



## Internship Proposal: Analysis of fair balancing cost index in a renewable-driven electricity market.

### Background

Irex Consulting is a business engineering consultancy company specialized in the energy & utility sectors. We are experts in tackling operational business challenges across the entire value chain – production, sourcing & trading, grids, and supply.

### Assignment

As renewable energy penetration increases, electricity market prices are becoming more volatile due to the intermittent nature of wind and solar power. This volatility challenges existing long-term imbalance cost forecasting calculation from Energy suppliers, raising concerns about fairness and transparency in their B2B contracts.

This internship will explore methodologies for defining a fair balancing cost index that reflects the complexities of electricity offtake and infeed when local renewable energy production is combined with self-consumption. The student will analyze the impact of self-consumption on a supplier portfolio, imbalance cost calculation principles, market mechanisms, and regulatory approaches to ensure a fair distribution of balancing costs among market participants.

Through this research, the intern will gain a deep understanding of:

- The impact of renewable energy variability on electricity market dynamics
- How balancing markets function and their role in ensuring grid stability
- Commodity risk calculation methodologies and their implications for fairness
- Regulatory challenges and potential market-based solutions to improve cost transparency

By examining the intersection of B2B product development and the evolving renewable energy landscape, this review will provide insights into the trends shaping the Belgian balancing market and contribute to the development of innovative energy commodity products or options.

### Objectives

- A brief market study on Elia Imbalance trends and their impact on supply balancing costs;
- Innovative B2B product option concept(s), based on the definition of pragmatic parameters reflecting the balancing cost of B2B energy supply contracts affected by self-consumption from renewable production;
- A comprehensive report outlining the conducted research;
- A conclusive presentation to irex Consultants aimed at augmenting their understanding of trends for balancing cost linked to auto-consumption, guided by insights from the research.

### Preparation Material

- <https://www.elia.be/en/grid-data/balancing/imbalance-prices-15>
- Relevant irex training material will be provided

**Schedule** Beginning of July -- End of August (Flexible)

### Contact

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