Disaggregate Energy Consumption and Industrial Output in Pakistan: An empirical Analysis

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- **1. General.** The paper investigates the relationship between the disaggregate energy consumption (oil, gas, coal and electricity) and industrial output by using the multivariate Johansen's cointegration approach. The authors find a positive effect of disaggregate energy consumption on industrial output, and a bidirectional causality in case of oil consumption. The authors try to give policy recommendations regarding this phenomenon.
- **2. Contribution.** The paper makes some contribution to academic literature, by considering disaggregate energy consumption in Pakistan. This contribution is not sufficiently enhanced. Furthermore, I would not call a "substantial contribution".
- **3. Scholarship.** The paper meets academic standards overall, however in my opinion the underlying motivations of the paper as well as the economic implications are not clear. The literature review part should be significantly improve (authors do not mention the econometric methodology and the historical data used by others studies). Consequently, the reader has some problem to evaluate the true contribution of the paper. Moreover, in my opinion, presentation of the historical data as well as the econometric methodology are too cursory.
- **4. Appeal.** The topic is of appeal, however, as before, should be more explain (in the introduction for example).
- 5. **Originality.** I would say that the originality is not significant.
- **6. Analysis.** Here is where I have most concerns. I do not think that the paper is clear enough in what exactly it is analysing. Many times in the paper, it seems to have confusion between causality and cointegration. The analysis is not detailed enough. The econometrics should be review (results of diagnostic test not correct, footnote to table are inaccurate, ...).
- **7. Recommendation.** My recommendation is on rejection. However, I leave this of course to your judgment, as you have the overall view of both referees' reports.