The IEM: Integration process

- Background:
  - Goals of 3rd package & Process
  - Overview of codes
- State of implementation
- Other EU relevant legislation - REMIT
- Issues to consider
- Alternative IEM interaction examples
European Third Energy Package – 2009

**Goals**

**Enabling renewables**
- Creating clear connection rules.
- Providing harmonisation to benefit manufacturers.
- Creating markets to reduce risks.

**Ensuring security of supply**
- A coordinated approach to system operations.
- Greater optimisation to enhance efficiency.
- More flexible markets (e.g. balancing).

**Enhancing competition**
- A single market design across Europe (in all timescales).
- Promoting cross border trade & enhancing liquidity.
- Reducing risk for all market players.
European Network Code Process

- **EC invites ENTSO to develop NC**
- **EC develops Network Code**
- **ACER recommends Network Code to EC**
- **Commission Revisions**
- **Preparations for Comitology**
- **Publication in OJEU**
- **Member State Implementation**

**Timescales**
- 6 months
- 12 months
- 3 months
- 18 months to 6 years depending on code

† Timescales for the stages of Comitology are not specified and under the Commission's control
Electricity Network Codes – Status

- Phased implementation over 6 years
- Implementation TBC
## Electricity Network Codes – FCA & CACM

### Market Design

**Capacity Allocation & Congestion Management (CACM) Guideline**
- Implicit Day Ahead & Intraday cross border trading
- Bidding zone reporting process and subsequent review

**Forward Capacity Allocation (FCA) Guideline**
- Long term transmission rights;
  - PTRs with UIOSI
  - FTR options
  - FTR obligations
- Single Allocation Platform with Harmonised Allocation Rules

### Capacity Calculation

- CACM and FCA both increase regional TSO coordination with *capacity calculation* used to determine interconnector capacities
- Calculation underpinned by a pan-EU Common Grid Model (CGM)
Electricity Network Codes – Balancing

**Pan-EU Balancing Energy Market**
- Development of pan-EU platforms for the exchange of standard balancing energy products
- 6 year implementation period
- RR / mFRR / aFRR / Imbalance Netting
- Specific products retained nationally

**Harmonisation of Market Design & Settlement**
- Harmonised Gate Closure Time for standard products
- Harmonisation of ISP at Synchronous Area level
- Harmonisation of imbalance arrangements (preference for single imbalance pricing)
- Harmonisation of reserve procurement arrangements

**Cross Border Capacity Reservation**
- Opens the possibility for TSOs to reserve XB capacity for the exchange of balancing energy
- Cooptimisation with market timeframes
- TSOs to develop detailed methodologies

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**Early Implementation – Project TERRE**

[Diagram showing TERRE platform with TSOs, BSPs, Xb capacity, transparency, and settlement.]
Electricity Network Codes – System Operation

Transmission System Operation Guideline (TSOG): Setting minimum system security, operational planning and frequency management standards to:
- ensure safe and coordinated system operation across Europe, and
- create a standardised framework for regional cooperation.

Emergency & Restoration Code (E&R): Harmonisation of system defence and restoration procedures during severe events

Entry into force
~ Dec ‘16

Entry into force
~ Apr ‘17
The Connection Codes set harmonised rules for new grid connections across EU, with a focus of ensuring system security.

They are implemented permitting Member State TSOs a degree of scope to determine technical parameters proportionately to local system needs.

**Requirements for Generators (RfG)**
- Status: Implementation
- Applies to new generators of 800W capacity and up
- Assigns user compliance obligations dependant on connection voltage, and unit capacity under x4 ‘Types’ (“Generator banding”)

**High Voltage Direct Current (HVDC)**
- Status: EU Approval
- Applies to new HVDC systems (e.g. interconnectors) connected at 110kV or above and DC-Connected Power Park Modules
- Defines requirements envisaging a greater level of network ‘meshing’ in future

**Demand Connection Code (DCC)**
- Status: EU Approval
- Applies to new Transmission-connected Demand facilities, Distribution facilities (e.g. GSPs), and Distribution systems
- Also applies requirements to new providers of Demand Side Response (DSR)
## Gas Network Codes – Status

<table>
<thead>
<tr>
<th>Code</th>
<th>Current Status</th>
<th>Implementation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestion Management (CMP)</td>
<td>Implemented</td>
<td>1(^{st}) October 2013</td>
</tr>
<tr>
<td>Capacity Allocation Mechanism (CAM)</td>
<td>Implemented</td>
<td>1(^{st}) November 2015</td>
</tr>
<tr>
<td>Gas Balancing (BAL)</td>
<td>Implemented</td>
<td>1(^{st}) October 2015</td>
</tr>
<tr>
<td>Interoperability &amp; Data Exchange (INT)</td>
<td>Implemented</td>
<td>1(^{st}) October 2015, 1(^{st}) May 2016</td>
</tr>
<tr>
<td>Tariffs (TAR)</td>
<td>In comitology</td>
<td>1(^{st}) April 2017, 1(^{st}) October 2017, 31(^{st}) May 2019</td>
</tr>
<tr>
<td>Incremental Capacity (&amp; CAM amendments)</td>
<td>In comitology</td>
<td>1(^{st}) April 2017</td>
</tr>
</tbody>
</table>
The market codes implemented so far include:

- Rules for managing contractual congestion at interconnection points (IPs)
- Auction mechanisms for the release of capacity to access the transmission system
- Rules for balancing the system using market mechanisms over a harmonised gas day (06:00 to 06:00 CET)

<table>
<thead>
<tr>
<th>Congestion Management Procedures</th>
<th>Capacity Allocation Mechanisms</th>
<th>Gas Balancing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status:</strong> Implemented</td>
<td><strong>Status:</strong> Implemented</td>
<td><strong>Status:</strong> Implemented</td>
</tr>
<tr>
<td>• Applies to IPs</td>
<td>• Applies to IPs</td>
<td>• Applies to transmission system</td>
</tr>
<tr>
<td>• Introduces mechanism to manage contractual congestion by overselling and buying back capacity</td>
<td>• Capacity to be released via auction based mechanisms</td>
<td>• Describes market based balancing rules</td>
</tr>
<tr>
<td></td>
<td>• Capacity to be bundled at IPs</td>
<td>• Facilitates wholesale gas market</td>
</tr>
<tr>
<td></td>
<td>• Common platforms for booking capacity</td>
<td>• Information provision to support daily balancing</td>
</tr>
<tr>
<td></td>
<td>• Defines harmonised gas day</td>
<td></td>
</tr>
</tbody>
</table>
The interoperability code creates harmonised rules for the operation of transmission systems in order to encourage and facilitate efficient gas trading and transport across gas transmission systems within the EU.

**Interoperability & Data Exchange Rules**

**Status:** Implemented

- Creates rules for Interconnection Agreements
- Rules for allocation of quantities flowed
- Physical units for communications
- Gas quality and new publication requirements for gas quality data
- Odourisation
- Rules for data exchange
The tariff code sets rules on harmonised transmission tariff structures for gas and includes rules on the application of a reference price methodology, the associated consultation and publication requirements.

The CAM amendment is mainly focused on rules for the release on incremental capacity at interconnection points.

**Transmission Tariff Structures**

**Status:** In Comitology

- Applies to all entry/exit points
- Some specific rules for IPs
- Rules for use of methodology of a TSOs allowed revenue
- Rules for reconciliation of a TSOs allowed revenue
- Publication and consultation requirements

**CAM Amendment (Incremental)**

**Status:** In Comitology

- Applies to IPs
- New rules for incremental capacity release
- New rules on the release of different capacity products
REMIT

REMIT = Regulation on Wholesale Energy Market Integrity & Transparency

- Regulation (EU) 1227/2011 (REMIT) of 25 October 2011:
  - Prohibits market abuse and sets related disclosure obligations on market participants
  - Establishes a requirement for a transaction and fundamental data reporting framework which allows effective monitoring by ACER
  - Enables ACER and National Regulatory Authorities to investigate and take enforcement action against potential incidents of market abuse

- Supported by Commission Implementing Regulation (EU) 1348/2014 on data reporting implementing Article 8(2) and 8(6) of REMIT
  - Specifies that both standard and non-standard contracts should be reported
  - Sets out the categories of contracts to be reported and the detail of fundamental data to be reported
  - Sets out who should report on each category of contract and for fundamental data
  - Specifies the timing requirements for reporting
Issues to consider

- Level of harmonisation
- Control over procedures
- Control over code/frameworks
- Consistency with neighbouring markets
- Attractiveness of GB market
- Solidarity/Security of Supply
- Regional cooperation
- Cross border trade
Alternative models

Other non-EU countries interact with the IEM

- Norway
- Switzerland
- Canada
- Turkey