

**Incentivizing renewables and reducing grid imbalances through market interaction
A forecasting and control approach**

Lago, Jesus

DOI

[10.4233/uuid:db706644-1397-4e97-99a1-6ed748fe4ed4](https://doi.org/10.4233/uuid:db706644-1397-4e97-99a1-6ed748fe4ed4)

Publication date

2020

Document Version

Final published version

Citation (APA)

Lago, J. (2020). *Incentivizing renewables and reducing grid imbalances through market interaction: A forecasting and control approach*. [Dissertation (TU Delft), Delft University of Technology]. <https://doi.org/10.4233/uuid:db706644-1397-4e97-99a1-6ed748fe4ed4>

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Propositions

accompanying the dissertation

INCENTIVIZING RENEWABLES AND REDUCING GRID IMBALANCES THROUGH MARKET INTERACTION

A FORECASTING AND CONTROL APPROACH

by

Jesus LAGO

1. One of the main causes of the polarization in current societies is that humans have difficulties to understand statistics.
2. Once a common trait among rulers and world leaders, long-term planning and cross-generational thinking have been lost in the last decades. If this remains unchanged, addressing important issues like climate change will hardly be possible.
3. Enforcing open access without additional measures will lead to an increase in predatory journals.
4. As long as every member of the EU implements its own social benefits, tax systems, and economic policies, the future existence of the EU will be at risk.
5. When solving important problems for society, humans lack the ability to set priorities. As less pressing subproblems are a cause for polarization and heated debate, critical subproblems are thus overlooked and not addressed as quickly as needed.
6. Society expects adults to behave seriously. Yet, if we all joked more and behaved a bit more like children, many psychological diseases would be subdued.
7. In the context of electricity price forecasting, new methods continuously claim to improve state-of-the-art results, yet they are usually analyzed and evaluated in narrow and non-generalizable conditions.
8. Considering that more than 80 % of the energy consumption in households is used for heating water and habitable space, thermal energy seasonal storage will revolutionize the energy transition.
9. As traditional power plants are closed down, the capacity of traditional balancing providers will not be enough to balance the grid and renewable sources will need to start participating in grid balancing.
10. Reproducibility is the most important issue that the field of electricity price forecasting is currently facing. The only solution is an open-access benchmark dataset comprising several electricity markets and standardized evaluation criteria.

These propositions are regarded as opposable and defensible, and have been approved as such by the promotor prof. dr. B. De Schutter.