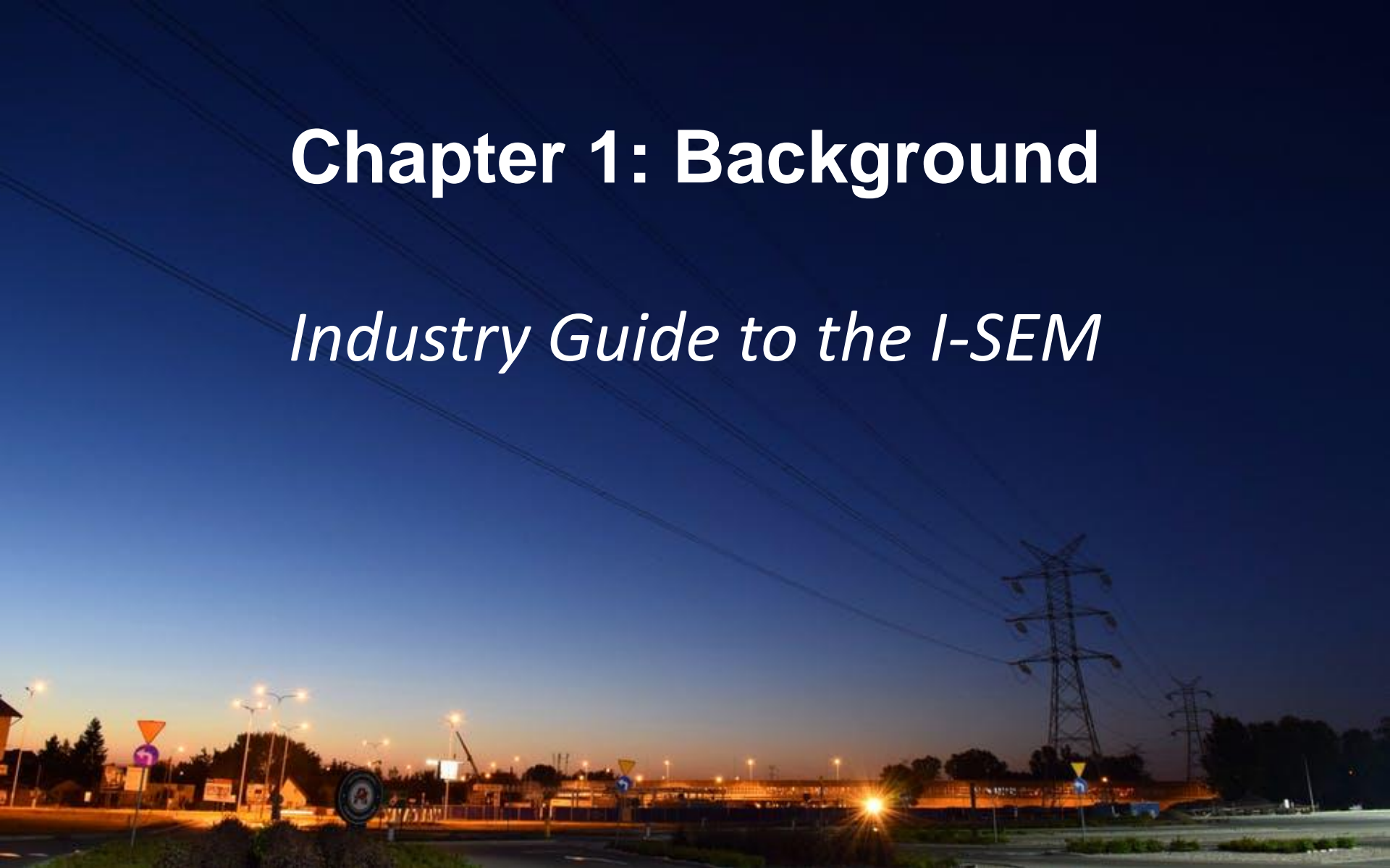


Chapter 1: Background

Industry Guide to the I-SEM



1. Background

The Integrated Single Electricity Market (I-SEM) is a new wholesale electricity market arrangement for Ireland and Northern Ireland. The new market arrangements are designed to integrate the all-island electricity market with European electricity markets, enabling the free flow of energy across borders. The Internal Energy Market (IEM) for electricity and gas is one of the key pillars for the European single market. Free trade across borders and non-discrimination between internal and cross-border transactions are the foundations of the single market.

1. Background

To enable cross-border trade across the IEM, each coupled market implements its own rules based on a standard ex ante trading arrangement. This is achieved by adopting the EU Target Model, which is the blueprint for market integration across the IEM, including the I-SEM. Key features of the Target Model are:

- A common price coupling algorithm for scheduling all ex ante markets and determining flows between geographic regions.
- Energy trading within regions and across borders up to close to real time.
- Forward trading of physical and/or financial trading rights for cross-border capacity.
- Integrated balancing arrangements that will ultimately enable neighbouring system operators to trade between regions as part of balancing.

1. Background

In a coupled market, energy transactions involving sellers and buyers from different bidding zones are centrally collected and cleared to maximise the most efficient trades. Trades from one bidding zone to another are only restricted by cross-border capacity, subject to allocation constraints, such as ramping limitations.² Market coupling involves system and market operators working together to allocate cross-border capacity and optimise cross-border flows, without the need for explicit auctions.

In theory, as long as energy can flow freely, there will be a single price across all coupled markets. When the network is congested between bidding zones, prices diverge between those zones. The price differential between bidding zones incentivises efficient short-run use of the available capacity given the constraint and efficient longer term investment in infrastructure to relieve the congestion.

1. Background

By the time the I-SEM goes live in 2018, the IEM is expected to comprise more than 20 bidding zones, including the SEM, coupled by more than 40 cross-border interconnectors, containing a total generating capacity of over 3,000 terawatts (TW). To learn more about market coupling and the I-SEM design, refer to the Overview of the Integrated Single Electricity Market³ and the SEM Committee website⁴.

References

1. <http://www.sem-o.com/isem/Pages/Home.aspx>
2. As provided in the CACM (see Section 2.5 for description)
3. <http://www.sem-o.com/MarketMessages/Pages/I-SEMMarketOverviewGuide.aspx>
4. SEM Committee is the peak decision-making body for the SEM,
<https://www.semcommittee.com> .