

Hellenic Energy Exchange

Thursday, June 20th 2019 | Budapest | 2019-ETCSEE
“Markets, status and steps forward”

Dr. Zoumas Christoforos
Director, Markets' Operation
HEnEx S.A.

Establishment of EnEx Group

HEnEx S.A.: established in June 2018 via a spin-off of the electricity market branch of the former LAGIE S.A.

HEnEx
Hellenic Energy Exchange S.A.

Public



42%

Private



58%

EnEx
Energy Exchange Group

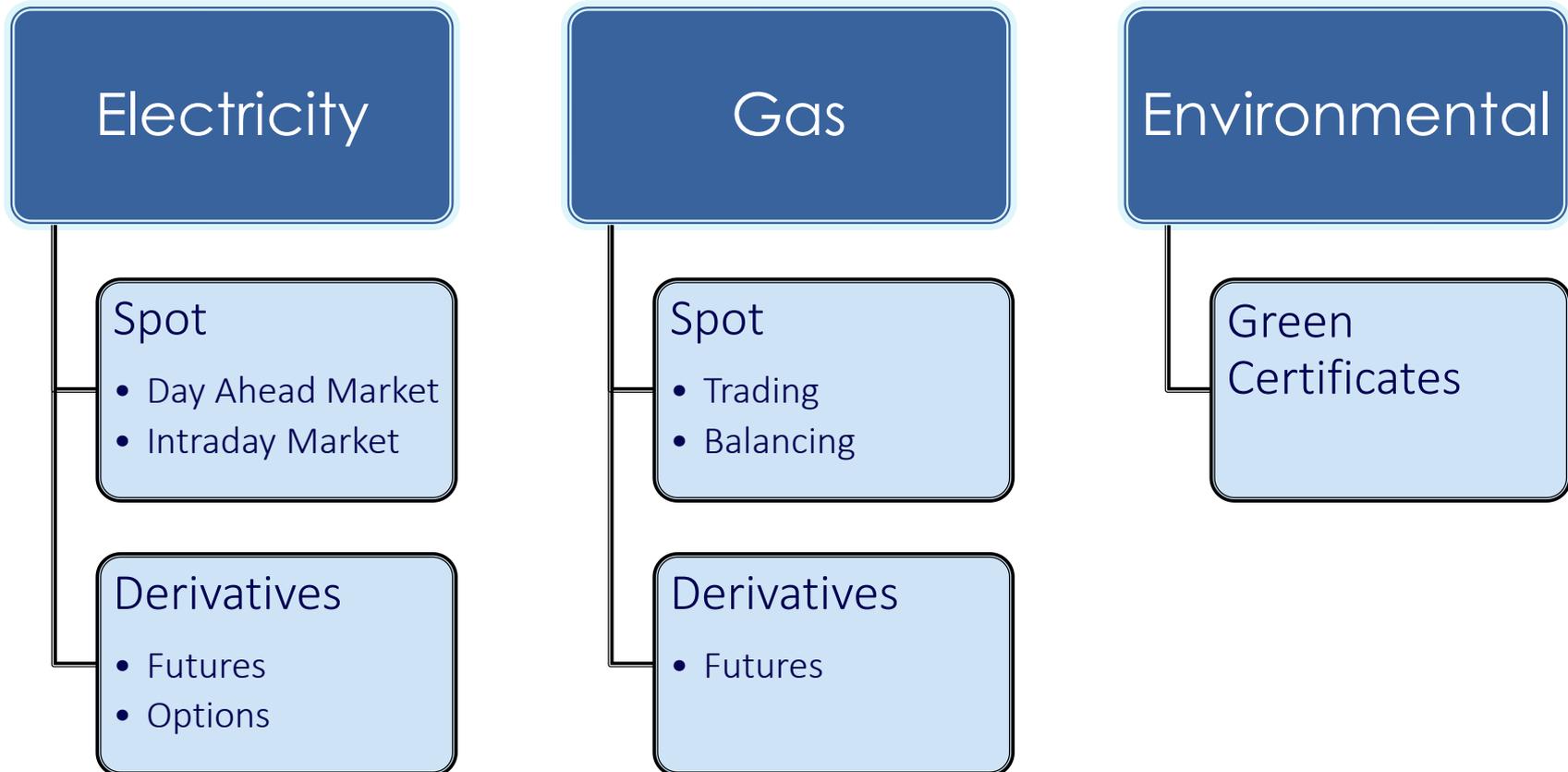
HEnEx
Hellenic Energy Exchange S.A.

- ✓ Spot-Trading &
- ✓ Derivatives-Trading

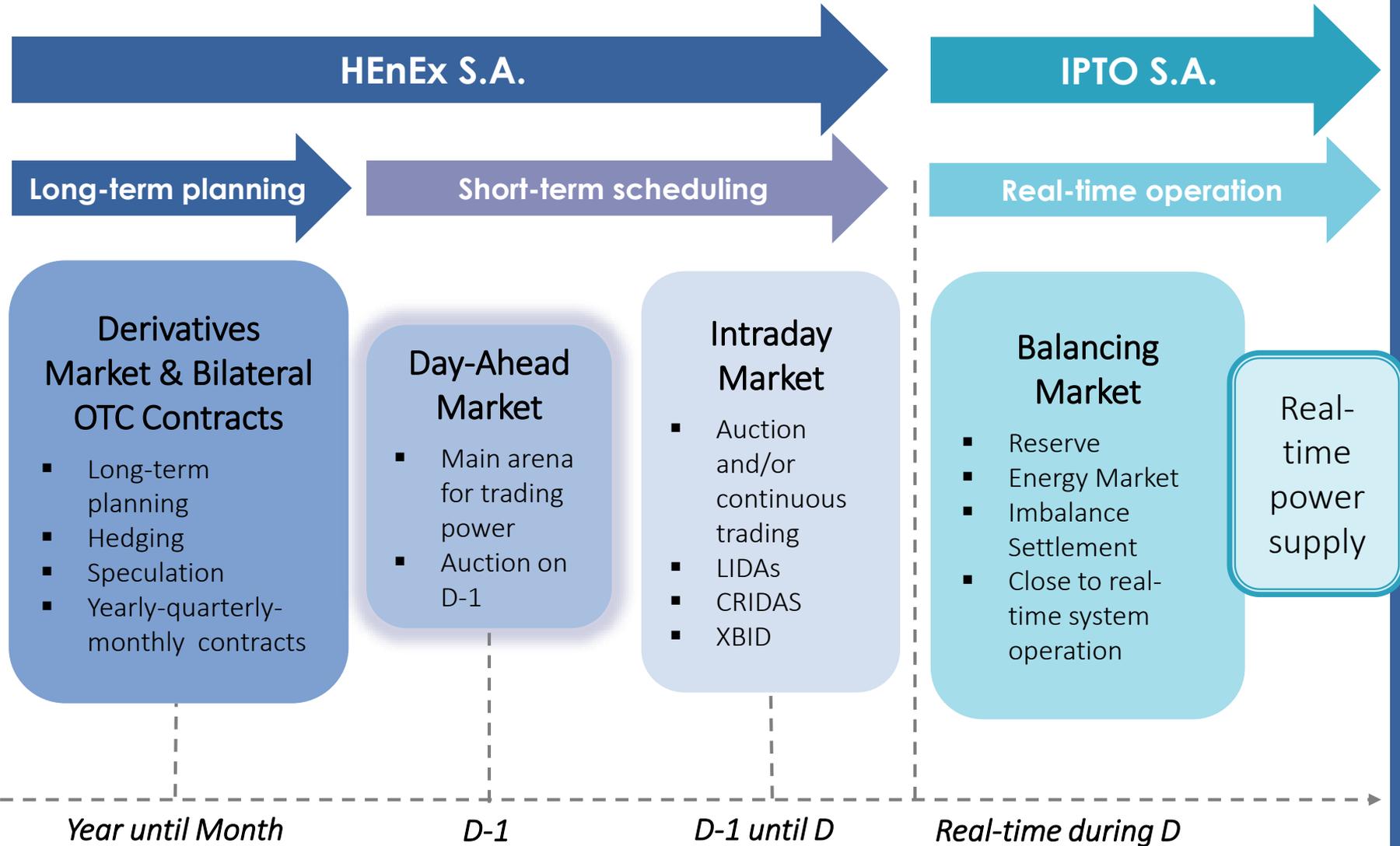
EnEx^{CLEAR}
EnEx Clearing House S.A.

- ✓ Spot-Clearing
- ✓ Owned by HEnEx

Overview of HEnEx Markets



The new Electricity Markets in Greece



Derivatives Market

Initial
Phase

Products

Power Futures on the average **Day-Ahead Market (DAM) Clearing Price** of the respective Delivery Period

Option of physical delivery, through the submission of **Priority-Price-Taking-Orders** in DAM.

Trading Methods

- Continuous Automated Matching Method**, Monday to Friday (excl. holidays).
- Pre-Agreed Method**: Bilateral Trading in HEnEx's Trading Platform with a price/quantity pre-agreed between the counterparties, Monday to Friday (excl. holidays).

Tradable
Delivery Periods

Month, Quarter & Year (up to the next year).

Underlying Asset

- Baseload Index**: The average Clearing Price of DAM for the hours between **00:00 and 24:00 for all days** of the respective Delivery Period.
- Peakload Index**: The average Clearing Price of DAM for the hours **between 08:00 and 20:00 from Monday to Friday** of the respective Delivery Period.

Later
Phase

Products

Options on HEnEx's Power Baseload Futures – European Style (exercised only at the Expiry Day).

Trading Methods

- Continuous Automated Matching Method**, Monday to Friday (excl. holidays).
- Pre-Agreed Method**, Monday to Friday (excl. holidays).

Tradable
Delivery Periods

Options on the corresponding Month, Quarter & Year (up to the next year).

Underlying Asset

Option on HEnEx's Future on the **Baseload Index**.

Day-Ahead Market

Current Day-Ahead Market Model

- ▶ Mandatory Pool
- ▶ Unit Commitment model
- ▶ Techno – economical bids/offers
- ▶ Representation of multiple operational constraints
- ▶ Co-optimization of power and reserves

New Day-Ahead Market Model

- ▶ **Semi-compulsory Market**
 - Compulsory for producers → Obligation to submit orders to cover availability
- ▶ **Bidding on a physical asset basis**
 - per Unit/per Bidding-Zone/per Interconnection for Producers, Traders and Suppliers
- ▶ **Portfolio bidding**
 - allowed for RES Aggregators and RES producers
- ▶ **Products:** Day-ahead hourly energy contracts
- ▶ **Orders** compatible with PCR standards
- ▶ **Matching Method:** PCR Auction by EUPHEMIA (Isolated or Coupled mode)
- ▶ **Exchange-based Futures and OTC Contracts**
physical delivery in DAM via Nomination to HEnEx and Priority Price Taking Orders

Intra-Day Market

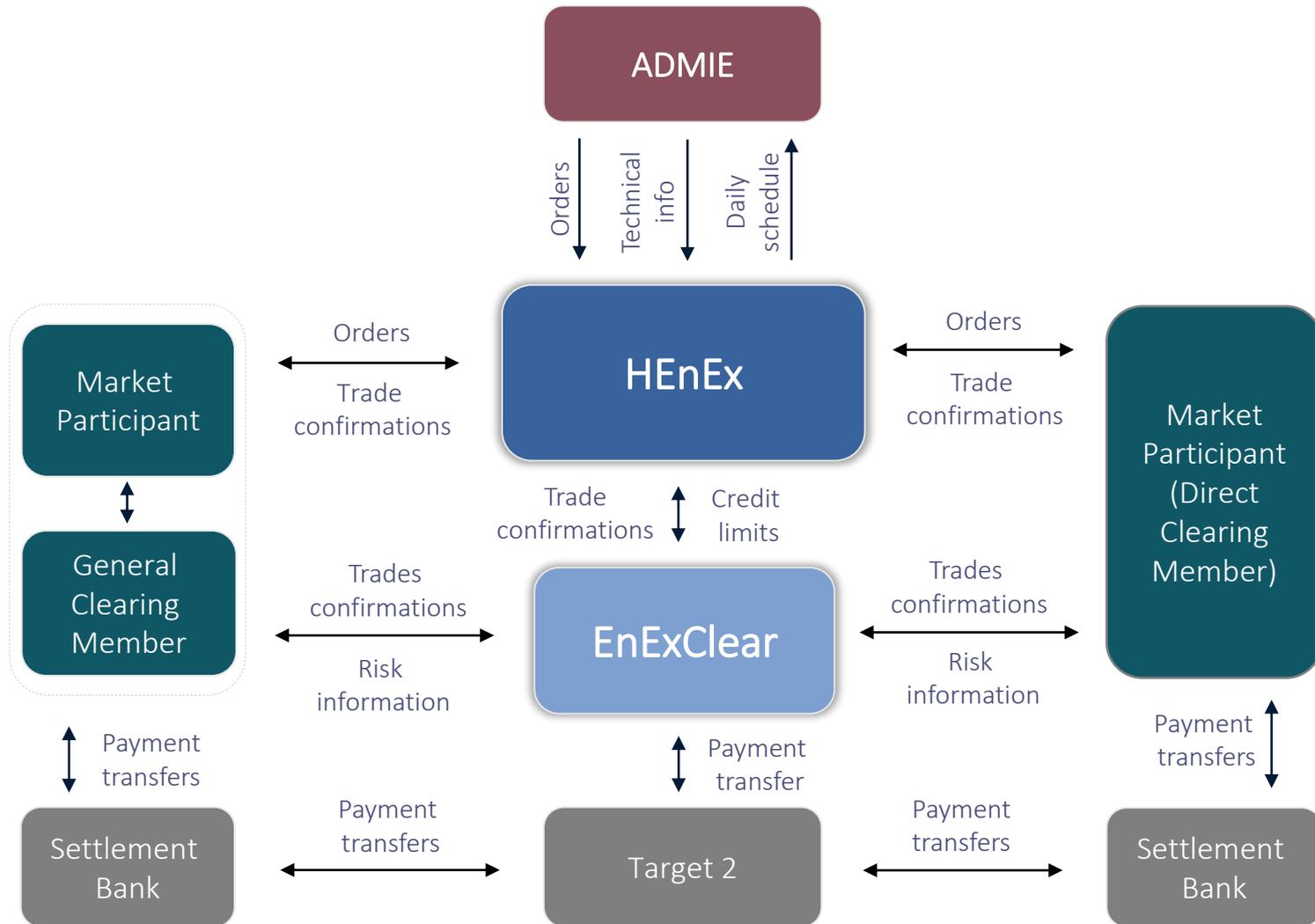
- ▶ An extension of the Day-Ahead Market prior Balancing
 - Position correction after the Day-Ahead Market.
 - Updating trading positions & reduce imbalances as approaching real-time.
 - Profit from flexible generation sources & load management.

- ▶ Local / isolated
 - Local Intra-Day Auctions (LIDAs)
 - Hourly products (partially or for the whole day)
- ▶ Interconnected / Coupled
 - Complementary Regional Intra-Day Auctions
 - Hourly products (partially or for the whole day)
 - Continuous Trading (XBID) in interconnected mode
 - Half-hourly. Partial or whole-day contracts' extension

EnExClear: Clearing Model

- ▶ **CCP** for the transactions within Day Ahead & Intraday Markets undertaking the role of the buyer vs each seller and vice versa, for the clearing & settlement of the **financial side** of transactions.
- ▶ **Proactive** risk management : Buying Orders risk should be fully covered by the collaterals provided by the Clearing Members .
- ▶ **Clearing Fund**, by Clearing Members (CM) and EnExClear.
- ▶ **Netting** of financial obligations for physical settlement.
- ▶ **Daily** settlement of transactions (in Target2 cycles).

EnExClear in Spot markets



Regulatory Items - Spot

Concluded

- Rulebook for spot (DA & ID) trading
- Rulebook for spot (DA & ID) clearing (approval by RAE)
- HEnEx Workshops on OrderTypes & Parameters for DAM

In-progress

- Methodologies & Technical Decisions for DA & ID
 - Trading Rulebook
 - Clearing Rulebook
- HEnEx Workshop on DAM & IDM Business Presentation (07/2019)
- Conclusion Target 12/2019

Trading Platforms - Spot

Current Status

- Functional & Technical Specs
- ETSS APIs delivered to MPs
- HEnEx WebTrader R1 deliveries by ATHEXGroup
- PCR SDAC Assets integration on-going

Next Steps

- Delivery of testing end-points to Market Participants for APIs (7/2019)
- HEnEx WebTrader:
 - UATs : R1 (7/2019)
 - MPs access : R2 (7-8/2019)
 - Test/Train : R3 (9-10/2019)
- DAM & IDM : Dry-runs R4
 - 10-11/2019
- Interfaces with BM: 1/2020
- BM: Integration Test (3-4/2020)

Clearing Platforms - Spot

Current Status

- Functional & Technical Specs
- EnExClear System R1 deliveries by ATHEXGroup

Next Steps

- Delivery of Client Apps to Clearing Members : R2 (9/2019)
- Test/Train: R3 10/2019
- Dry-Runs (10-11/2019)

MPs Admission – Spot Trading & Clearing

Roadmap

- Depending on approval of relevant Technical Decisions
- Training / Traders Certification : Starting from 1/2019, per month
- Clearing Member's & Market Participants Admission: Starting at 3/2020
- Expected Go-Live DAM & IDM in isolated mode: Q2 2020
- MPs & Clearing Members Registration to be concluded by 05/2020

Market Coupling – DAM (GR-IT)

Current Status

- HEnEx: Single NEMO for GR Zone
- PCR Status: Full Member (6/2018)
- Project Member: IBWT & MRC since 2014
- IBWT GR-IT MC:
 - Impact Assessment
 - Roadmap
 - Request for Change
- Go-Live Window: Q4 2020

Next Steps

- SDAC/MRC Request for Change
- PCR Request for Change:
 - Geographical Extension
 - OrderBook impact assessment on algorithm performance
 - MCO Certification
 - Testing: 8-11/2019
- IBWT/SDAC Testing:
 - 3-8/2020
- Readiness Declaration: 10/2020



Thank you for your attention!