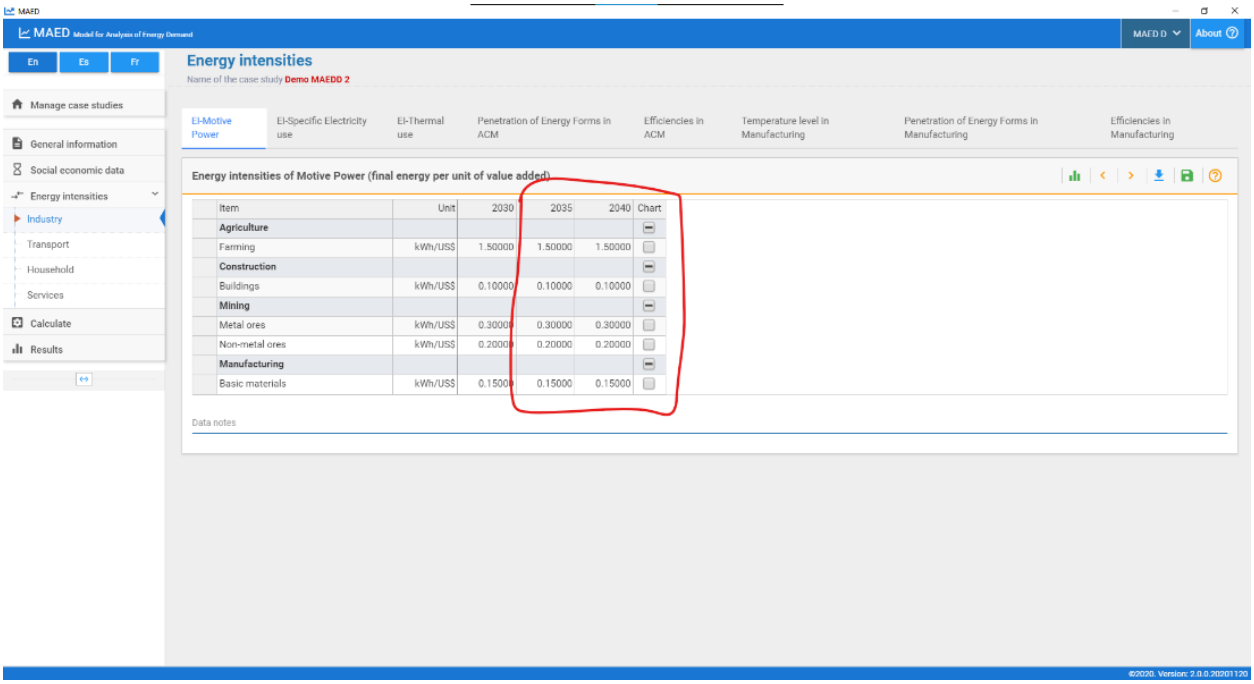
We are now going to enter the scenario data for GDP growth and structure. Just like with the population, future GDP data is introduced using annual average GDP growth rates.

The data corresponding to the future GDP structure must be introduced in their respective blank cells. Enter the following data in the GDP and Distribution of GDP by Subsectors tables.





We shall now enter the scenario data for the energy intensities of motive power. Enter the data shown below.



You will now be able to click calculate and look at the results for the years 2035 and 2040.

Congratulations, you now know how to enter data into the MAED-D model.