Trends in electricity production vs. Economic growth

Data Engineering 1
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Outline

- Aim of project
- How to approach using simple plotting in Knime
- Knime pipeline
- Plots 1990 vs. 2010
  - Trends in Nuclear
  - Trends in oil, gas and coal
  - GDP-PPP versus population size
- Conclusions

Aim of project

To investigate if population growth is the main driver in a higher oil, gas and coal diet worldwide.

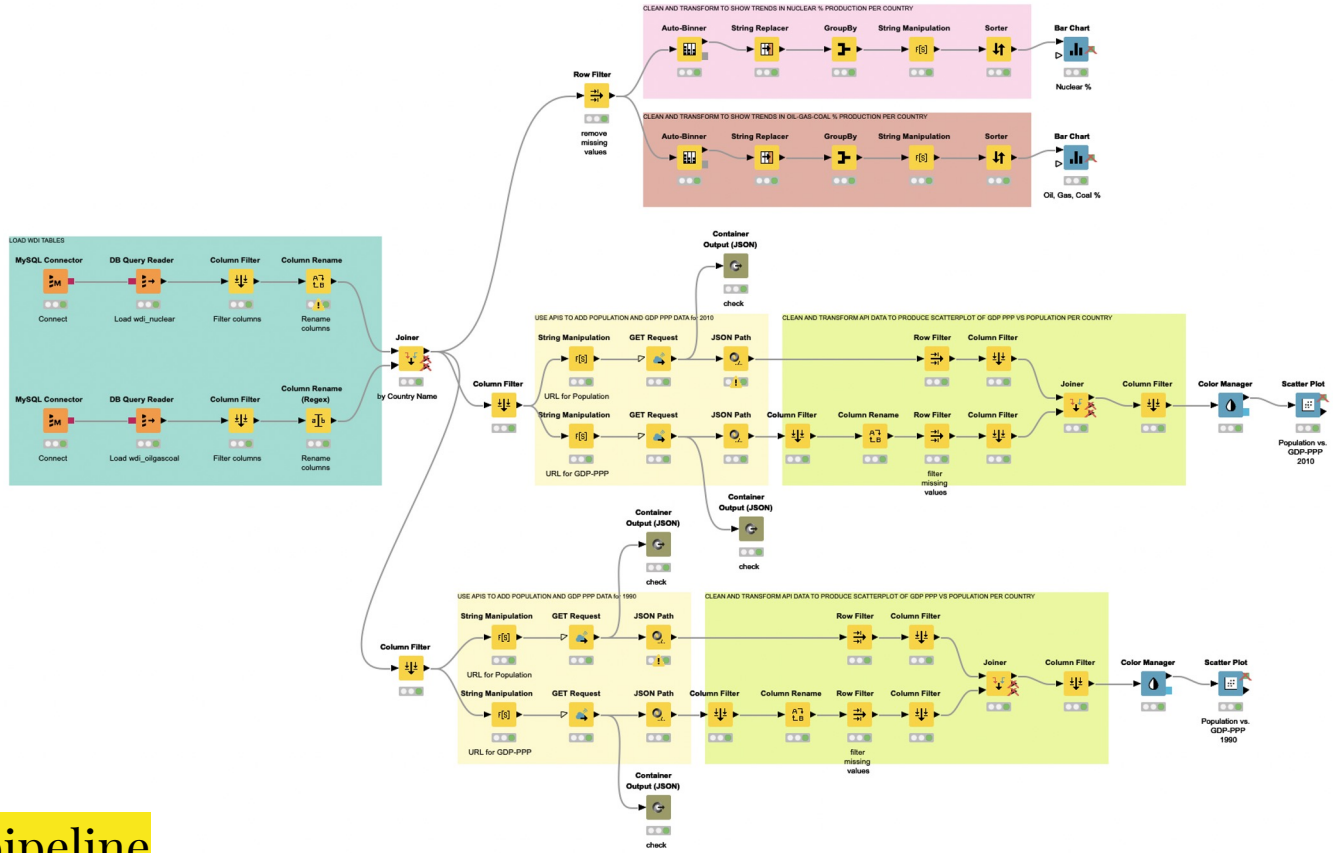
How?

Plot

- Electricity production for nuclear, oil, gas and coal in year 2010
- GDP-PPP versus population size in the year 2010
- Compare to 1990 to provide context

Explain

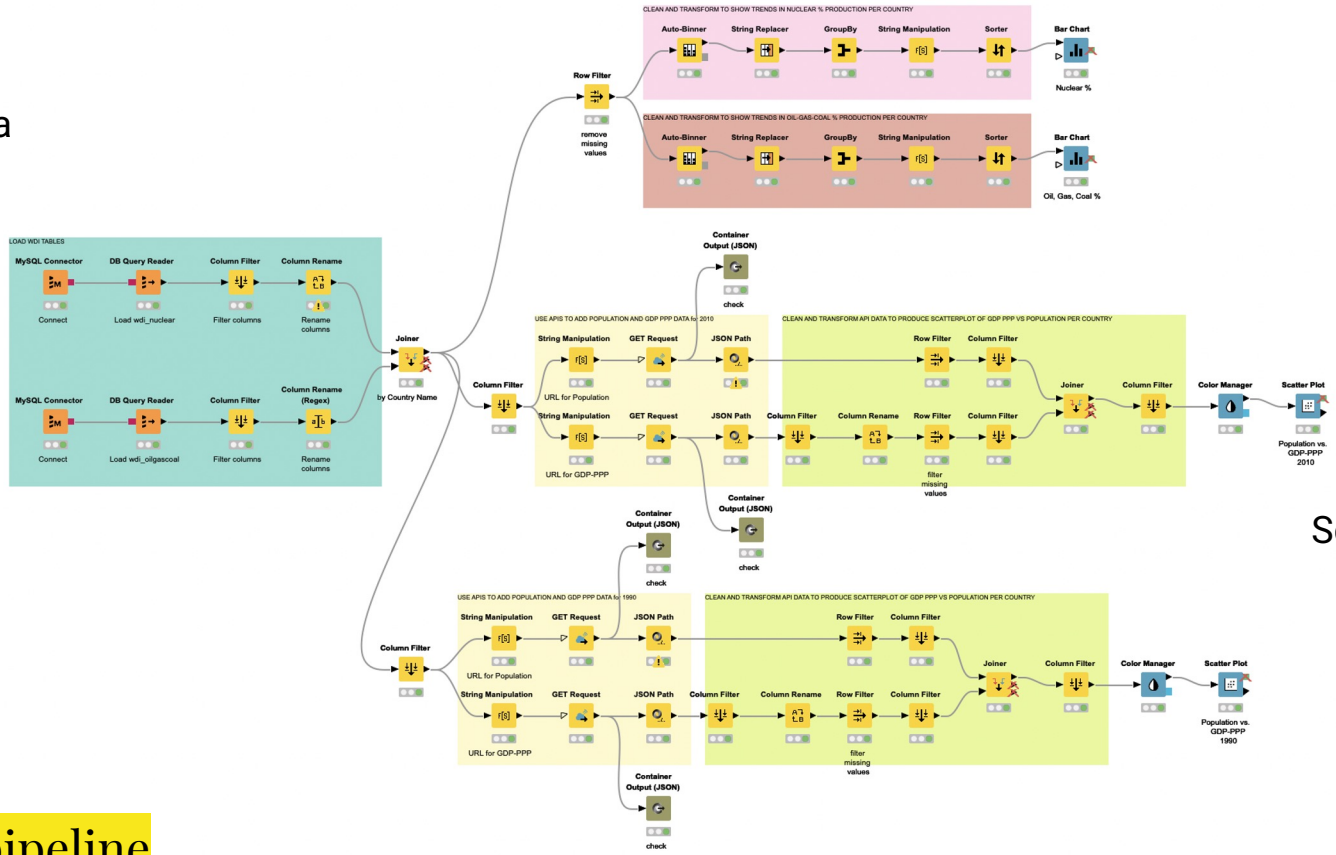
- Are there trends?
- What conclusions can be drawn, if any?



Knime pipeline

Barcharts

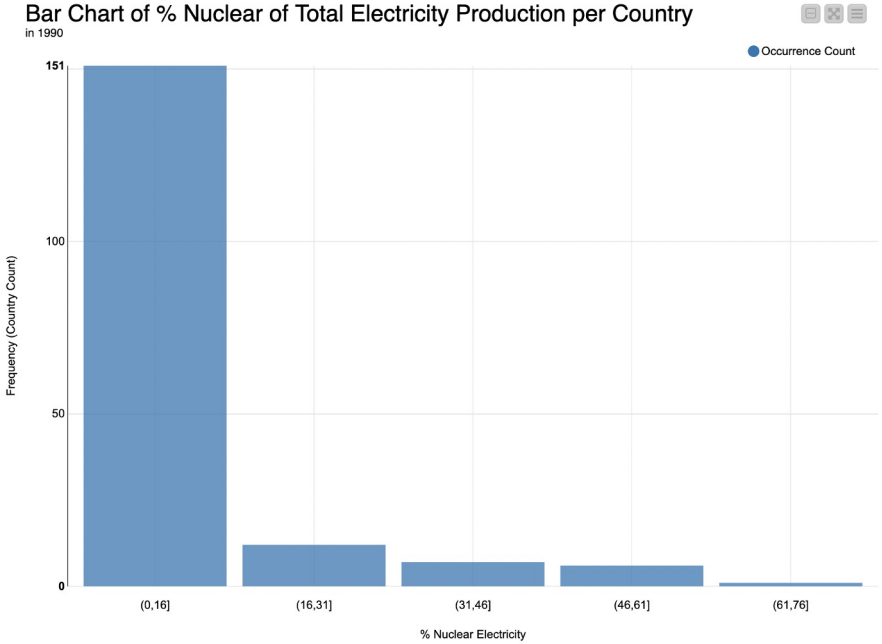
Load data

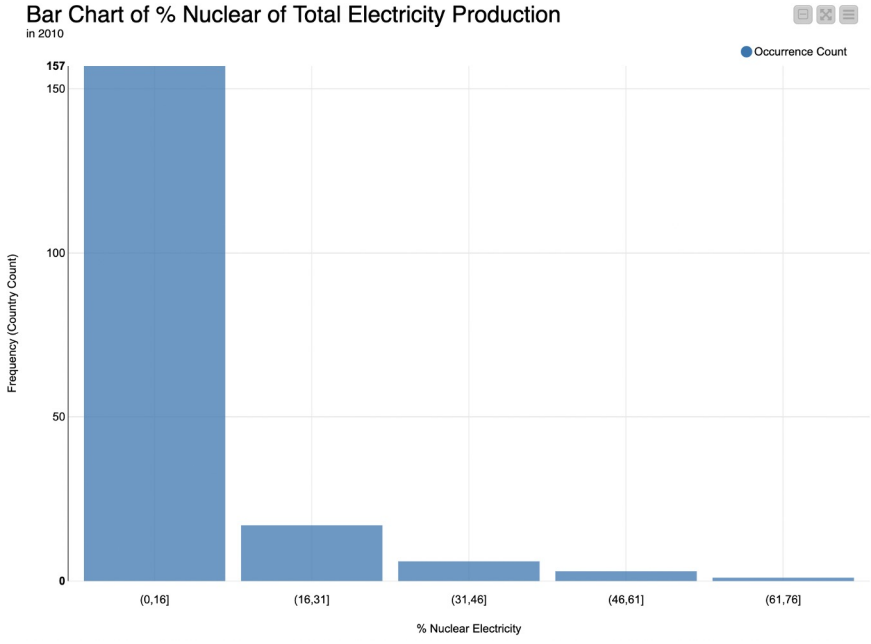


Scatterplots

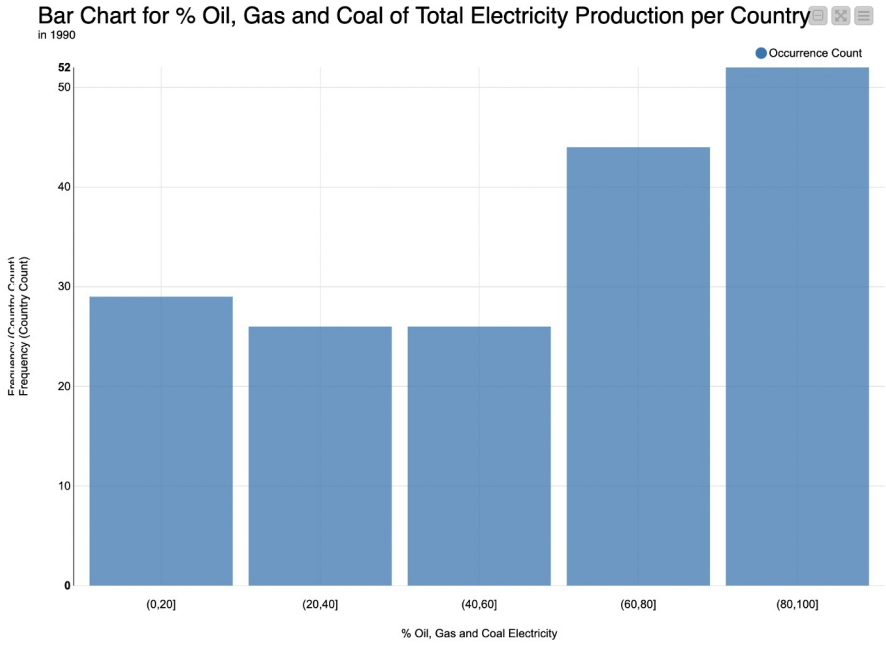
Knime pipeline

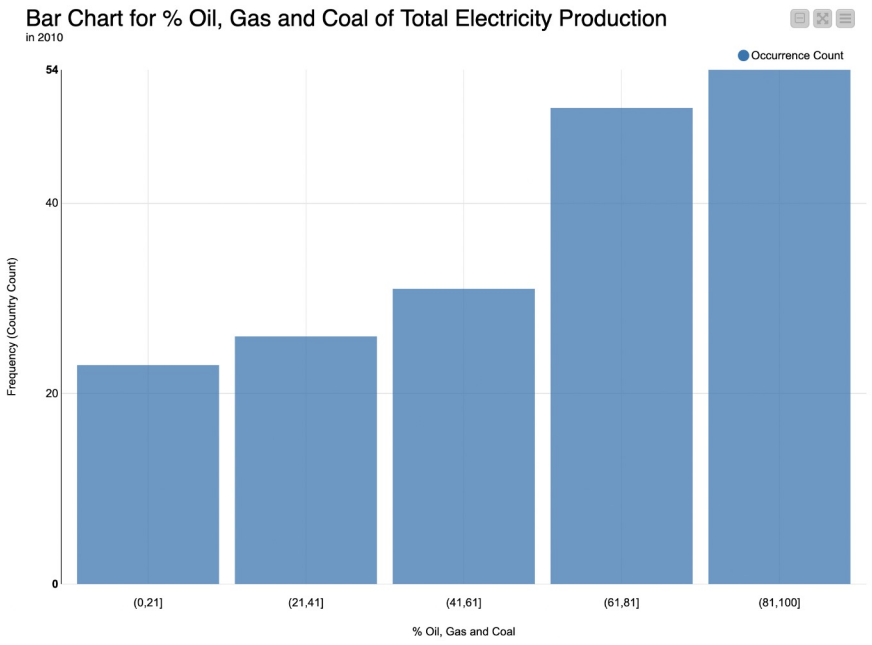
Trends in nuclear 1990-2010



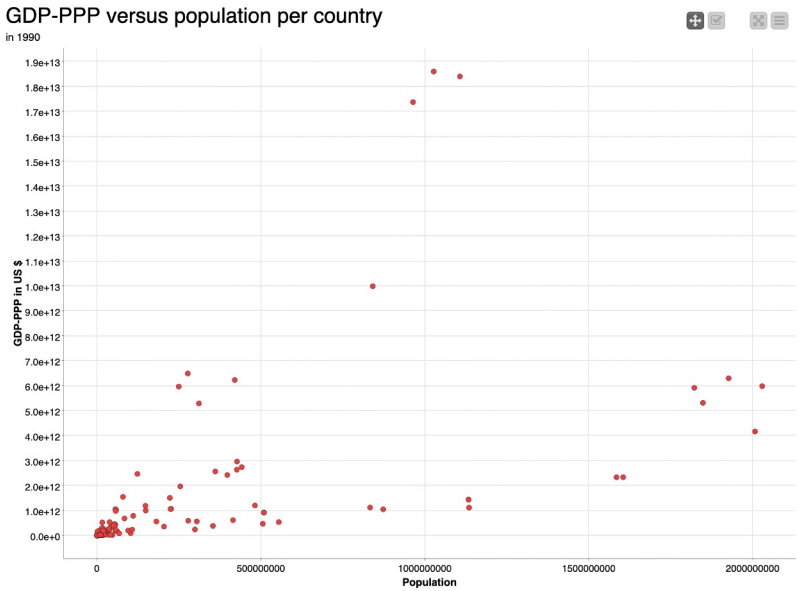


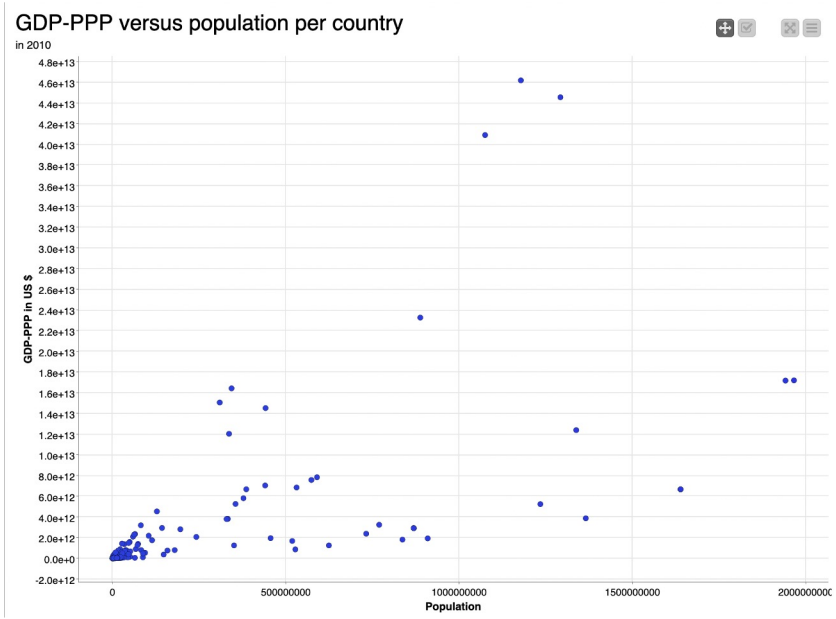
Trends in oil, gas and coal 1990-2010



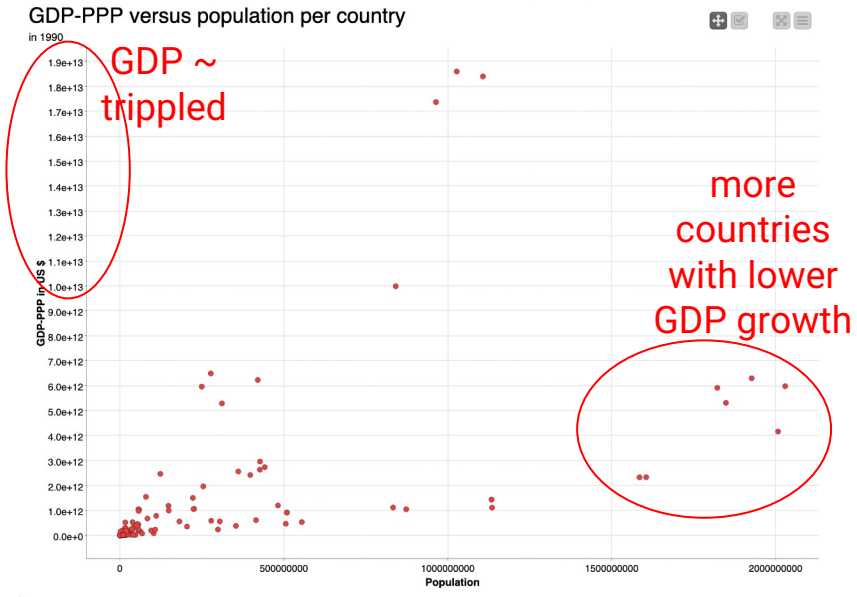


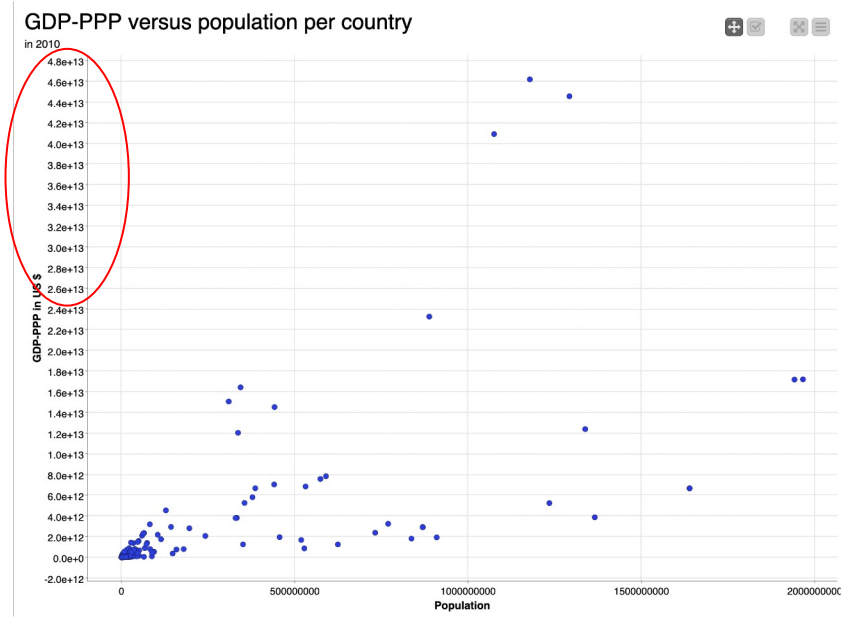
GDP-PPP vs. population growth





GDP-PPP vs. population growth





Conclusions

- Investigation inconclusive: not enough variables (limitation of knime software)
- Nuclear electricity production stable in years 1990-2010
- Increase in oil, gas and coal electricity production in years 1990-2010
- GDP-PPP roughly tripled between 1990-2010
- Population growth not proportional to GDP-PPP growth (possibly even slower rate) indicating it was not the driving factor for more fossil fuel consumption

Q &A