Energy Use in the Middle East

This data explores World Development Indicators about Energy from the World Bank. World Development Indicators (WDI) are data compiled from officially-recognized international sources. It presents the most current and accurate global development data available, and includes national, regional and global estimates. The WDI data was last updated 17 April 2017.

Three countries in the Middle East were chosen for analysis: Afghanistan, Iran and Pakistan. The following attributes were selected: Population Growth, Access to electricity, Access to clean fuels and technologies for cooking, and Renewable Energy Use as a Percentage of Total Energy Use. All of the attributes units were percent of population.

The data was preprocessed from the raw data to delete the “Country Code” and “Series Code” columns. Additionally, all null values were deleted and the field names were renamed.

Sheet 1 shows the average population growth in Afghanistan, Iran and Pakistan in 2014. Afghanistan has the highest growth of its other two neighbors at 3.03%.

Sheet 2 shows the percentage of population that has access to clean fuels and technologies for cooking for Afghanistan, Iran and Pakistan in 214. Under World Health Organisation guidelines, kerosene is excluded from clean cooking fuels. Accelerating efforts to increase access to clean, modern cooking fuels is essential for achieving the Sustainable Energy for All (SE4All) goals. Note that Pakistan uses about six times more clean cooking fuel (30.22%) than its neighbor Iran (5.22%).

Sheet 3 shows the percentage with electricity access in Afghanistan, Iran and Pakistan in 2014. Afghanistan has the lowest access with 89.5%.

Sheet 4 shows the percent of Electricity that is renewable by country in 2014. Note the large difference between Pakistan (47.21%) and its neighbor Iran (0.94%).

Now that we’ve compared each of the WDI’s within each country in 2014, we want to explore any trends that may have occurred over time.

Sheet 5 shows a snapshot over time of the percentage of the population using clean fuel or technology for cooking in Afghanistan, Iran and Pakistan. In Afghanistan, the amount decreases steadily from 21.76% in 2003 to 17.31% in 2014. There is no real trend in Iran. In Pakistan, the highest amount of 33.7% was in 2010.

Sheet 6 shows a snapshot over time of the population's access to electricity in Afghanistan, Iran and Pakistan. Afghanistan's percentage access to electricity increased dramatically from 7.2% in 2003 to 89.5% in 2014. Pakistan's access increased from 79.9% in 2003 to 97.5% in Iran's access increased very slightly from 98.08% to 99.44%.

Sheet 7 shows a snapshot over time of the percent of electricity that is renewable in Afghanistan, Iran and Pakistan over time from 2003-2014.Note the decrease over time in Afghanistan from 2004 (49.19%) to its lowest at 10.79% in 2011. Iran uses almost no renewable energy while its neighbor Pakistan uses significantly more.