5. Conclusion

The success in the deployment of renewable energy systems lies on the availability of efficient energy management systems. In particular, when energy storage is considered in the system, it is critical to count with tools to take decisions related to flow of energy.

In this work, a new strategy to monitor and control the power flow in a renewable energy system was considered. The main contribution of the proposal is related to the inclusion of prediction variables in the energy management system. Both generation and load short-term forecasts were added as inputs to the EMS. Different scenarios are considered to attest for the efficiency of the proposed strategy.

The results showed that the proposed strategy improves the performance obtained without load and generation forecasts. Future work should be directed towards more complex targets as the inclusion of battery usage costs, energy price variations and actuations in loads.

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