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Final report

In order to gain insight into some actions taken by the countries regarding economic aspects, a study has been developed. It includes the evolution from 2005 to 2015 of some indicators, such as the percentage of fuel exports and imports, the electricity access in rural and urban zones, and the usage of renewable and fossil fuels.

This study informs about the current situation of a chosen country, as well as the explanation of some actions taken and their consequences. It is also compared to the averaged values of the region it belongs to, in order to obtain a deeper knowledge of its global position.

Our main objective is to compare some economic indicators of the chosen country, and their progress from 2005 to 2015. The data we have chosen provides the client with information about a country regarding the evolution of some indicators such as:

- Importation and exportation of fuel.
- The electricity access in urban and rural zones.
- The usage of renewable sources and fossil fuels.
- A comparison of the country and the region it belongs to, regarding all the studied indicators.

The data set needed to complete this task must include the evolution of the chosen indicators in each country. We have just used one dataset, and we found it in the World Bank web page:

https://data.worldbank.org/topic/energy-and-mining

Additionally, regarding the implementation of this data set, given that it is available in a CSV file, XML and also in an MS Excel file, we have chosen the latter.

Once we have downloaded the metadata we can observe:

- A “data” sheet that includes all the countries with the different indicators, and all the values of each indicators from 1960 to 2015
- A sheet with all the possible indicators and an explanation of each of them.
- A sheet with all the countries, the region they belong to, their income (low /lower middle/upper middle/high), and their country code.

After having the complete dataset, a new book was created, containing the medatada about the countries we are going to use to start our project. Then, from the original data we filtered by the indicators to be studied, adding the result of each filter to a new sheet. Apart from that, a pivot table was created that includes the averaged values in every region of each indicator, from 2005 to 2015.

With respect to the missing or null values, they were treated as zeros, so when creating the charts, it was pretty clear than there was a missing value since the graph will show a non-explicable decline to 0, so it did not cause any problem.

In addition, due to the type of data we are treating with, it is expected to have some null values because the dataset contains a lot of countries, and some of them might not have updated information regarding a certain indicator. However, those are not the only values that are

unnecessary for our type of research. Since the data set is pretty extensive, a lot of data is irrelevant in our study. Therefore, at the beginning we filtered all the indicators, keeping only those that will be studied, and ignoring the rest. Also, the “metadata indicators” sheet will be removed since it will not be used.

Once we have the necessary data for the project, the next step is to develop it.

- First of all, we have filtered the “data” sheet to obtain only the indicators that are going to be studied, creating a new sheet with the information of each one.
- Then, we have added the countries’ names columns in order to be able, once the user selects a country, to look up the corresponding data in each sheet.
- A pivot table was used to group countries within the same region and calculate their averaged values per year.

When the data is ready, the dashboard will be displayed, containing:

- The request of a selecting a country. Once this is done, its country code and income group will appear.
- The values of the six indicators chosen in that country, showing its evolution from 2005 to 2015.
    - The minimum and the maximum values will be highlighted in green and red, respectively.
- A table will be used to display information regarding the regions’ averaged values, contained in the previously created pivot tables.
    - The minimum and the maximum values will be highlighted in green and red, respectively.

- With all this information, some charts will be automatically created. They will first show the evolution of the six indicators in the country, and then comparing them with the ones of the region they belong to.
- Finally, some colours and fonts will be used to make the dashboard nicer.

Finally, considering the result of our study, we can conclude that the data set is more than enough since it successfully solves all of our necessities, and even more indicators could have been studied.

In addition, the studied period of time tends to have updated and completed information. Moreover, since the dataset has been taken from a relevant source, the data included seems to be correct, with no errors. Therefore, the chosen data set is more than enough to solve our initial questions, so no more data is required.

Final dashboard

DASHBOARD FOR THE COUNTRY'S DATA

Select a country:	Country code:	Income group:	Region:
Australia	AUS	High income	East Asia & Pacific

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	EVOLUTION
Fuel exports (%)	21,29230762	26,73189685	25,48688899	24,4223209	34,26717454	31,98203985	30,82319977	29,88328634	30,35744296	27,32312622	28,01940925	
Fuel imports (%)	9,495476951	11,37456648	13,71145387	13,38850939	16,31228762	13,26261088	14,03572487	17,43222943	17,30210085	17,8030441	16,10980078	
Fossil fuels (%)	94,06821267	94,21585218	94,28316545	94,29310395	94,35148823	95,51005853	94,42474222	94,42165586	94,37700612	93,70804882	93,38683566	
Renewable energies (%)	6,680425721	6,711974547	6,853266823	6,95158629	6,78956274	7,112827151	8,109027293	8,2561815	8,247109347	9,08848191	9,278198457	
Access to electricity (rural)	100	100	100	100	100	100	100	100	100	100	100	
Acces to electricity (urban)	100	100	100	100	100	100	100	100	100	100	100	

DASHBOARD FOR THE AREA'S EXPORTS AND IMPORTS

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fuel exports (%)	6,032830086	11,38010909	10,89954172	12,00036716	10,89507857	11,33374056	11,53633919	10,63895898	14,23586795	12,032986	12,78531886
Fuel imports (%)	17,29634778	17,44326758	17,94930938	20,18115407	16,38951547	17,75891804	19,57276435	20,94452282	21,09145724	19,13317188	14,30561648
Fossil fuels	50,68083173	50,76985056	51,24624957	74,9885162	75,90176783	74,65259305	76,46251538	76,70860538	77,19808747	78,30423197	80,85743239
Renewable energies	22,87498371	22,73973962	20,94514399	21,22259698	20,43477713	20,15405285	19,8203883	19,62462046	19,62671999	18,83072813	18,23261888
Electricity (rural)	73,12393536	73,09551478	73,19948928	74,8583224	76,63439879	77,23000595	79,64599937	81,34172823	82,27202244	83,80810031	86,36119844
Electricity (urban)	92,86388038	93,10403569	94,12847142	94,44720969	94,69514598	95,0350303	95,34633984	95,67270757	95,71071403	96,16941194	96,58408357

DASHBOARD FOR GRAPHS