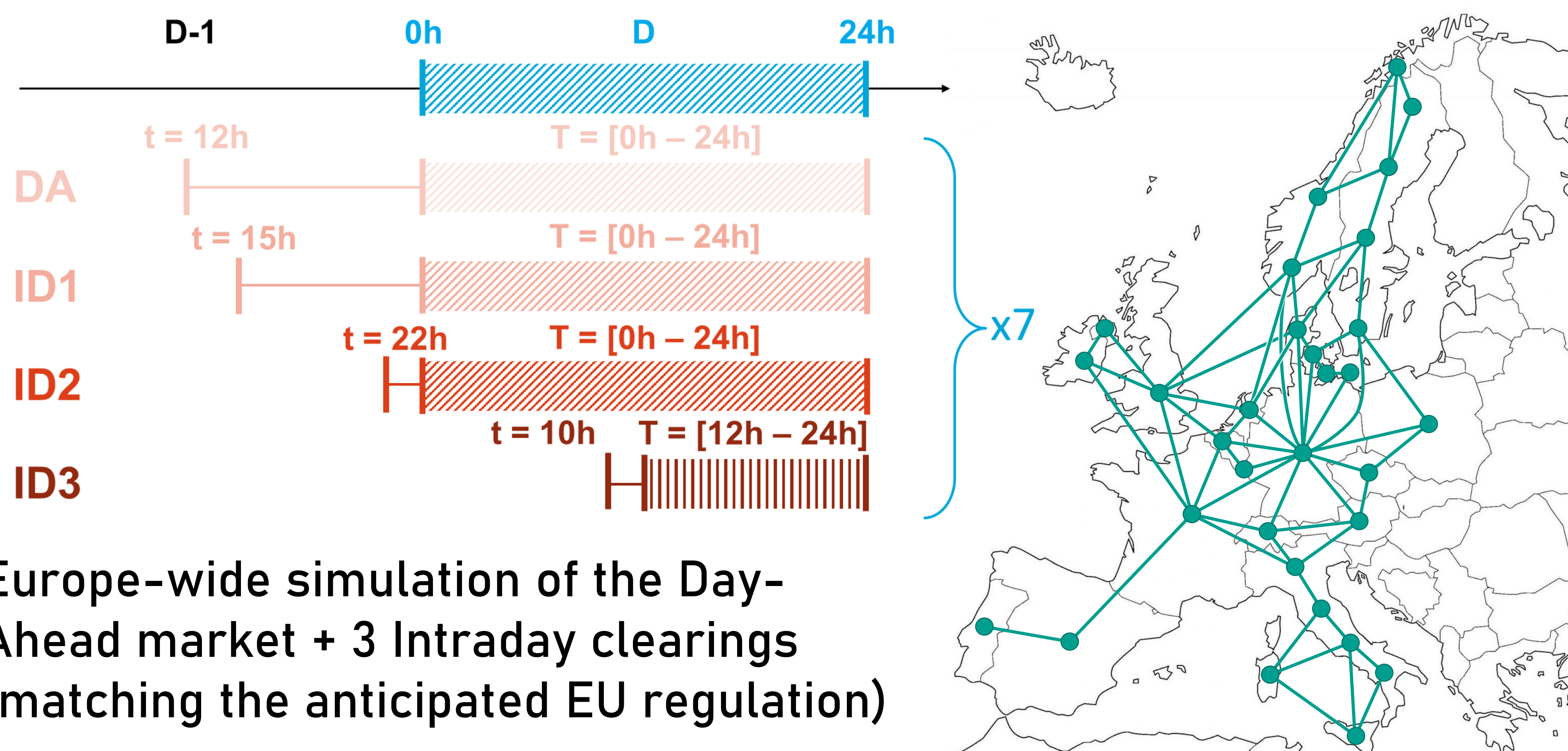


Using the ATLAS agent-based model to quantify the intraday value of flexibility assets on European electricity markets

Context

Long-term prospective studies at RTE are conducted using the omniscient Antares model. This work aims at highlighting the importance of taking into account short-term uncertainties in such long-term prospective studies, focusing on the Intraday market. Flexible assets whose importance might be underestimated in a classic perfect dispatch problem are highlighted.

Study perimeter



Results

Over the three weeks simulated (one presented), the results show :

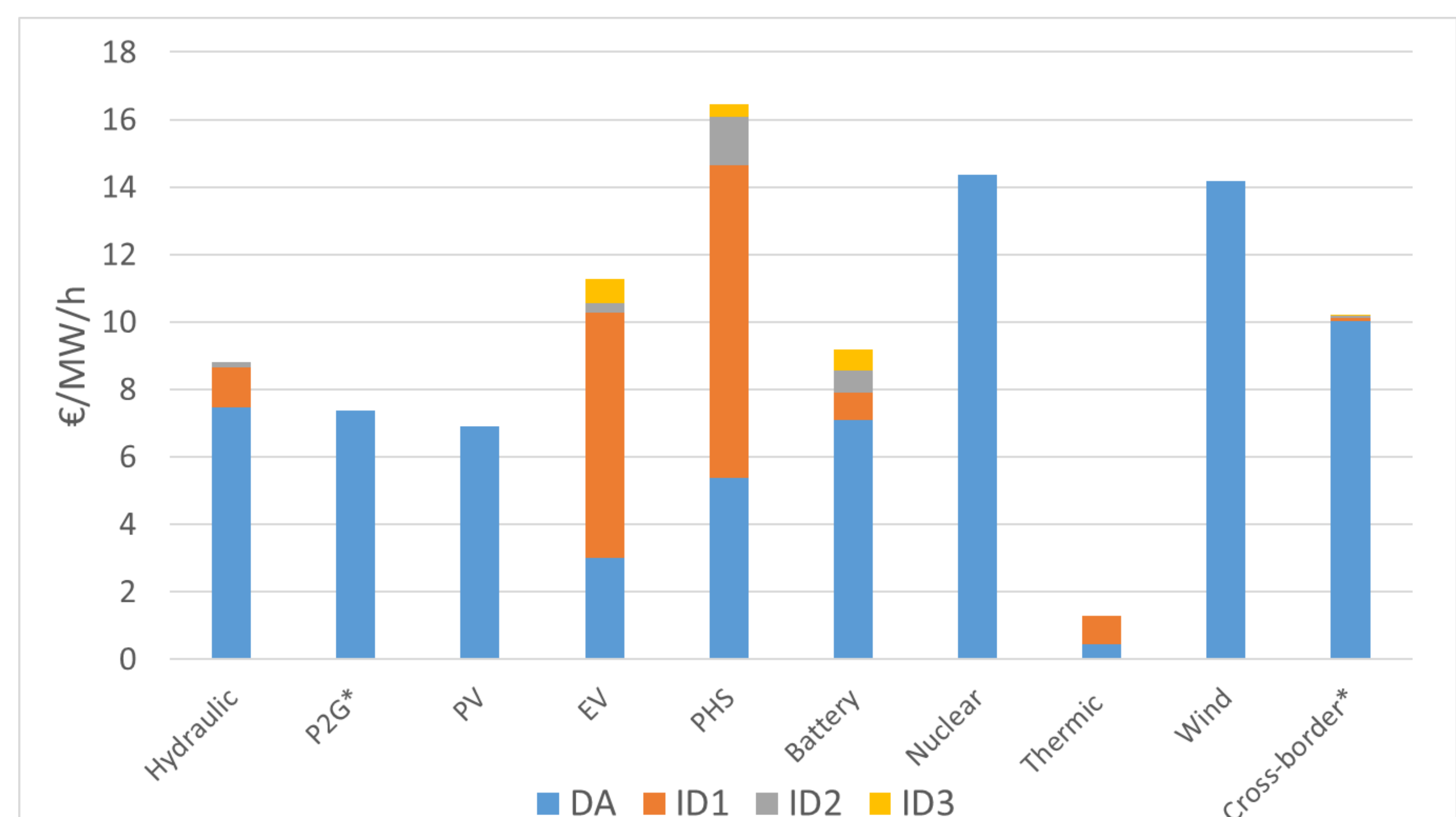
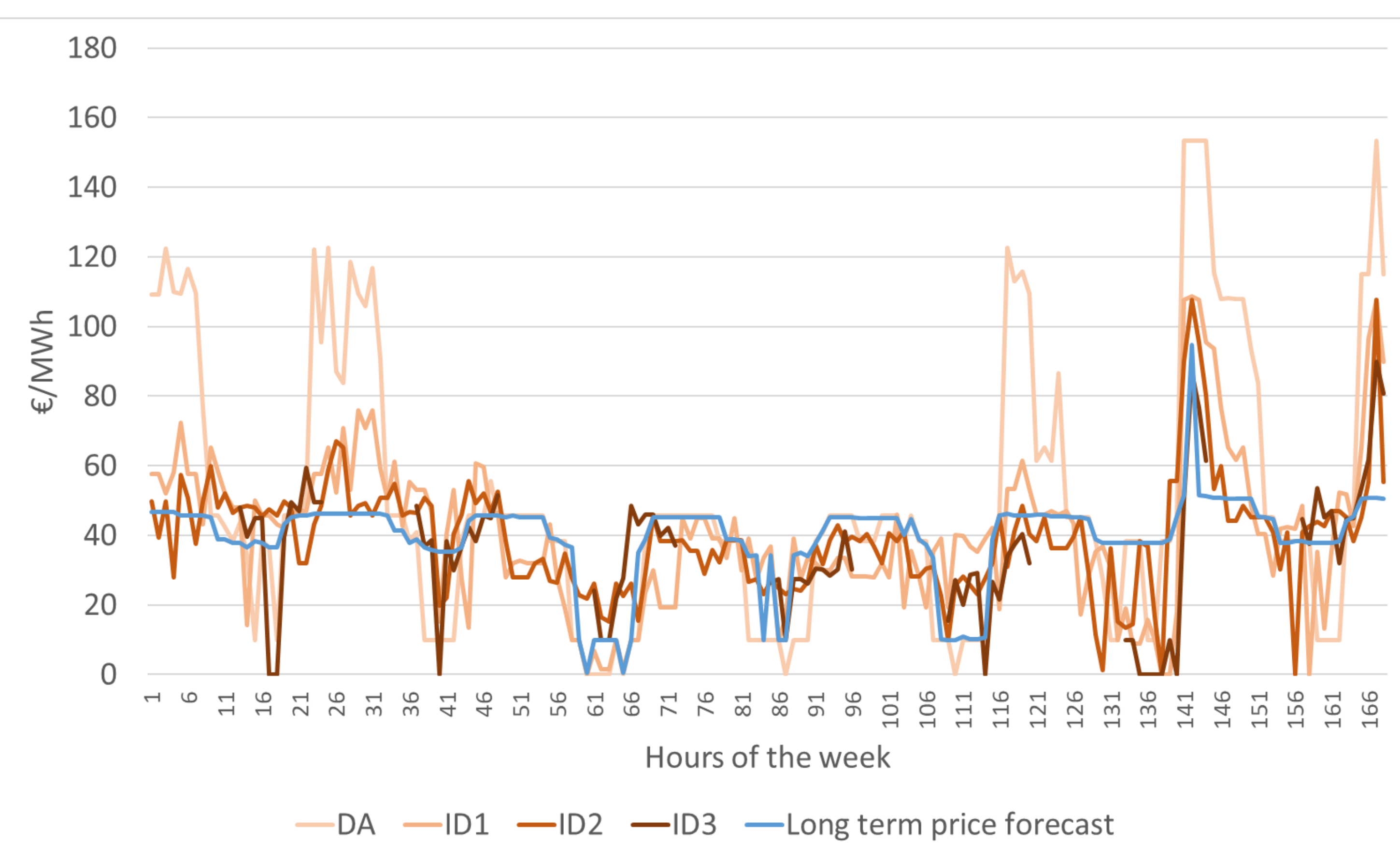
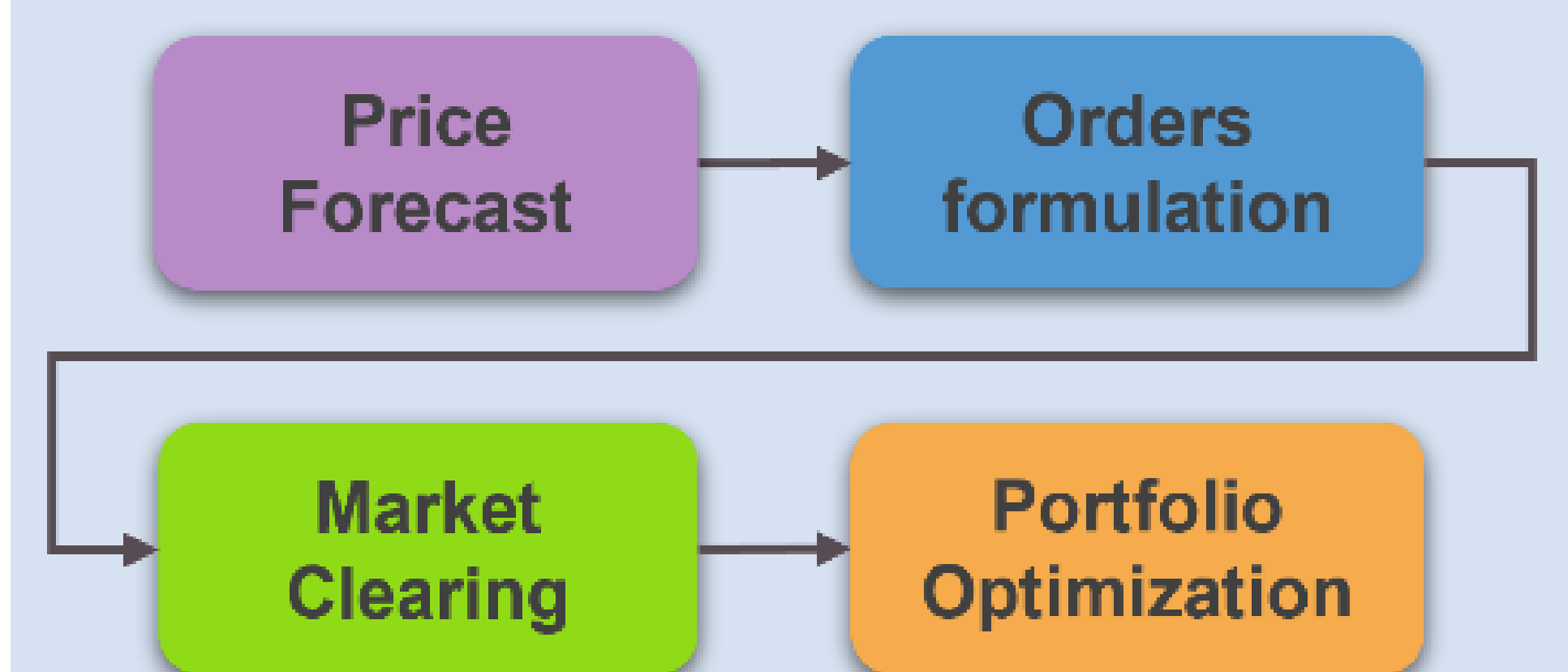
- High DA prices/suboptimal thermal startups due to poor anticipation, affecting the following ID markets
- An additional and significant Intraday wage for flexible assets, especially EVs and PHS, resulting in the correction of both the forecasting errors and the lack of coordination between actors with incomplete vision (although predominantly the latter).

The ATLAS model

ATLAS works complementary to single-agent dispatch models (e.g. Antares) through its modeling of:

- Rolling forecast horizons
- Multiple agents on different scales (bidding zones, asset portfolios, control blocks) with incomplete data
- Improved thermal constraints (e.g. minimal duration of stable power)

1 market =



*Results not representative