

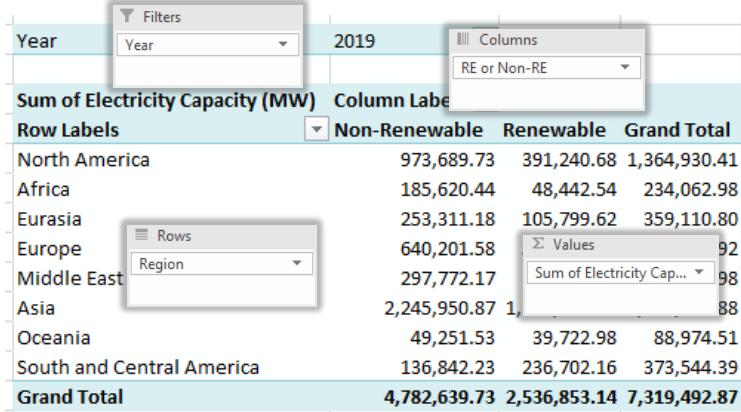


# WEEK 4 — PIVOTTABLES & CHARTS

This week we covered PivotTables and PivotCharts. These are quick, easy, and powerful ways to investigate your data.

To create a PivotTable, click in your data (preferably a Table), **Insert > PivotTable**.

The 4 “quadrants” or areas of a PivotTable are **Filters**, **Rows**, **Columns**, and **Values**.



A screenshot of a Microsoft Excel PivotTable. The table shows the sum of electricity capacity in MW for different regions, broken down by Non-Renewable and Renewable sources. The PivotTable has four main sections: Row Labels (Region), Column Labels (Non-Renewable, Renewable, Grand Total), Values (Sum of Electricity Capacity), and Filters (Year, RE or Non-RE). The data includes regions like North America, Africa, Eurasia, Europe, Middle East, Asia, Oceania, South and Central America, and Grand Totals.

	Non-Renewable	Renewable	Grand Total
North America	973,689.73	391,240.68	1,364,930.41
Africa	185,620.44	48,442.54	234,062.98
Eurasia	253,311.18	105,799.62	359,110.80
Europe	640,201.58	92	640,201.58
Middle East	297,772.17	98	297,772.17
Asia	2,245,950.87	1	2,245,950.87
Oceania	49,251.53	39,722.98	88,974.51
South and Central America	136,842.23	236,702.16	373,544.39
<b>Grand Total</b>	<b>4,782,639.73</b>	<b>2,536,853.14</b>	<b>7,319,492.87</b>

## SORTING AND FILTERING

The sorting and filtering dropdown  allows you to sort by that field or apply filters. Different filters are available depending on the type of data. You can also change the order of items manually by dragging them to a new position.

Add a Field to the Filter quadrant to have it affect the entire table. Use Report Filter Pages to create a sheet for each value in a Filter.

## CALCULATED FIELDS AND ITEMS

Rather than add a column to your data, you can do the calculation in your PivotTable. Calculated Fields adds a new Field to your data. Calculated Items add a new item (or several) to a Field. You can find these on the **PivotTable Analyze** ribbon in the **Calculations** area.

You can drag fields from the Field List to the quadrants, or between quadrants, to rearrange the PivotTable. A field can appear multiple times in the **Values** quadrant with a different summary function or calculation. Click the drop-down next to the field in the **Values** quadrant to access the **Value Field Settings** or right-click the field in the PivotTable.

## GROUPING ITEMS

When you add a Date field to your PivotTable, it will get automatically grouped. You can change or remove the groups, or create groups for other fields, on the right-click menu or on the **PivotTable Analyze** ribbon in the **Group** area.

## PIVOTCHARTS

A PivotChart is a chart based on data in a PivotTable. It will update if the data or structure of the PivotTable changes. You can use the Field Buttons to sort and filter the chart or turn them off for a better look when printed or in a dashboard.

## REFRESH

If the data behind the PivotTable changes you can click Refresh to update the table with the new data.

## SHOW VALUE AS

There are 4 main types of calculations you can **Show Value As**:

**% of** — the options here include **% of Grand Total**, **% of Column Total**, **% of Row Total**, and others. In the example to the left, **% of Row Total** would be the percent of energy generated by renewable and non-renewable sources per region.

**Difference From** — show the difference between each item and a base item. Here we might want to set Europe as the base item, then all the other rows will show the difference between Europe and that region.

**Running Total In** — also known as the cumulative sum. Add each element to the running total to get the overall total in the last cell.

**Rank** — either rank smallest to largest or largest to smallest.

## CONDITIONAL FORMATTING

Don't forget about conditional formatting! All the conditional formatting tools available to you in normal Tables are still available in PivotTables.

Number formats should be set in the **Field Settings** rather than using the tools on the **Home** ribbon.