

A robust hybrid clearing model for energy markets

South-East and East European Gas Platform (SEEGAS) 2nd Stakeholder Meeting
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Christos Nikolaidis, ENEXClear

Nikolaos Porfyrakis, ATHEXGroup



The Modular Approach

Joining forces and sharing resources

	SPOT Electricity Markets			SPOT Gas Market (WIP)	Energy Derivatives Market
Market	Day Ahead	Intraday	Balancing	Natural Gas Trading Platform	Energy Derivatives Market
Type of Market	Physical	Physical	Physical	Physical	Cash Settlement with optional Physical Delivery
Market Operator	 Hellenic Energy Exchange S.A.	 Hellenic Energy Exchange S.A.		 Hellenic Energy Exchange S.A.	 Hellenic Energy Exchange S.A.
Clearing and Risk Management	 EnEx Clearing House S.A.	 EnEx Clearing House S.A.	 EnEx Clearing House S.A.	 EnEx Clearing House S.A.	 Clearing House
Platforms & Technical Services	 Athens Exchange Group	 Athens Exchange Group	 Athens Exchange Group	 Athens Exchange Group	 Athens Exchange Group



Increased choice for Product Efficiency

Use of ATHEXClear or EnExClear depending on product



EnExClear provides CCP clearing services since November 2020 supporting the implementation of Target Model in Greek Electricity Market

Electricity DAM & IDM transactions

Balancing Markets Positions

Natural Gas Transactions



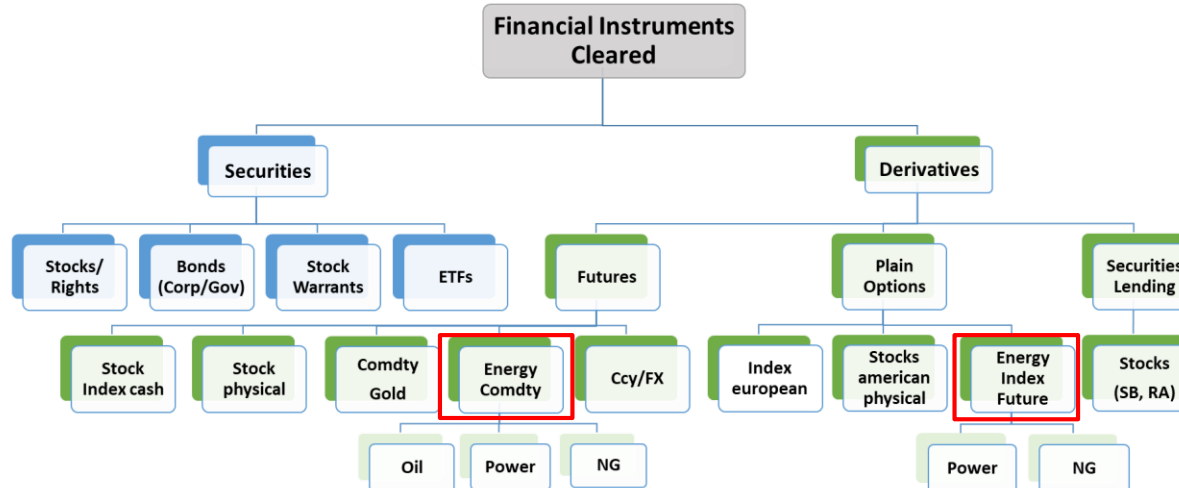
choice



ATHEX CLEAR provides CCP clearing services and **has been authorized under EMIR** on January 2015 for the following classes of financial instruments (with license extension in 2020 for electricity & gas derivatives)



ATHEXCLEAR esma EMIR Clearing House



Benefits from the ATHEX Group & ENEX Group approach

Cost minimization & Increasing Efficiency for Infrastructure and Members

- ✓ **Modular structure** for Spot (electricity & gas) and Derivatives (electricity & gas)
- ✓ **Increased choice for product efficiency** - Allowing for products to be cleared with a common Clearing Model
 - in EMIR-CCP @ **ATHEXClear**
 - non-EMIR CCP @ **EnExClear**
- ✓ Allowing **Trading and smaller Clearing members** to join without increasing risk
 - Using similar risk model **with pre-order risk management in both EnExClear and ATHEXClear**
- ✓ **Common Trading members** for the Spot Electricity & Gas Market @ **HENEX**
- ✓ **Common Clearing members** for the **Spot** Electricity & Gas Market @ **EnExClear**
- ✓ **Common Clearing members** for the **Derivatives** Market @ **ATHEXClear**
 - Use of common Derivatives Default Fund
- ✓ Using similar **Clearing Account Model following EMIR standards**
 - Accounts & Sub-accounts structure, Option to link to multiple trading accounts
 - Option for Direct & Indirect Clearing Accounts
 - Option for Gross or Net Margin Calculation
- ✓ Similar **Risk Management & Settlement Procedures**
- ✓ Using the same **underlying technology**
 - Larger pool of know-how, experience and support
 - Employing internal IT Development & Support team – Fast response and implementation times



Clearing House Operation

Main Tasks of both EnExClear and ATHEXClear

Clearing

Is the process that takes place after the completion of transactions/positions and calculates all the obligations and rights (financial) for each Clearing Member.

Main Tasks:

- ✓ Receive and reconcile transactions/positions from Market Operator
- ✓ Calculate claims and obligations for participants
- ✓ Invoicing

Risk Management

Is the process of identifying and quantify credit and market risks in order to be covered by collaterals.

Main Tasks:

- ✓ Collateral Evaluation
- ✓ Margin Calculation
- ✓ Credit Limit Calculation
- ✓ Calculation of Reference Prices
- ✓ Default Fund Management

Settlement

Is the process of the financial settlement of Clearing Members obligations and rights through settlement banks.

Main Tasks:

- ✓ Settlement Instructions
- ✓ Target 2 Ancillary System Management
- ✓ Cash Collateral Management



Membership requirements

Markets are accessible even for smaller members

Types of Membership:

Direct Clearing Members (DCMs)

authorized to clear only their own transactions as Market Participants

General Clearing Members (GCMs)

authorized to clear other Participants' transactions

Membership Requirements

- ✓ Minimum **capital requirements**:
 - GCM: 3.0 million EUR
 - DCM: 0.7 million EUR
- ✓ Minimum **default fund share**:
 - GCM: 500,000 EUR
 - DCM: 30,000 EUR
- ✓ Minimum **organizational standards**:
 - Clearer certifications
 - Systems availability
 - Risk management procedures,
 - Participation in mock sessions

Financial Criteria may vary according to Market



Existing Pool of Clearing Members

A wide group of members and participants of different size and nationality

EnExClear

8 Clearing Members:

- 5 General Clearing Member (**financial** institutions)
- 3 Direct Clearing Member (from: **energy** sector)

54 Non – Clearing Members

ATHEX Clear

36 Clearing Members:

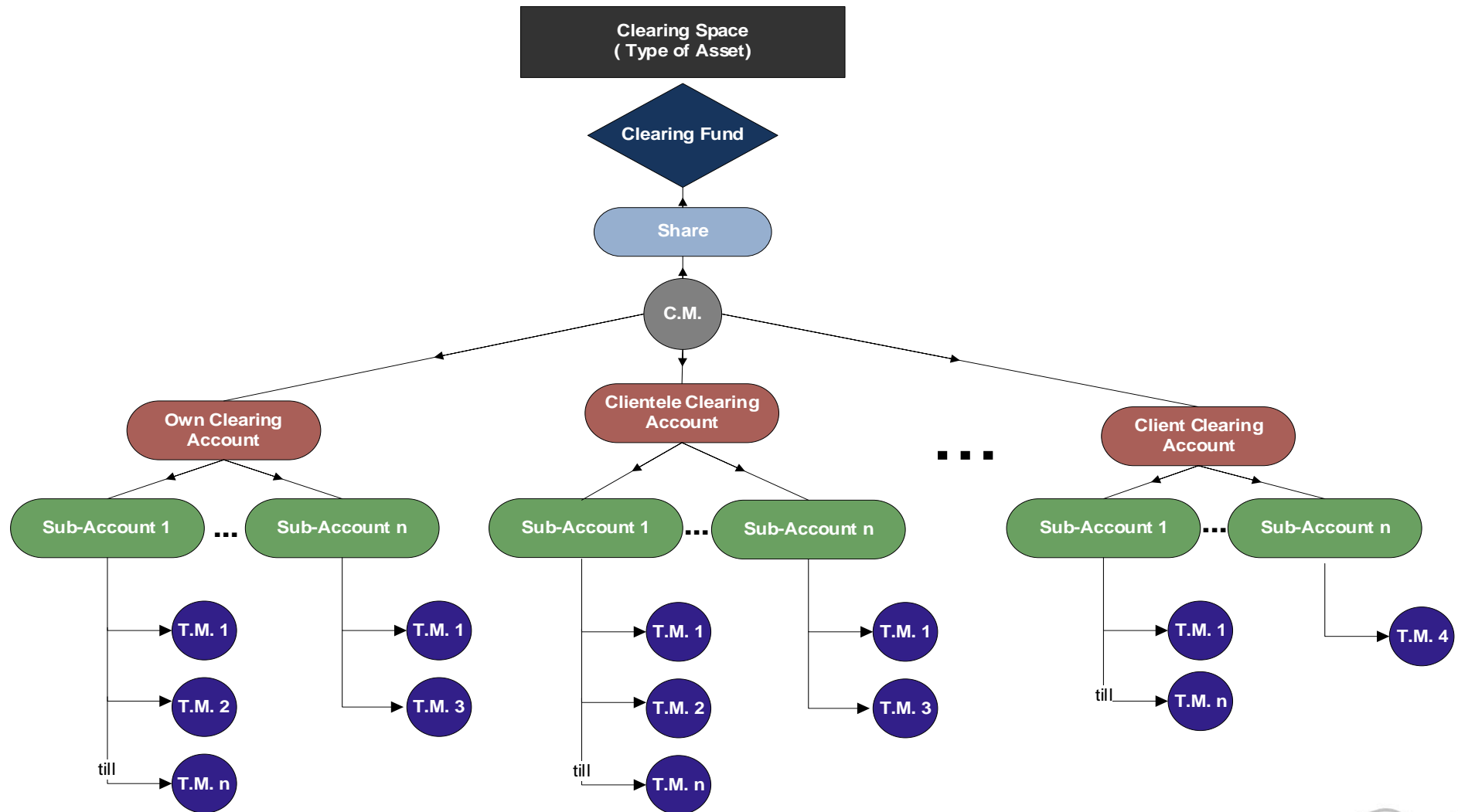
- 6 General Clearing Member (**financial** institutions)
- 30 Direct Clearing Member

12 Non – Clearing Members



The Generic ATHEXClear and EnExClear Account Structure

A flexible model



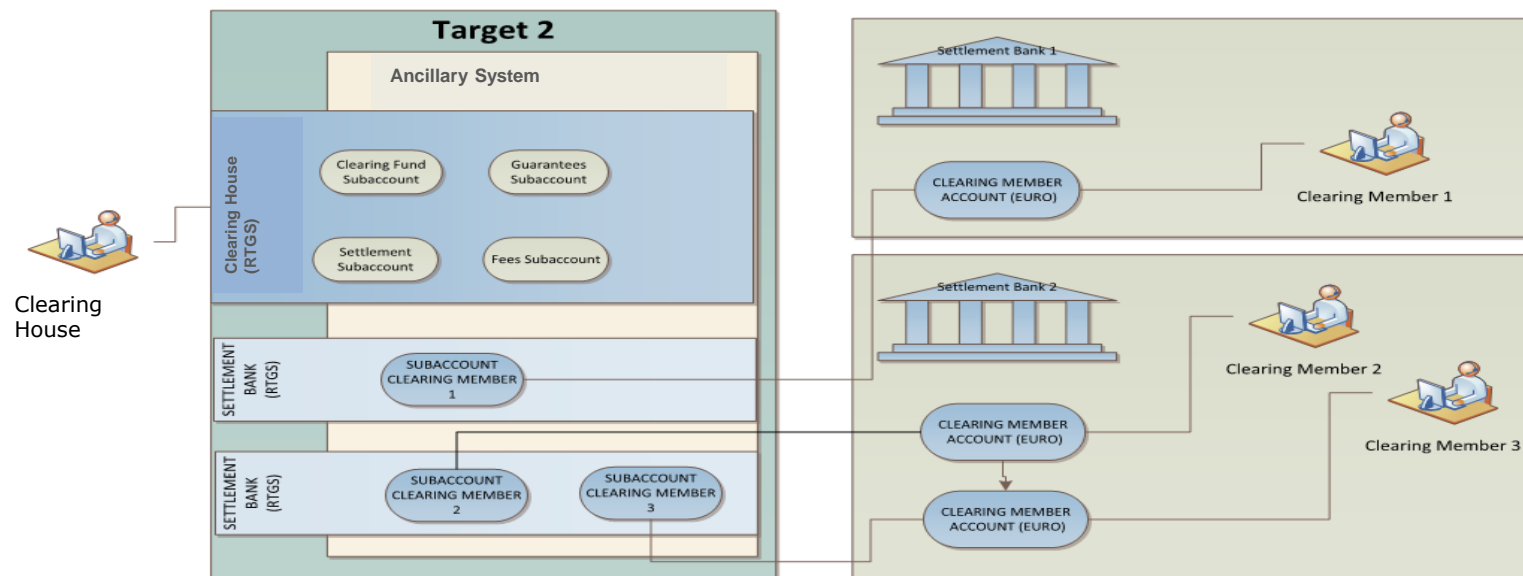
- ✓ Accepted **Collaterals**
 - Cash (deposited on Central Bank)
 - Securities (only for ATHEXClear)
 - Letter of Guarantee (only for EnExClear)
- ✓ Required **Margins**
 - Based on the risk calculated for each clearing account
- ✓ **Credit Limits**
 - Calculated according to collaterals and required margin
 - Real-time link with the Trading platform
 - Does not allow orders that may result to credit risk higher than the available collaterals
- ✓ **Default Fund**
 - Risk sharing mechanism that reduces the required margin and covers also stress scenarios
- ✓ **Default Waterfall**
 - Prefunded resources to cover clearing member's default in a specific order



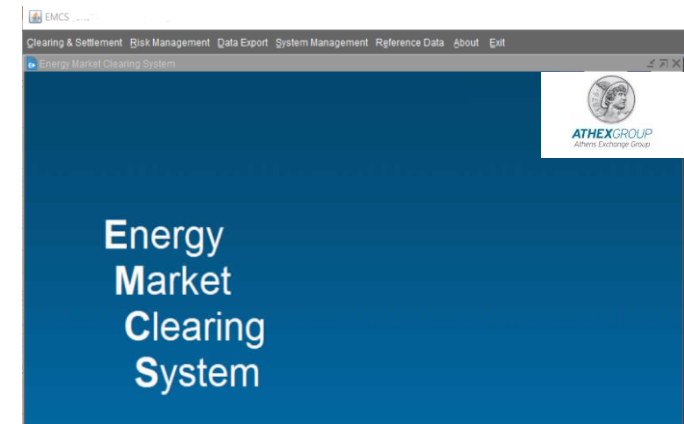
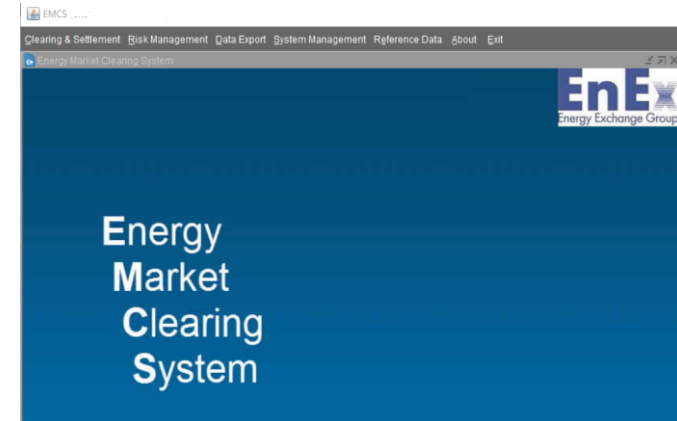
Cash Settlement Procedure

Using a secure and efficient system

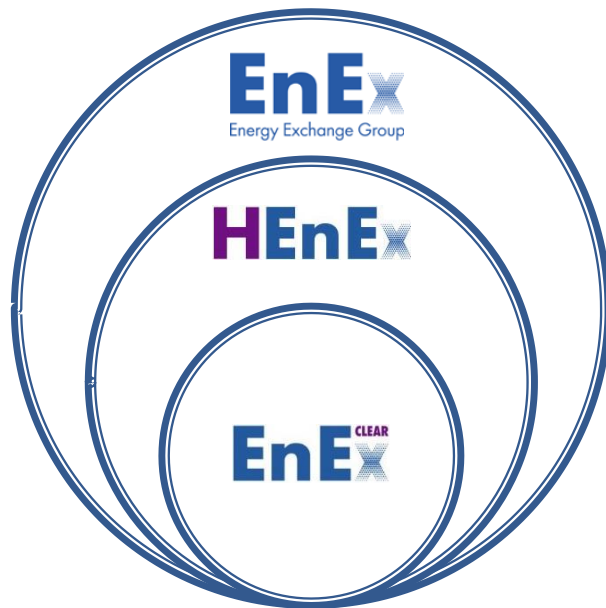
- ✓ EnExClear and ATHEXClear perform the Financial Cash Settlement, the collaterals management and the Clearing Fund contribution management, in Central Bank with the use of TARGET2 system
- ✓ The use of the **Ancillary System of TARGET2** offers an easy access to money transfer for all participants (local and remote) using Target 2 Method 6
- ✓ Each Clearing Member has to assign a Settlement Bank.
- ✓ Settlement cycle varies according to the market (C+1 for derivatives, C+1 and C+2 for spot)



- ✓ CS is based on **Oracle System** (DBMS and development platform) which guarantees high standards for enterprise software.
- ✓ CS architecture is easily **expandable** and can support a large number of users based on the provided computing power.
- ✓ The **CS Client** is a **web based** application which handles the necessary communication with the application server through secure communication protocol.
- ✓ Increased connectivity – use of API
- ✓ Only **Certified Clearers** of Clearing Members have access to CS
- ✓ The EMCS Client interface is a web based application which handles the necessary communication with the application server. EnExClear's Users have the following **connectivity options** to get access to EMCS Client interface:
 - Via internet (using secure communications protocol and certificates)
 - Via private network (leased lines)
- ✓ **Additional IT systems** are available for
 - Reporting (EMIR TR, REMIT)
 - Market monitoring



Energy Exchange Group



▶ **EnEx Group** (Energy Exchange Group)

◦ **HEnEx** (Hellenic Energy Exchange S.A.)

- Private company operating **Spot & Derivatives** energy markets

◦ **EnExClear** (EnEx Clearing House S.A.)

- 100% owned by HEnEx
- Private company clearing **Spot** energy markets



HEnEx Shareholders

Public sector



22%



20%

42%

Private sector



21%

ATHEX

Athens Stock Exchange



20%

European Bank
for Reconstruction and Development



10%

CYPRUS
STOCK
EXCHANGE



7%

Hellenic Gas Transmission System Operator S.A.

58%



EnExClear **Clearing Value** since the beginning of operations on 1/11/2020:

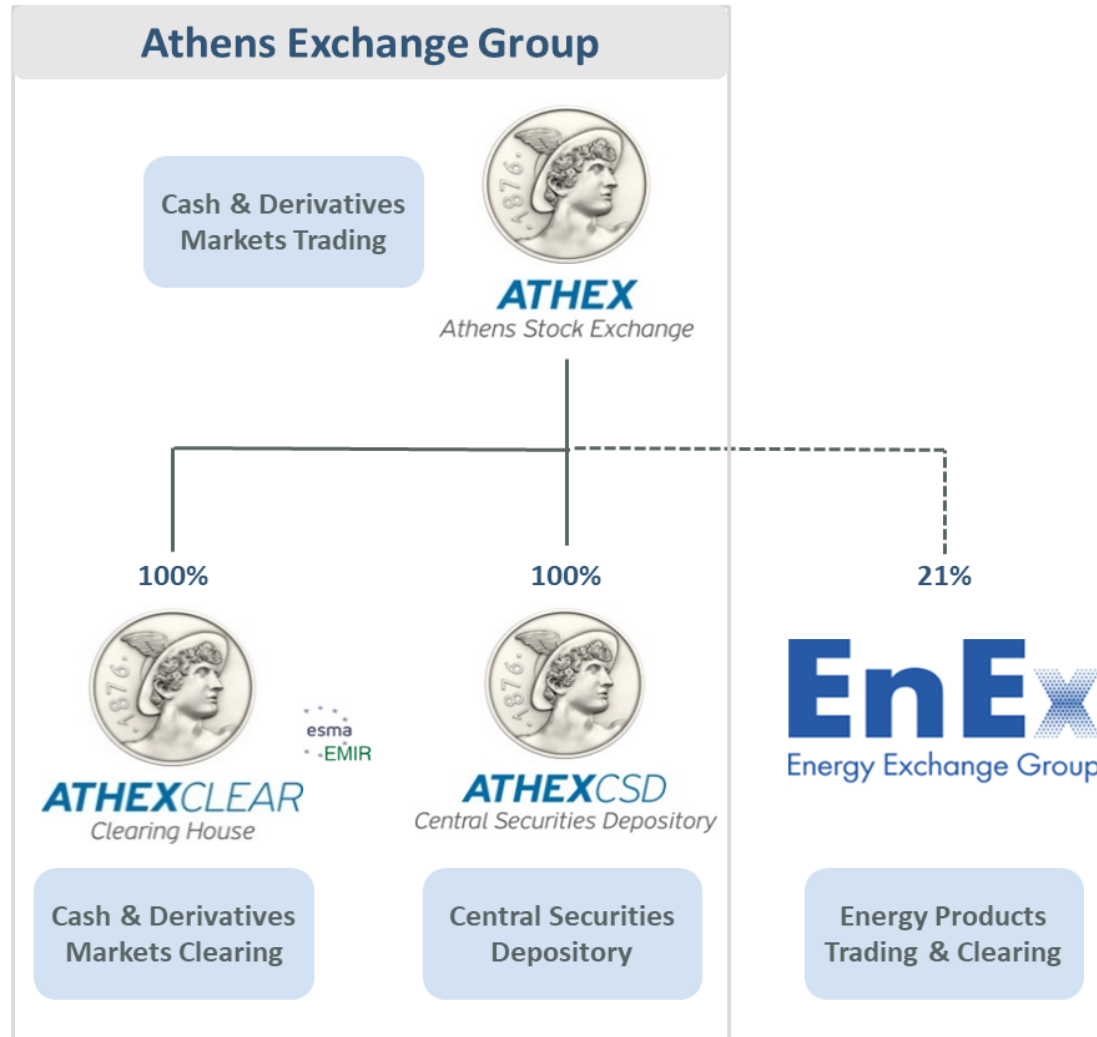
- Day Ahead Market Average Daily Clearing Value : 17.9 mil. €
- Balancing Market Average Weekly Clearing Value : 39.0 mil. €

EnExClear currently manages:

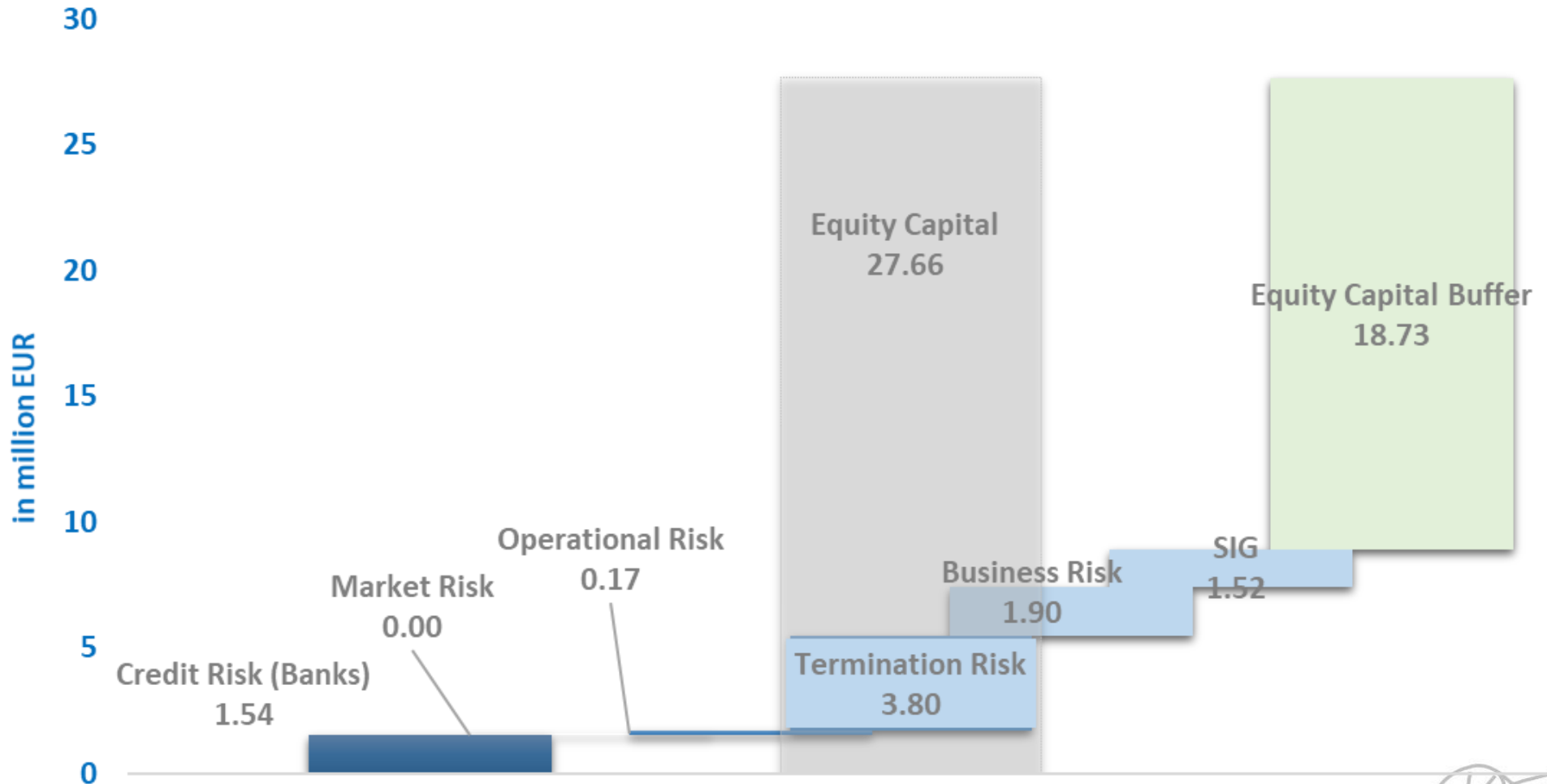
- **Default Funds:**
 - 6.6 mil. € for Day Ahead Electricity Market
 - 29.3 mil. € for Balancing Electricity Market
- **Cash Collaterals:**
 - 56.8 mil. € for Day Ahead Electricity Market
 - 52.8 mil. € for Balancing Electricity Market



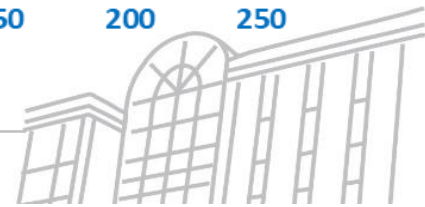
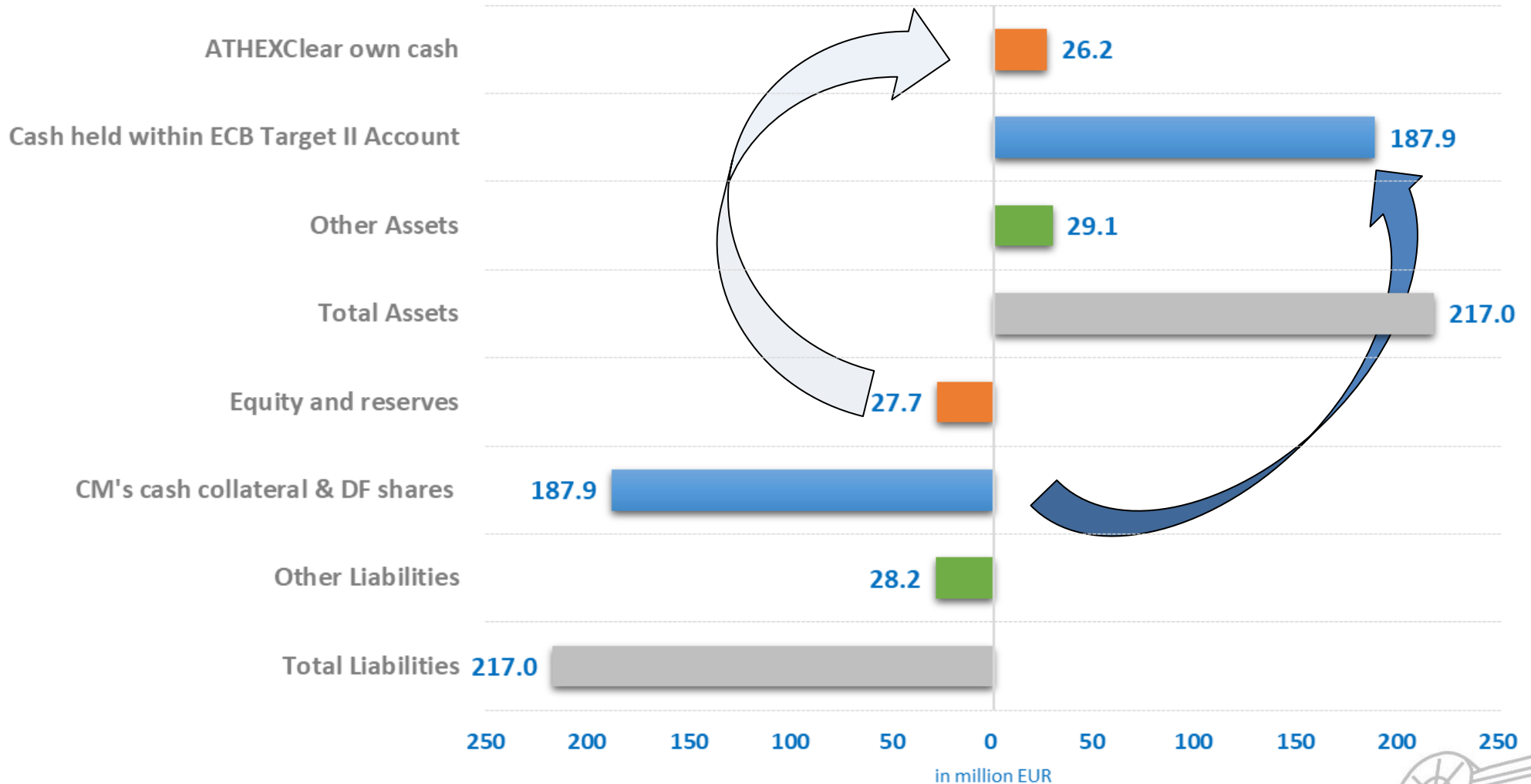
ATHEX Group Company Structure



Capital Adequacy as of 30/09/2020



ATHEXClear key B/S Items (30/09/2020)





New Markets & International Business Development Division

Clearing & Risk Management Division

Email: NMDIAD-ALL@athexgroup.gr

Email: EnExClearTeam@Enexgroup.gr

www.athexgroup.gr

www.enexgroup.gr

Tel : (+30) 210 33 66425
110 Athinon Avenue, Athens
104 42, Greece

Tel : (+30) 210 33 66 952
110 Athinon Avenue, Athens
104 42, Greece

