

Quantification of societal energy consumption during the industrial revolution in northwest Iberia

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This research quantifies the energy consumption in northwest Iberia over the time period 1801-1920. The study area is made up of four Spanish provinces and four Portuguese districts. The quantification is done using an energy decomposition equation with population, per capita GDP and energy intensity as variables, with the dataset collected from existing literature using datamining and textmining. The main goal is a closer examination of the early industrial revolution and its driving forces. Results show an increase of 87.114 PJ on total energy consumption in the study area, with the majority of that growth coming from the Spanish part. Both countries show very localized industrialization, with Porto as the centre in Portugal and Basque Country in Spain. For the Spanish part of the study area, an increase in affluence is the most important factor in increasing total energy consumption. For the Portuguese part of the study area, the most important factor is population increase. This research underlines the importance of factors influencing energy trends on different scales, namely district and province, country-wide and even worldwide.