

EnEx Group: Transformation Enabler within the Greek Electricity Landscape

IENE 24th National Conference “Energy & Development 2019”

Professor George Ioannou

Chief Executive Officer

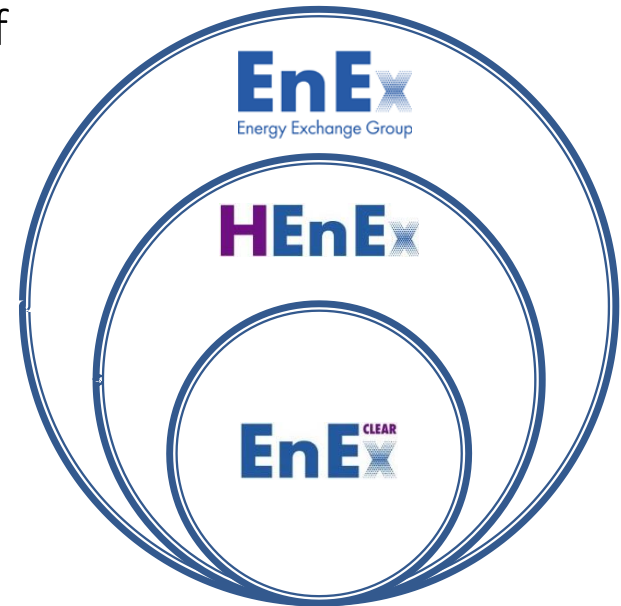
HEnEx | EnExClear

Agenda

- ▶ **Who are we**
- ▶ How is the electricity landscape evolving
- ▶ What is EnEx's role in the transformation
- ▶ What is the roadmap to success
- ▶ What does the future involve

Energy Exchange Group

- ▶ **EnEx Group** (Energy Exchange Group) consists of two companies
 - **HEnEx** (Hellenic Energy Exchange S.A.)
 - which is a private company operating **Spot & Derivatives** energy markets
 - **EnExClear** (EnEx Clearing House S.A.)
 - which is a private company owned 100% by HEnEx, clearing **Spot** energy markets
 - **Derivatives** energy markets will be cleared by ATHEXClear (company of ATHEX Group)



HEnEx Shareholders

- ▶ HEnEx's shareholders are both private (ASE, EBRD, CSE, DESFA) and public (DAPEEP, IPTO) companies.
- ▶ The shareholders structure is diverse, featuring two TSOs, the GoO competent authority, two stock exchanges, and an international bank, creating synergies and facilitating knowledge transfer.

Public sector



22%



ΑΔΜΗΕ
ΑΝΕΞΑΡΤΗΤΟΣ ΔΙΑΧΕΙΡΙΣΤΗΣ
ΜΕΤΑΦΟΡΑΣ ΗΛΕΚΤΡΙΚΗΣ ΕΝΕΡΓΕΙΑΣ

20%

42%

Private sector



ATHEX
Athens Stock Exchange

21%



European Bank
for Reconstruction and Development

20%



10%



7%

58%

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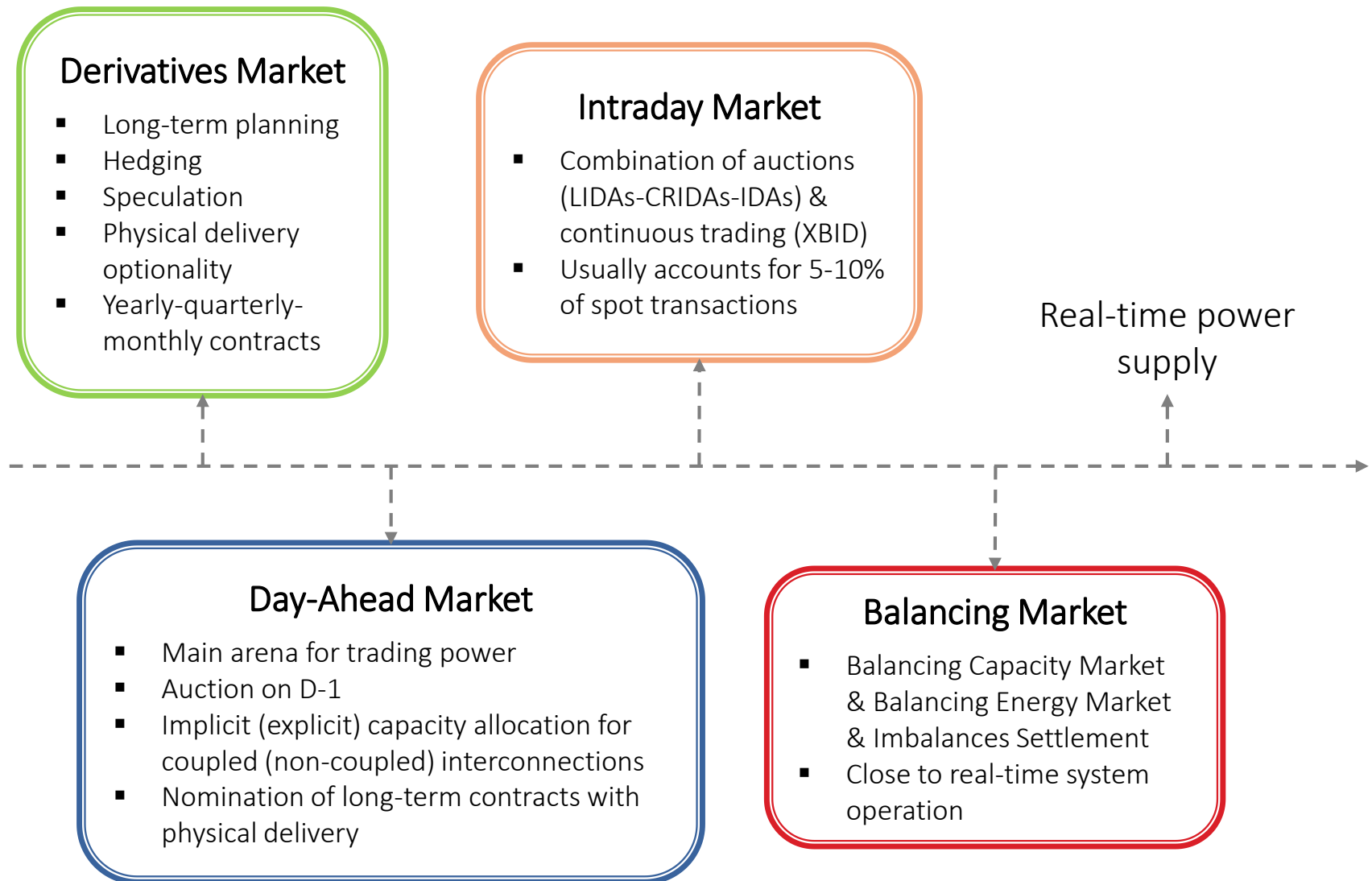
Transition Business Model (Still On)

- ▶ HEnEx continues to operate the current model of electricity market, i.e.:
 - Operation of Day-Ahead Scheduling (DAS)
 - Operation of Forward Electricity Product Auctions (FEPAS)
 - DAS Risk Management
 - FEPAS Risk Management
 - DAS Clearing and Settlement
 - FEPAS Clearing and Settlement
 - Trading platform

Anticipated Business Model

- ▶ Target Model Implementation and Operation
 - Day Ahead Market (DAM)
 - Intraday Market (IDM) and
 - Energy Derivatives Market (DM)
- ▶ HEnEx is designated as Nominated Electricity Market Operator (NEMO) for both the Day Ahead and Intraday Markets in Greece.
- ▶ Risk management, clearing and settlement
 - EnexClear for DAM and IDM transactions
 - ATHEX CLEAR for Energy Derivatives transactions

Electricity Markets Sequence (Target Model)



European Integration and Market Coupling

2006

- Tri-Lateral Day-Ahead Market Coupling

2010

- Day-Ahead Market Coupling in Central West Europe (CWE)
- Extension to Nordic Region via Interim Tight Volume Coupling (ITVC)

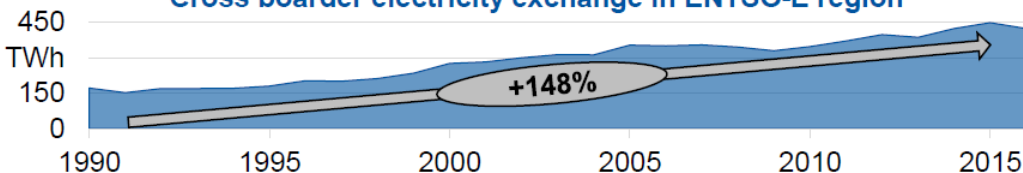
2014

- NEW Market Coupling (15 countries)
- Multi-Regional Market Coupling (17 countries)
- 4M Market Coupling Project (4 countries)

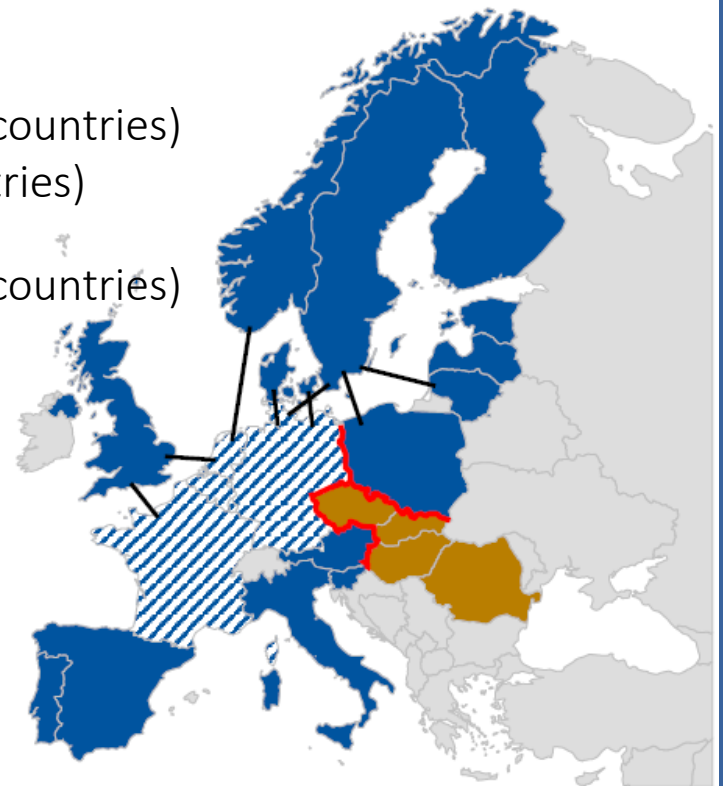
2015

- Multi-Regional Market Coupling (19 countries)
- Flow Based Market Coupling in CWE

Cross border electricity exchange in ENTSO-E region



Source: ENTSO-E



Source: A. Moser, "Single European Electricity Market – Where Do We Stand?", EEM 2018

Benefits of European Price Coupling

- ▶ An integrated European electricity market promotes increased **liquidity, transparency, efficiency** and **social welfare** since:
 - A market with a lot of power traded “in and out” leads to **depth** in the market
 - Liquidity helps the market **price discovery** process, leading to reliable **price signals**
 - An efficient price formation mechanism provides **sufficient incentives for investments**
- ▶ Price coupling guarantees the **optimal use of electricity network resources**
- ▶ **Implicit trading removes unnecessary risks** of trading cross-border capacity and electricity separately

Agenda

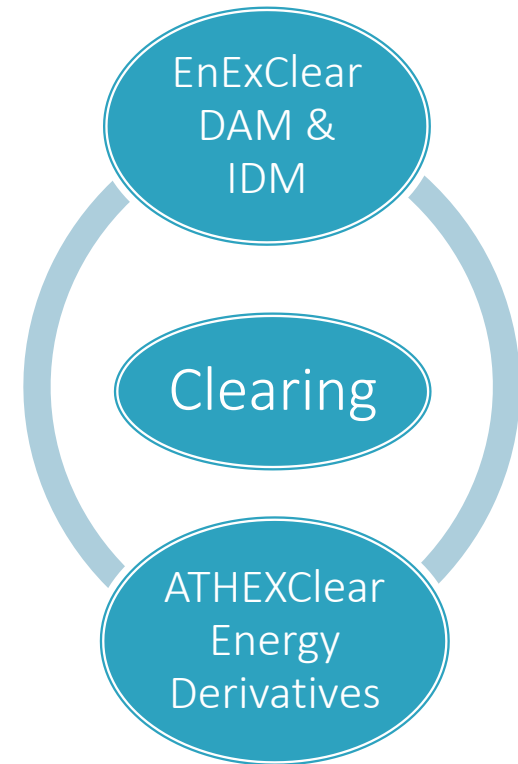
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Market Participation & Transparency

- ▶ **HEnEx is the central hub of the target model**
 - all orders, OTCs and financial transactions go through this hub
- ▶ **HEnEx instills confidence to participants and ensures a fair game field since it has:**
 - a diverse shareholder structure with many key market stakeholders
 - a highly competent and empowered internal team
- ▶ **The market access procedure**
 - provides common market access rules for all market participants
 - defines a simple and clear market access process
- ▶ **The market monitoring procedures safeguard a secure market environment by:**
 - assessing potential strategic behavior for exercising market power
 - detecting unlawful / counter-competitive practices for overall market benefit
 - providing a “quick” overview of the market efficiency through the publication of useful market statistics & indicators (e.g., price evolution, concentration ratios)
- ▶ **Compliance with high EU regulatory standards (REMIT, MiFID II, EMIR) offers transparency and fairness to the market, enhances market monitoring capability**

Secure Trading & Advanced Risk Management

- ▶ Trading in HEnEx will be cleared by two clearing houses which bring **transparency and security to the market**.
 - **EnExClear** *Spot markets*
Providing reduced clearing costs and collateral savings thanks to common spot market margining
 - **ATHEXClear** *Derivatives markets*
An EMIR compliant CCP for the minimization of counterparty credit risk exposure, providing also cross product margining and minimum barrier to entry
- ▶ Trading with flexibility and confidence thanks to **efficient trading limits, robust risk management solutions and strong protection against counterparty risks** – with high regulatory standards.



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EnEx Group – Steps so Far – Spot Market

- ▶ **Trading Rulebook**
 - Approved by RAE
- ▶ **Clearing Rulebook**
 - RAE Approval Pending
- ▶ **IT Systems**
 - PCR full membership
 - **API specs released**
 - Trading platform currently in internal testing
 - **Trading platform live demo (1 Nov)**
 - **User connections in November 2019**
- ▶ **Coupling**
 - Ongoing for the IT-GR & BG-GR (initial phase) borders
- ▶ **Interfaces**
 - Close co-operation with IPTO crucial for connecting the IT systems to make the Q2/2020 go-live target
- ▶ **Public Consultations**
 - Spot Trading Rulebook
 - Spot Clearing Rulebook
- ▶ **Workshops**
 - On new spot market orders (7/5/2019 & 9/5/2019)
 - On Spot Markets Business Model and Systems (24/7/2019)
 - On Spot Markets Systems (1/11/2019)
- ▶ **Communication**
 - 1st Energy Ecosystem Networking Event (27/6/2019)

EnEx Group – Steps so Far – Derivatives Market

▶ Energy Derivatives

- EMIR compliant CCP
- Trading rulebook
 - Drafting & Public Consultation completed
- Clearing rulebook
 - ATHEX Clear has updated its rulebook
- IT Systems
 - Analysis
 - API specs available
 - Trading platform being customized

▶ Public Consultations

- Derivatives Trading Rulebook

▶ Workshops

- Derivatives Market Introduction (4/9/2019)
- (Upcoming) HEnEx's Energy Derivatives Market - Before and after the Target Model go-live (3/12/2019)

▶ Communication

- Energy Derivatives
 - Multiple meetings / interviews with Derivatives Market stakeholders

EnEx Group Milestones for 2020-21

Milestone	Date
Spot Markets Go-Live (isolated mode)	June 2020
Futures Market Go-Live (underlying: DAS until DAM Go-Live)	Q1 2020
Spot Markets Coupling with Italian Borders	Q4 2020
Spot Markets Coupling with Bulgarian Borders	2021
IDM Continuous Trading (XBID) + CRIDAs Go-Live	Q4 2020
IDAs (Pan-European Auctions) Go-Live	Q4 2021

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Interconnections – As Is

- ▶ Albania
- ▶ Bulgaria
- ▶ FYROM
- ▶ Turkey
- ▶ Italia
 - DC link
- ▶ Total Net Transfer Capacity*
 - Imports 1,700 MW
 - Exports 1,625 MW

**indicative values*



Interconnections – To Be (Doubling Potential)

► Capacity

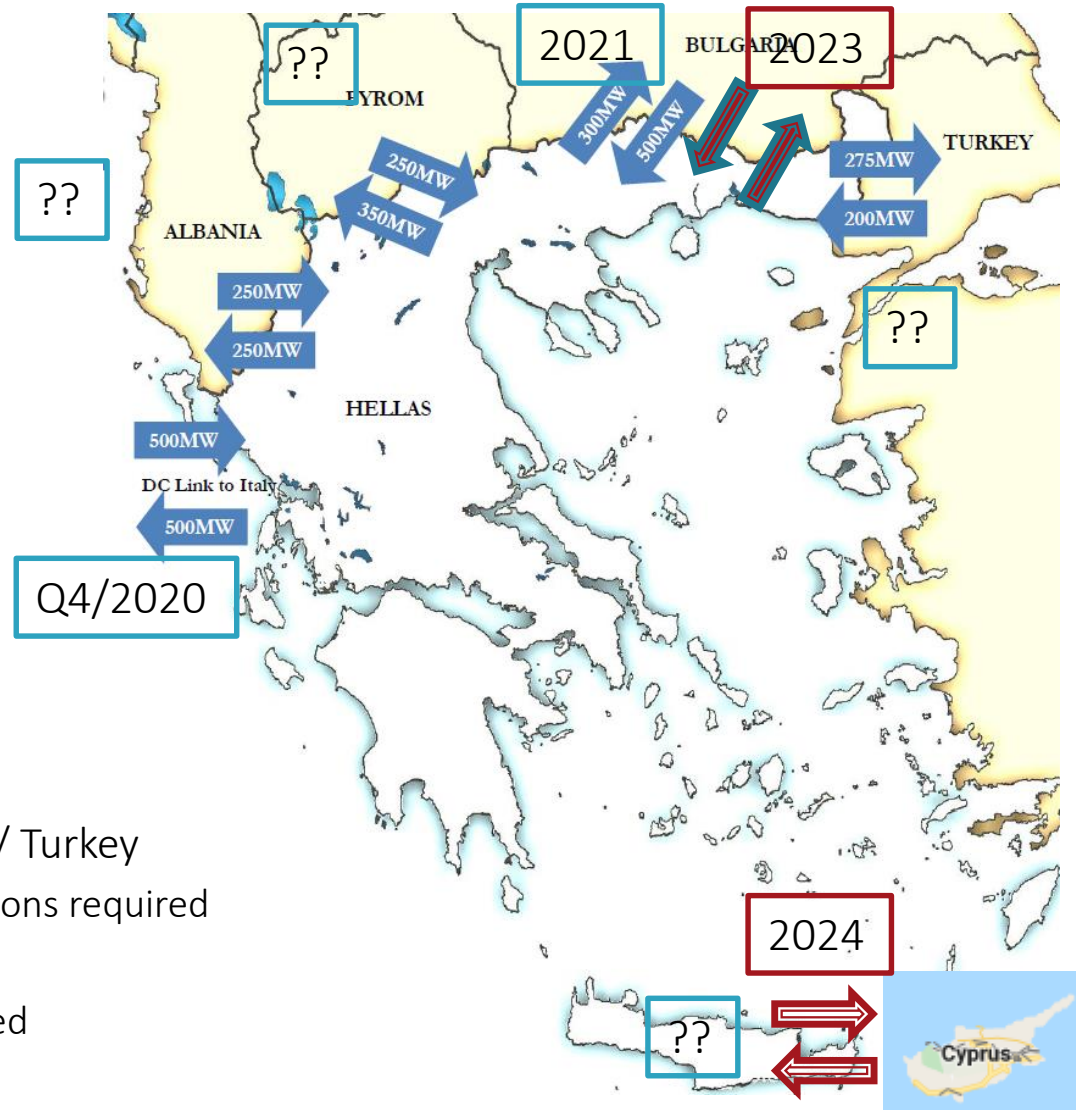
- Bulgaria
 - New line decided
 - (~2023: +600MW Capacity)
- Cyprus
 - EuroAsia
 - (~2024: 1000+1000MW)
- Albania / North Macedonia
 - Upgrade

► Coupling has started

- Italy (Q4/2020)
- Bulgaria (2021)

► Coupling TBD

- Albania / North Macedonia / Turkey
 - High level agreements & actions required
- Cyprus
 - EuroAsia / EuroAfrica required



EnEx Group Augmented Target Markets

- ▶ HEnEx's **one-stop shop** offering will provide access to a range of Energy Markets, beyond electricity, including Natural Gas and Environmental Markets, both for the Spot & Derivatives Markets

