Single Day-Ahead Coupling (SDAC)
A success story – is expansion possible?

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Single Day-Ahead Coupling: a success story

Algorithm calculating prices and cross border flows

% of EU is coupled

TWh/year in one market solution

B€ in annual European welfare gain

M€ average daily value of matched trades

Minutes to solve a large and complex optimization problem

Sources:
APEX – GO15 conference 2017, Bente Hagem (ENTSO-E),
EPEX Spot: Successful_operation_of_PCR_solution_Power_Exchanges_focus_on_Pan-European_power_market
PCR
Single Day-Ahead Coupling: the journey

**Scope extensions**

- **04.02.2014** NWE Go-Live + SWE in common synchronised mode using PCR
- **19.11.2014** Go-live 4MMC
- **20.05.2016** CWE flow-based implementation
- **TGE, IBEX** (non-coupled) joining
- **AT-SI** coupling
- **30.09.2018** Split DE/AT + SEM coupled

**2014**
- **13.05.2014** SWE Full Coupling

**2015**
- **24.02.2015** CSE Coupling (Italian Northern borders)

**2016**
- **11.02.2016** Croatia (independent operation)

**2017**
- **19.06.2017** SI-HR coupling

**2018**
- **19.06.2018** Split DE/AT + SEM coupled

**2019**
- **30.01.2019** Nemo Link (GB-BE)

**Market growth**

In 4 years, approx. growth:
- From 50k to 75k hourly orders (+50%)
- From 2500 to 4000 blocks (+60%)

Since 2014 approx. 2000 days of successful coupling!
Not a single failure
Implementing CACM

- Commission Regulation (EU) 2015/1222 (CACM) of 24 July 2015 was pivotal to move from bottom-up initiatives towards a top-down NEMO-TSO governance under EU regulation.
  - NEMO competition
  - Roles and responsibilities for TSOs and NEMOs
  - Responsibility for operating the day-ahead and intraday market (SDAC and SIDC)
  - Development of methodologies (Algorithm, products, max/min prices, etc.)
  - Capacity calculation methodology, bidding zones configuration, intraday capacity pricing, cost sharing, etc.

- Day-Ahead Operational Agreement (DAOA)
  - Signed by all TSOs and all NEMOs after more than one year of negotiation and entered into force end March 2019 covering two phases:
    - “Interim Phase” during which there are two parallel market couplings, one of MRC and one of 4MMC, jointly forming the Single Day-Ahead Coupling (SDAC) in implementation of CACM;
    - “Enduring Phase” during which there will be one Single Day-Ahead Coupling only (MRC and 4MMC coupled).
Parties forming SDAC

**Coupling** | **Members**
---|---
**MRC** | Operational parties:
Non-operational parties:
NEMOs: EXAA, HEnEX TSOs: Admie, Creos

**4MMC** | NEMOs: HUPX, OKTE, OPCOM, OTE TSOs: ČEPS, MAVIR, SEPS, Transelectrica

Currently 49 parties forming SDAC
Current SDAC governance

The interim governance & ToR for all project bodies were approved in April and practical implementation is currently ongoing.
Challenges on algorithm

SDAC Algorithm
Euphemia
Performance & Scalability

CACM Algorithm requirements
New NEMO requirements
Market growth
Topology changes
New TSO requirements
Geographical extensions
Switch from NTC to Flow based

Joint NEMO & TSO Research and Development program kicked-off!
Further expansion is possible

... when the following conditions are met:

• Harmonized laws and rules
  – National legislation, implementing 3rd IEM Package
  – CACM adoption/implementation
• Establish a PX
  – Can also be a PCR serviced solution
  – Agree on NEMO committee adherence
  – PX to be designated as NEMO by the relevant NRA
• Identify a partner inside SDAC
• Establish a bilateral/regional coupling project
Thank you very much for your attention!

Questions?

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