

# EXIST

## ANNUAL REPORT

# 2022

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## 2022

1 JANUARY 2022 – 31 DECEMBER 2022

This annual report was presented to the Grand Assembly for approval as per the resolution taken in the Board Meeting of Energy Exchange Istanbul held on February 14.

ENERGY EXCHANGE ISTANBUL

# CONTENTS

■ Chairman's Message .....	4	3.2. Strategy .....	59
■ CEO's Message .....	6	3.2.1. Monitoring and Evaluation of Strategic Plan for 2022 .....	59
■ 1. MANAGEMENT .....	8	3.2.2. Targets .....	60
1.1. Board Members .....	10	3.3. Information Technologies Operations .....	61
1.2. Committees Under the Board of Directors .....	12	3.4. Enterprise Risk Management .....	67
1.3. Directors .....	13	3.5. Activities for Enhancement of Corporate Capacity and Development .....	68
■ 2. EXIST GENERAL INFORMATION .....	16	3.5.1. Activities of Value-Oriented Human Resources Management .....	68
2.1. Mission, Vision and Corporate Principles .....	18	3.5.2. Management Systems .....	70
2.2. Fields of Activity .....	19	3.5.3. Communication, Organization and Training Activities .....	70
2.3. EXIST Energy Market Data for 2022 .....	20	3.5.4. Investment and Important Acquisitions .....	93
2.4. Development Process of Energy Markets and EXIST .....	22	3.6. International Activities .....	94
2.5. Shareholders Structure .....	24	3.7. Legislation Activities .....	99
2.6. Organizational Chart .....	26	3.8. Legal Activities .....	101
2.7. Employee Profile .....	27	■ 4. R&D and BUSINESS DEVELOPMENT OPERATIONS .....	102
■ 3. EXIST IN 2022 .....	28	■ 5. INTERNAL AUDIT and MARKET SURVEILLANCE OPERATIONS .....	110
3.1. Market Operations .....	30	■ 6. FINANCIAL STATUS .....	114
3.1.1. Power Market .....	30	■ 7. RISKS and ASSESSTMENT OF THE MANAGEMENT BODY .....	126
3.1.1.1. Spot Power Market .....	30	■ 8. OTHER CONSIDERATIONS .....	127
3.1.1.1.1. Day-Ahead Market (DAM) .....	30		
3.1.1.1.2. Intraday Market (IDM) .....	34		
3.1.1.2. Power Futures Market (PFM) .....	36		
3.1.1.3. Environmental Markets .....	40		
3.1.1.4. Settlement and Registration Transactions .....	45		
3.1.2. Natural Gas Market .....	52		
3.1.3. Transparency Platform .....	58		





## CHAIRMAN'S MESSAGE

Dear Stakeholders,

2022 was a “year of breakthroughs” for our country with the works performed in the field of energy.

It was a year in which critical processes were overcome in line with the goal of becoming an international energy trade hub thanks to the successful diplomatic efforts carried out by the Ministry of Energy and Natural Resources under the leadership of our President. During the energy crisis caused by the Russia-Ukraine crisis, especially in Europe, our country did not allow the effects of the energy crisis with its successful mediation efforts, on the contrary and it has become more and more important with its successful energy policies.

Thanks to the exploration activities carried out by establishing the largest drilling fleet in the world with the participation of the Abdulhamid Khan Drillship, our country has reached a total natural gas discovery amount of 710 billion cubic meters with new discoveries and revaluations in 2022, in addition to 540 billion cubic meters of natural gas discovery announced by our President in 2021. 170 km of deep-sea pipe laying and 85% of the Filyos Gas Operation Facility have been completed for the discovery to reach our citizens.

In addition to the Silivri Natural Gas Storage Plant, which reached a capacity of 4.6 billion cubic meters, the capacity of the Tuz Lake Underground Natural Gas Storage Plant reached a capacity of 1.2 billion cubic meters.

Such important developments in the field of electricity and natural gas certainly bring EXIST to a much more significant position in line with its vision “to become a energy exchange taken as a reference in the energy markets on a global scale” along with its efforts in the markets it operates for making our country become the natural gas hub. Especially, in line with its target to become a trading hub in the energy, it increasingly appears every day that EXIST will be one of the most important companies in Türkiye.

In addition to the developments in the field of natural gas, oil with a reserve of 150 million barrels was discovered in the city of Şırnak, which is one of the 10 largest discoveries made on land in the world this year. And 8 million barrels of oil was discovered in Adana.

In electricity, our installed capacity exceeded 103 thousand megawatts, while the installed capacity of renewable resources reached 54% of our total installed capacity. Renewable energy accounted for 44% of our electricity generation, and our distribution line exceeded 1 million 363 thousand kilometres and transmission lines 73 thousand kilometres in length.

Certainly, such significant developments in electricity and natural gas make EXIST more important every day, which has an important role in Türkiye's efforts to become a natural gas centre in energy with the

markets it operates and in line with its vision of “becoming a globally recognized energy exchange in energy markets”.

Our company will continue to contribute to Türkiye's success stories in the field of energy and will continue to work for making our markets more efficient, reliable and fair, which are created and operated basing on both its own human and material resources entirely.

As we leave 2022 behind, I believe EXIST will continue to carry out important activities in the Turkish Century and will continue to be pride of Türkiye.

I submit the Annual Report showing operations in 2022 for information of all our shareholders and stakeholders, wishing it to be good for all people.

Best Regards,

**Abdullah TANCAN**  
Chairman



## CEO'S MESSAGE

Dear Stakeholders of EXIST,

For EXIST, 2022 was a year during which it has continued its activities for operation and development of the energy markets in an efficient, transparent and reliable manner, maintaining its activities for operation of the markets, improvement and development of the services offered to participants and strengthening the corporate structure.

In 2022, with the Day-Ahead Market (DAM), Intraday Market (IDM), Spot Natural Gas Market (SGM), Power Futures Market (PFM), Natural Gas Futures Market (NGFM) and Renewable Energy Resource Guarantee System (YEK-G) and Market, EXIST has continued to provide services at international standards and contributed to further deepen the market volume and provided a secure market environment. We, as EXIST, develop our activities and product developments according to the developments in the global energy sector and the expectations of our stakeholders and, furthermore, we continue to make continuous improvements in these products after the realization of our projects. In addition, we think it should be emphasized that we develop the markets we operate entirely with our own resources in line with the needs of the sector.

To summarize 2022 briefly, 56 percent of the trade in the power market last year was realized via bilateral agreements, 42 percent in the DAM and IDM markets

we operate, and the rest in PFM and Balancing Power Market (BPM). Together with the gas markets we operate, our total turnover has reached approximately TRY 800 billion. By the end of 2022, there were 44 active market participants in PFM. One of the six markets operated by EXIST and developed within the scope of the GO (Guarantees of Origin) System implemented in the EU and the European energy certification system rules, YEK-G System has a special place in the energy sector as the first domestic software product developed with blockchain technology in our country. A total of 108 participants registered in the YEK-G System and the Organized YEK-G Market as of 2022. Of the registered participants, 51 have supply licenses, 41 have generation licenses and 16 have incumbent supply licenses.

2022 was also a year in which significant developments in the field of energy were experienced in our region and around the world with the global pandemic process and innovative models were implemented to address possible negative impacts. It is possible to say that these developments have once again shown that energy is one of the indispensable elements of our lives, also emphasizing once more that the management of all energy-related processes is of critical importance. Energy exchanges have a very important place in these processes. As a result of the meetings and trainings held with international energy exchanges and relevant institutions, organizations and companies of the energy sector, the foundations of positive collaborations were laid. Furthermore, EXIST hosted the General Assembly Meeting of EUROPEX (European Energy Exchanges Association), which is one of the most important of our positive collaborations and where we are also on the board of directors.

We, EXIST, perform our operations and developments in our field of operations in accordance with the product developments in the world energy sector and expectations of our stakeholders and continue to make improvements in these products after putting our projects into practice.

In 2022, during which many legislative regulations were enacted due to dynamic movements in the energy sector, we continued to update our application platforms in line with these changes. In such a dynamic atmosphere, Energy Market Management System (EMMS) project was also among our important agenda items and this integrated market management system will provide market management opportunities in a flexible structure to keep service quality at the highest level and Settlement Module of our EMMS project, which we realized in order to respond to market needs with a faster, flexible, modern and nextgeneration software infrastructure by restructuring the existing BPMYS (Balancing Power Market Management System) software and data architecture, was successfully put into operation with the devoted efforts of our colleagues, and, additionally, works on the Collateral, Registration and Eligible Consumer Modules are also ongoing. In addition, the IDM 2.0 project, which we started to renew our Intraday Market platform, which attracts increasing participant interest every year, and the development works within the scope of the YEK-G Phase 2 project are also ongoing.

On the Natural Gas Market side, the last quarter of 2022 was a very active period. One of the important issues that we believe to be among our main agenda items in 2023 as well is the efforts to become an international Natural Gas business hub. In this sense, studies have been carried out on the improvements that can be made in our existing markets and the steps expected to increase liquidity.

Our efforts to fight with climate change, which is the main triggering factor of the energy transformation, are also among our important agenda items. In this sense, we conducted studies on the Carbon Market that can be developed in our country and shared them with the relevant institutions.

In 2022, projects related to the Supplier Evaluation System, EXIST Help Desk (EHD), Call Center and workflow management system were carried out to improve our processes in order to improve our corporate capacity and provide better service to our participants.

We conducted a Participant Satisfaction Survey in 2022 in order to measure the satisfaction level of our market participants regarding the products and services we offer and make the necessary improvements. I would like to thank our participants once again for participating in our survey and sharing their valuable opinions and suggestions with us. The feedback from our survey will continue to guide us in improving our service quality and developing new products.

As in the previous year, our company ranked first in the Fortune-500 list and became the largest company in Türkiye. In addition, 2022 was a year in which we received CHRO Human Resources Leaders Award by the Fortune 500 and four awards, especially for our digital transformation activities, projects, software and markets. I would like to emphasize that the recognition of our achievements is a very pleasing development for us.

In 2022, I would like to especially thank my colleagues in the EXIST family, who continued their activities with dedication and continuously improved themselves, and I am also pleased to present the Annual Report, which includes information on the activities, projects and studies carried out in 2022, to all our shareholders and stakeholders.

Best Regards,

**Ahmet TÜRKOĞLU**  
CEO



# 1

## MANAGEMENT



## 1.1. Board Members



FULL NAME	TITLE	SHARE GROUP	TERM IN OFFICE
Abdullah TANCAN	Chairman	A	22.10.2018 – Present
Alparslan BAYRAKTAR, Ph.D	Vice Chairman	A	22.03.2019 – Present
Muhammed Mahmut ER	Board Member	B	18.01.2019 – Present
Talat ULUSSEVER, Ph.D	Board Member	B	07.10.2020 – Present
Mustafa KARAHAAN	Board Member	C	12.03.2015 – Present
Mehmet ERTÜRK	Board Member	C	22.03.2019 – Present
Faruk BOSTANCI, Ph.D	Board Member	Independent	12.03.2015 – Present

## 1.2. Committees Under the Board of Directors

### 1.2.1. Early Risk Detection Committee

The Early Risk Detection Committee (RESK) continues its activities since 06.11.2015 within the framework of the duties assigned in the EXIST Articles of Association, Article 9, paragraph seven, Articles 8 and 10 of the Regulation on EXIST Organization Structure and Working Principles, and the Directive on Duties and Working Principles of RESK.

In the operating year of 2022, the Committee is consisted of the Board Directors Mehmet Ertürk, Mustafa Karahan and Muhammed Mahmut Er and was headed by Mehmet Ertürk. The secretarial works of the Committee are performed by Risk Management Department.

In 2022, 6 Risk Reports were prepared and included on the agenda of the Board of Directors.

### 1.2.2. Audit and Compliance Committee

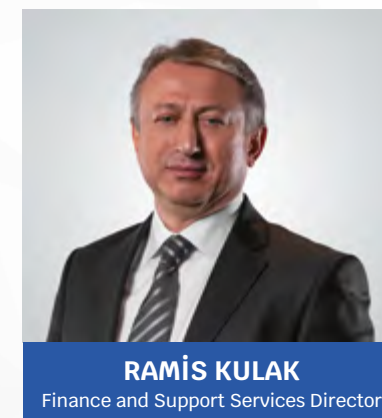
The Audit and Compliance Committee (ACC) has been carrying out its activities in accordance with the Article 9, paragraph seven of the Articles of Association of EXIST, Articles 8 and 9 and the Regulation on the Organization and Working Principles of EXIST and ACC's Duty and Working Principles since 06.11.2015.

In the operating year of 2022, the Committee was consisted of Faruk Bostancı, Mehmet Ertürk and Talat Ulussever and headed by Faruk Bostancı. The secretarial activities are performed by Internal Audit Department.

The ACC, which met four times in 2022, has carried out the following operations:

- Internal audit working plan for 2022 was approved.
- Information has been received about audit reports and internal audit operations and they were evaluated.
- Independent audit report for 2021 was evaluated and presented to the Board of Directors.
- Studies for selection of independent audit firm by Internal Audit Department was assessed by ACC and proposed to the Board of Directors.

## 1.3. Directors





## 1.4. EXIST 7<sup>th</sup> Ordinary General Assembly

Ordinary General Assembly of Energy Exchange Istanbul for 2021 was held on 04.03.2022. Upon inspection of the list of attendants, it was understood that out of 61.572.770 shares, each with a nominal value of TRY 1 corresponding to the company's capital of TRY 61.572.770, 50.295.661 shares were represented and thus the minimum meeting quorum stipulated in both the Law and the Articles of Association and hence the meeting was held by participation of Abdullah Tancan as Chairman and Ph.D Alparslan Bayraktar, Ph.D Talat Ulussever, Mustafa Karahan, Mehmet Ertürk, Faruk Bostancı as Board Directors and Bilal Ensar Dörter as representative of Independent Audit Firm.

Ahmet Türkoğlu, CEO, gave an informative presentation regarding the activities of the company in 2021.

The Board's Annual Report, balance sheet and income statement were approved unanimously.

Upon voting, Abdullah Tancan and Ph.D Alparslan Bayraktar as representatives of the Group A shareholders, Muhammed Mahmut Er and Ph.D Talat Ulussever as representatives of Group B shareholders and Mustafa Karahan, Mehmet Ertürk as representatives of Group C Shareholders and Ph.D Faruk Bostancı as Independent Board Director were unanimously elected as Board Members.

Board Chairman and Members were individually discharged of their accounts and transactions for 2021.

Pursuant to the Resolution No. 2 of the Board of Directors' meeting dated 21.01.2022 and numbered 2021/2, it has been resolved to distribute TRY 11.077.272 from the net profit of the Company for the period 01.01.2021 - 31.12.2021 according to the statements prepared in accordance with the Financial Legislation to the shareholders according to their share ratios and to set aside the remaining amount as Extraordinary Reserves and to authorize the Board of Directors to determine the payment schedule for distribution of dividend as provided by the Turkish Commercial Code 6102 and company's Articles of Association.

As a result of voting, Mr. Abdullah Tancan, Board Member, was unanimously elected to serve as the Board Chairman for 1 year.

Finally, taking into account the opinion of the Audit and Compliance Committee formed under the Board of Directors, it was unanimously resolved that Güreli Yeminli Mali Müşavirlik ve Bağımsız Denetim Hizmetleri A.Ş. be appointed as independent auditor of the company to take office for 1 year to carry out activities within the scope of the regulations on audit of the financial reports our our Company in 2022 as per the Board Resolution No. 7 of 21.01.2022.





# 2

## EXIST GENERAL INFORMATION



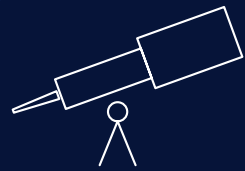


2.1. Mission, Vision and Corporate Principles



MISSION

Efficient, transparent and sustainable operation and development of energy markets.



VISION

Being a global reference for energy markets.

CORPORATE PRINCIPLES



FAIR APPROACH



RELIABILITY



TRANSPARENCY



CUSTOMER ORIENTED



SUSTAINABILITY



PARTICIPATION



INNOVATION



RESPECT FOR EMPLOYEES



SOCIAL RESPONSIBILITY

2.2. Fields of Activity



ORGANIZED WHOLESALE SPOT POWER DAY-AHEAD MARKET (DAM) AND INTRADAY MARKET (IDM) TRANSACTIONS



POWER FUTURES MARKET (PFM) TRANSACTIONS



ORGANIZED WHOLESALE SPOT NATURAL GAS MARKET (SGM) TRANSACTIONS



NATURAL GAS FUTURES MARKET (GFM) TRANSACTIONS



RENEWABLE ENERGY GUARANTEES OF ORIGIN SYSTEM & ORGANIZED YEK-G MARKET



SPOT POWER DAY-AHEAD AND INTRADAY MARKETS, BALANCING POWER MARKET, POWER FUTURES MARKET AND YEK-G MARKET SETTLEMENT AND FINANCIAL TRANSACTIONS



SPOT NATURAL GAS MARKET AND NATURAL GAS FUTURES MARKET SETTLEMENT AND FINANCIAL TRANSACTIONS



SETTLEMENT OF ANCILLARY SERVICES MARKET



INVOICING TRANSACTIONS



OPERATION OF RENEWABLE ENERGY RESOURCES SUPPORT MECHANISM (YEKDEM)



MANAGEMENT OF PROCESS FOR CHANGE OF ELIGIBLE CONSUMER AND SUPPLIER



MANAGEMENT OF ELIGIBLE CONSUMER PORTAL



## 2.3. EXIST Energy Market Data for 2022

### 2.3.1. Power Market Data

EXIST Registered Market Participants **1.536**

#### ■ DAM

Average MCP  
**2.510,72** TRY/MWh

Match Quantity  
**179,43** TWh

Trade Volume  
**907,58** B TRY

#### ■ PFM

Match Quantity  
**28,56** GWh

Trade Volume  
**94,62** M TRY



Match Quantity  
**1,31** TWh

Trade Volume  
**417.312,48** TRY

Export Quantity  
**14,02** TWh

Bilateral Agreement Quantity  
**1.347,20** GWh

Cancellation Quantity  
**3.196,30** GWh

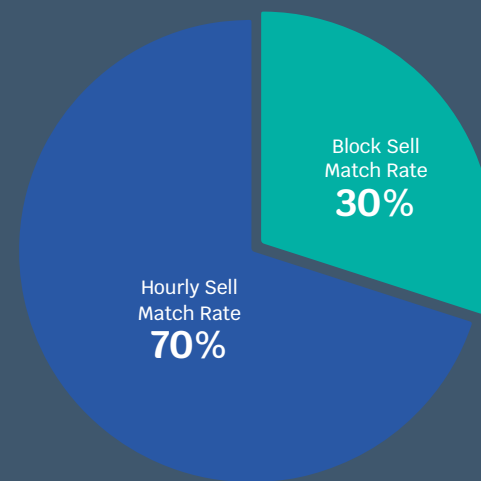
#### ■ IDM

Match Quantity  
**17,60** TWh

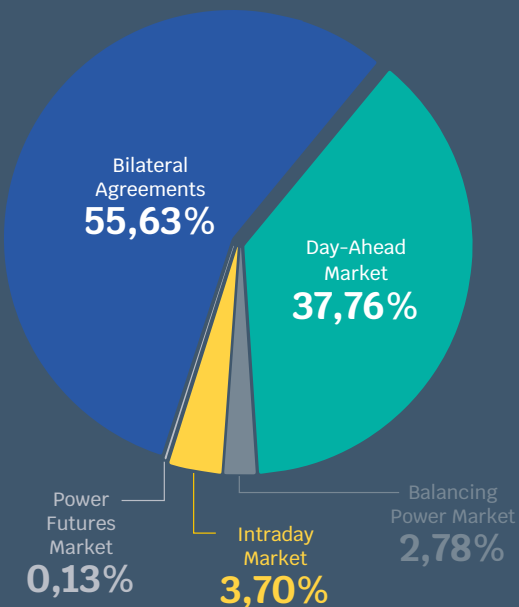
Trade Volume  
**84,57** B TRY

YEKTOB **131,46** B TRY  
Eligible Consumer Limit **1.100** kWh

Hourly-Block Sell Match Rates



Market Quantity Distribution



### 2.3.2. Natural Gas Market Data

Number of SGM Registered Participants **55**

#### ■ SGM

Total Number of Annual Bids  
**8.314**

Average Daily Reference Price  
**15.718,77** TRY/1000 Sm<sup>3</sup>

Highest Daily Reference Price  
**26.297,00** TRY/1000 Sm<sup>3</sup>

Total Annual Match Quantity  
**2,096** B Sm<sup>3</sup>

Average Number of Daily Bids  
**22,8**

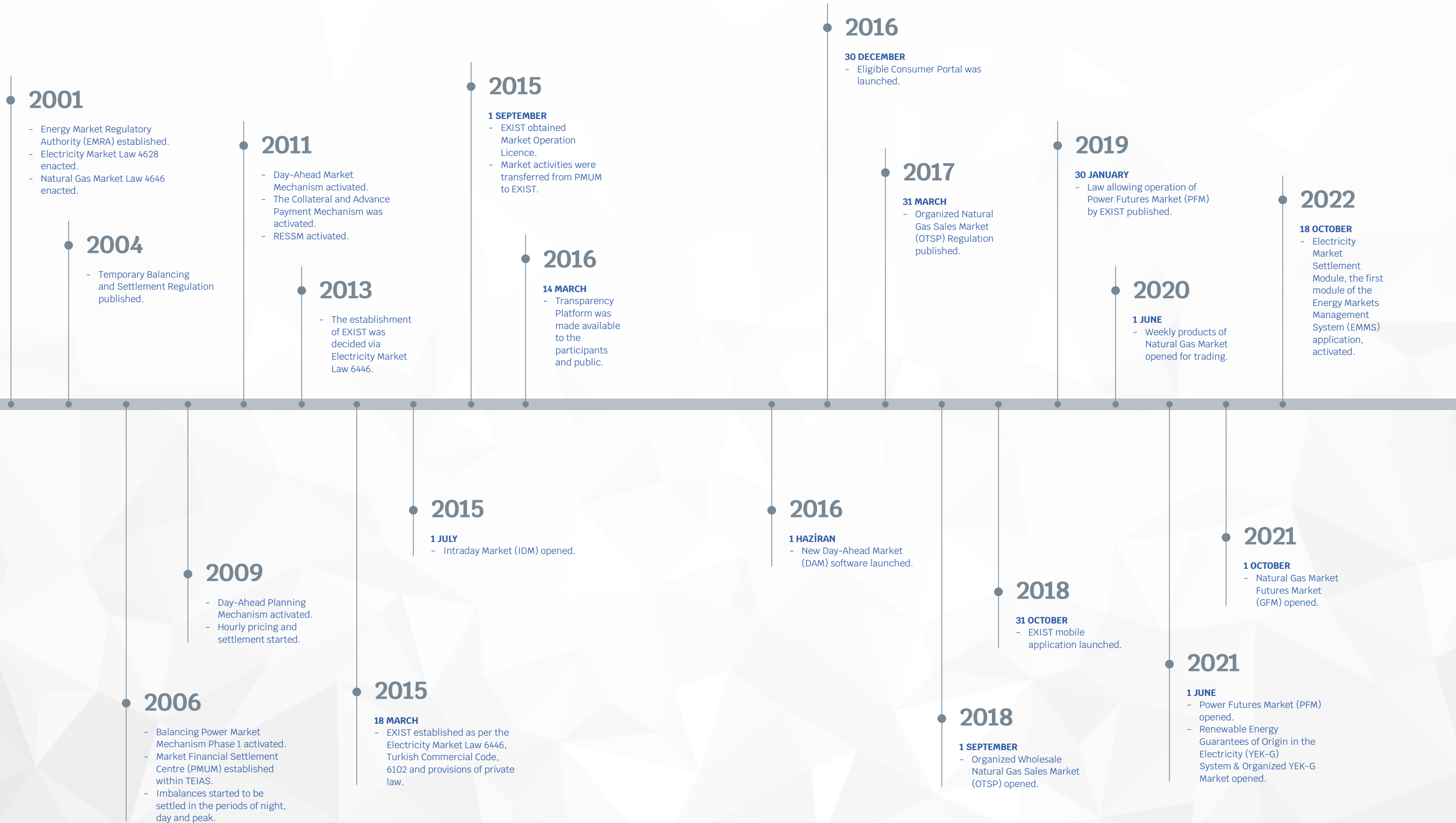
Lowest Daily Reference Price  
**6.651,68** TRY/1000 Sm<sup>3</sup>

Total Annual Match Amount  
**27,487** B TRY

\* Rate of Power Futures Market in the distribution of market amount covers only the matchens in the contracts for 2022.

\*\* Trade volumes includes total purchase-sale trading amounts.

## 2.4. Development Process of Energy Markets and EXIST



## 2.5. Shareholders Structure

The paid-in capital of EXIST is TRY 61.572.770. The capital of the company is divided into 61.572.770 shares, each with a nominal value of TRY 1 and the shares representing the company's share capital are classified under 3 groups: 18.471.831 shares are classified as Group (A), 18.471.831 shares as Group (B) and 24.629.108 shares as Group (C).

EXIST has not acquired any shares for itself and has no direct or indirect contribution and shares. Group (A) shares corresponding to 30% of total shares of EXIST are held by TEİAŞ and according to the first paragraph of Article 7 of Articles of Association of EXIST which reads: "50% (fifty percent) of Group (A) shares shall be transferred to the legal entity which will operate the national natural gas transmission system after separation of Petroleum Pipeline Corporation (Boru Hatları ile Petrol Taşıma Anonim Şirketi), however, provided that it is in accordance with provisions of the regulation". Half of the Group (A) shares shall be transferred to BOTAŞ on a later date in line with

the ongoing studies on natural gas market. Group (B) shares corresponding to 30% of the total shares of EXIST is held by Borsa İstanbul A.Ş. (BİST).

With respect to the shareholders of the Group (C) which constitutes 40% of total shares of EXIST, the third paragraph of Article 7 of the Articles of Association of EXIST provides that "Any Group (C) shares can only be transferred among the legal entities holding power market supply license or production license to the extent that the production facility thereunder has been put into operation, the legal entities, holding wholesale, import, export license in natural gas market or the legal entities holding retailer license and Borsa İstanbul A.Ş. (BİST)." 39,17% of the company's Group (C) shares are held by the licensed companies mentioned above and the remaining 0,83% is held by Borsa İstanbul A.Ş.

As of 2022, there are no preferential shares regarding dividends and voting rights.

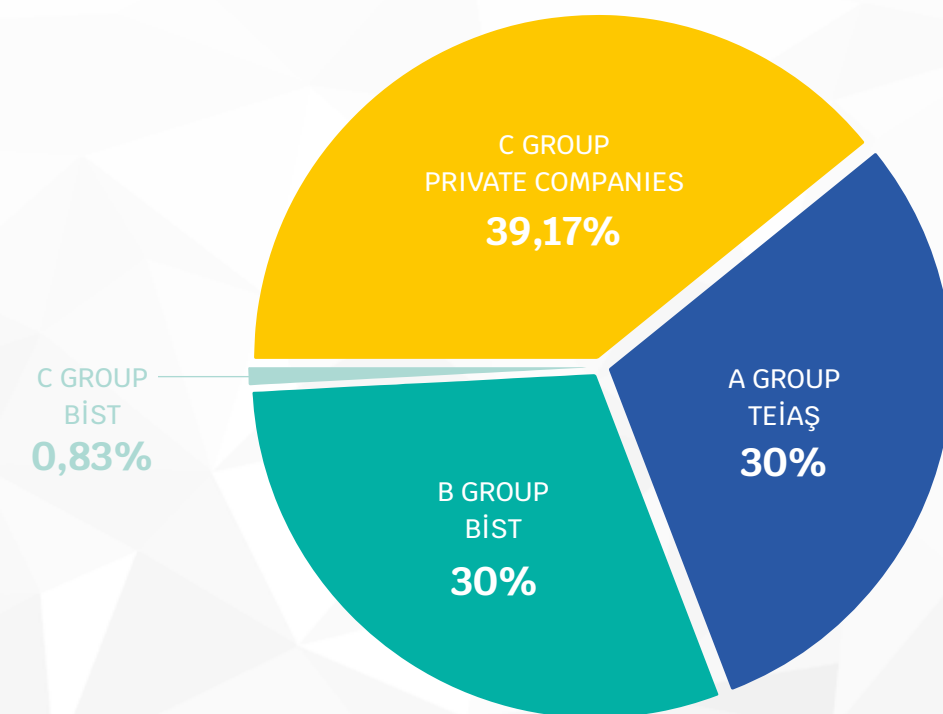
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Change in the shareholders structure of Group (C) in 2022 is shown in the following table:

LEGAL ENTITY AS TRANSFEROR	LEGAL ENTITY AS TRANSFEREE	NUMBER OF SHARES	SHARE RATE (%)
YURT ENERJİ ÜRETİM SANAYİ VE TİCARET A.Ş.	ADO MADENCİLİK ELK. ÜR. SAN. VE TİC. A.Ş.	100.000	0,16

Shareholder structure of EXIST is shown in the following table:

SHAREHOLDERS	SHARE GROUP	NUMBER OF SHARES	NOMINAL SHARE AMOUNT (TRY)	RATE (%)
Türkiye Elektrik İletim A.Ş. (TEİAŞ)	A	18.471.831	18.471.831	30,00
Borsa İstanbul A.Ş. (BİST)	B	18.471.831	18.471.831	30,00
Borsa İstanbul A.Ş. (BİST)	C	511.590	511.590	0,83
Private Companies	C	24.117.518	24.117.518	39,17
<b>TOTAL</b>		<b>61.572.770</b>	<b>61.572.770</b>	<b>100,00</b>

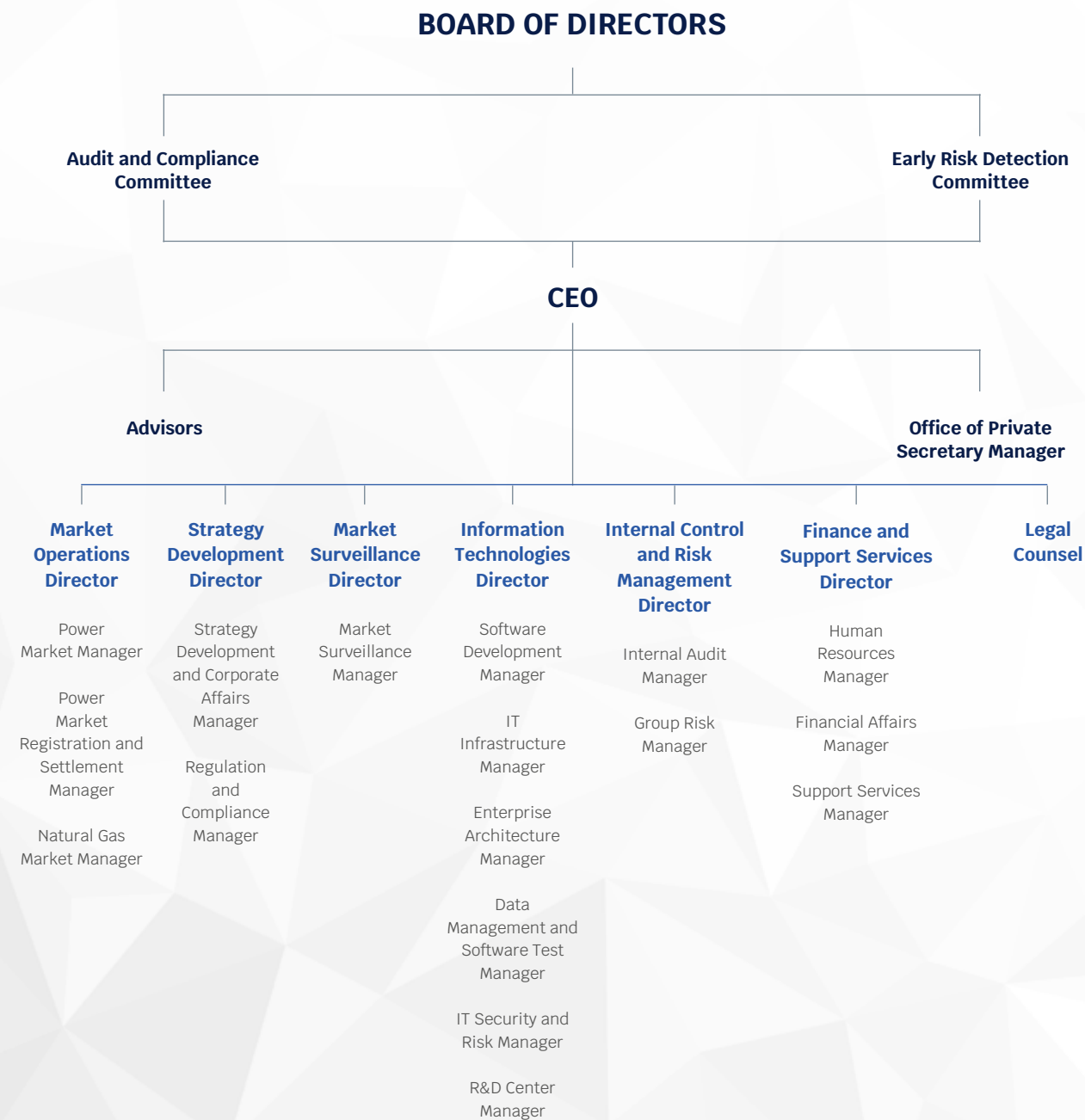




## 2.6. Organisational Chart

The organizational structure of EXIST is designed according to the Regulation on the Organizational Structure and Working Principles of EXIST and the Organization Directive of EXIST put into effect by the Board of Directors. The organizational structure consists of 6 Directorates, Legal Consultancy, Advisors and Private Secretariat attached to the CEO and there are 18 departments in the organizational structure of it.

The organizational chart of EXIST is as follows as of the end of 2022.



## 2.7. Employee Profile

EXIST employs the human resources it needs within the norm staff determined by EXIST Organization Directive as per the Labor Law 4857 and Article 4/a of the Social Insurance and General Health Insurance Law 5510. With 22 new employees hired in 2022, EXIST continues to provide service with its qualified staff consisting of 241 in total.

As of the end of 2022:

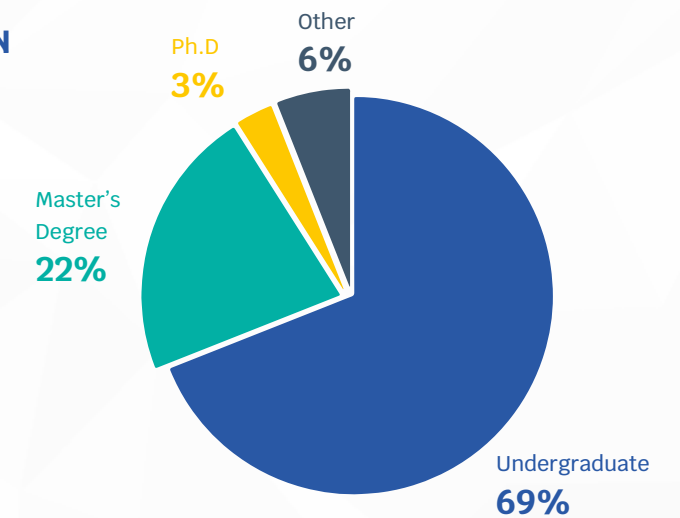
- 69% of EXIST employees are undergraduate, 22% master's degree and 3% Ph.D graduates.

Accordingly, 94% of our company's employees have bachelor's degree or above.

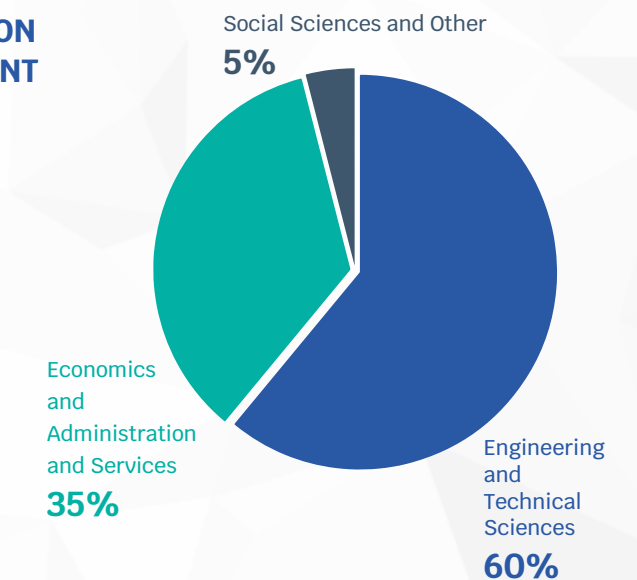
- 60% of our employees are graduates from faculties of engineering or technical science and, 35% from faculties of economics and administrative sciences and 5% from faculties of social sciences or other faculties.

- 51% of EXIST employees is in the age range of 31-40 years, 22% 41-50 years, 17% 26-30 years and 2% 21-25 years. In the total number of employees, our employees 51 years and above constitute 8%. The average age of the employees is 37,7 years and the average duration of professional work experience of our employees is 12,6 years.

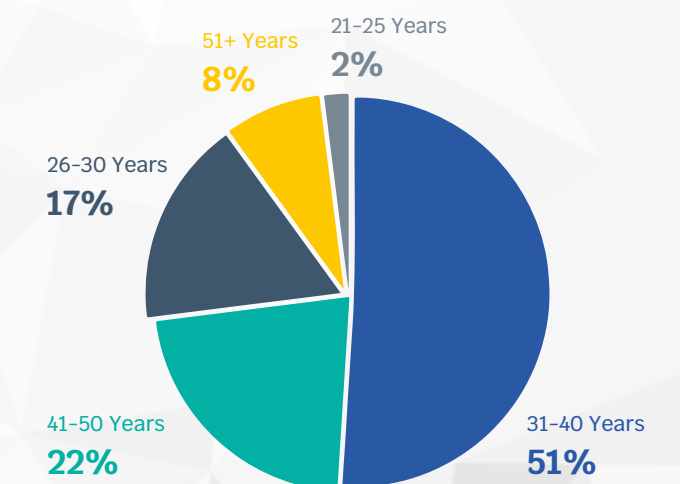
### EDUCATION LEVEL



### GRADUATION DEPARTMENT



### AGE RANGE



# 3

## EXIST IN 2022



## 3.1. Market Operations

Within the scope of market operations, EXIST operates Day-Ahead and Intraday Spot Power Market, Spot Natural Gas Market, Power Futures Market, Natural Gas Futures Market and Renewable Energy Guarantees of Origin System & Organized YEK-G Market.

### 3.1.1. Power Market

#### 3.1.1.1. Spot Power Market

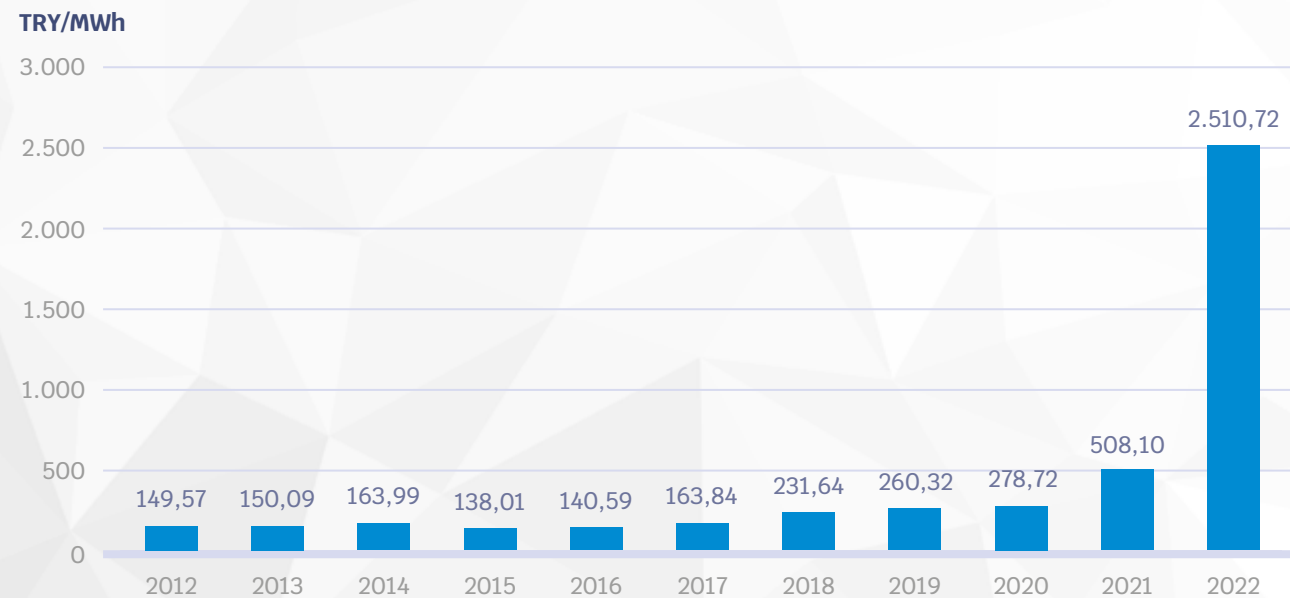
##### 3.1.1.1.1. Day-Ahead Market (DAM)

In the Day-Ahead market, purchase and sale quantities and Market Clearing Prices (MCP) are announced in line with the bids submitted by the participants, while matches are realized through the continuous trading method in the Intraday market.

2022 Day-Ahead Market trading volume reached to 179,43 TWh with a decrease of 11.64% compared to the previous year to 179.43 TWh.

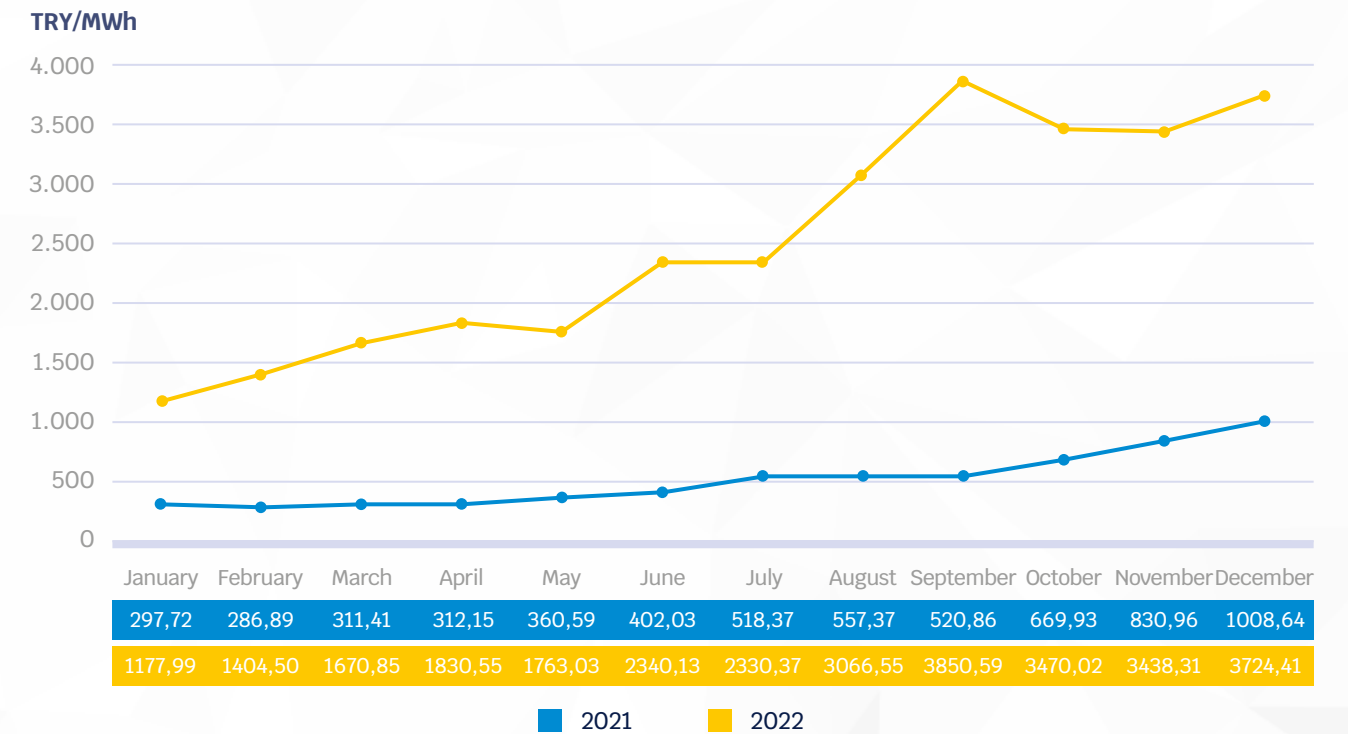
In order to give effective and quick response to any requests, suggestions and complaints of the market participants, EXIST Help Desk (EHD) platform and Call Centre provides service 24/7. Participants are informed when they first enter the markets and support is provided quickly to users who have problems in bid entry and other issues. Objections made by participants regarding the transactions realized within the scope of spot power markets are examined and finalized. In case of technical problems and process extensions, users are notified via the website, mobile application and SMS.

#### ANNUAL AVERAGE DAM CLEARING PRICE



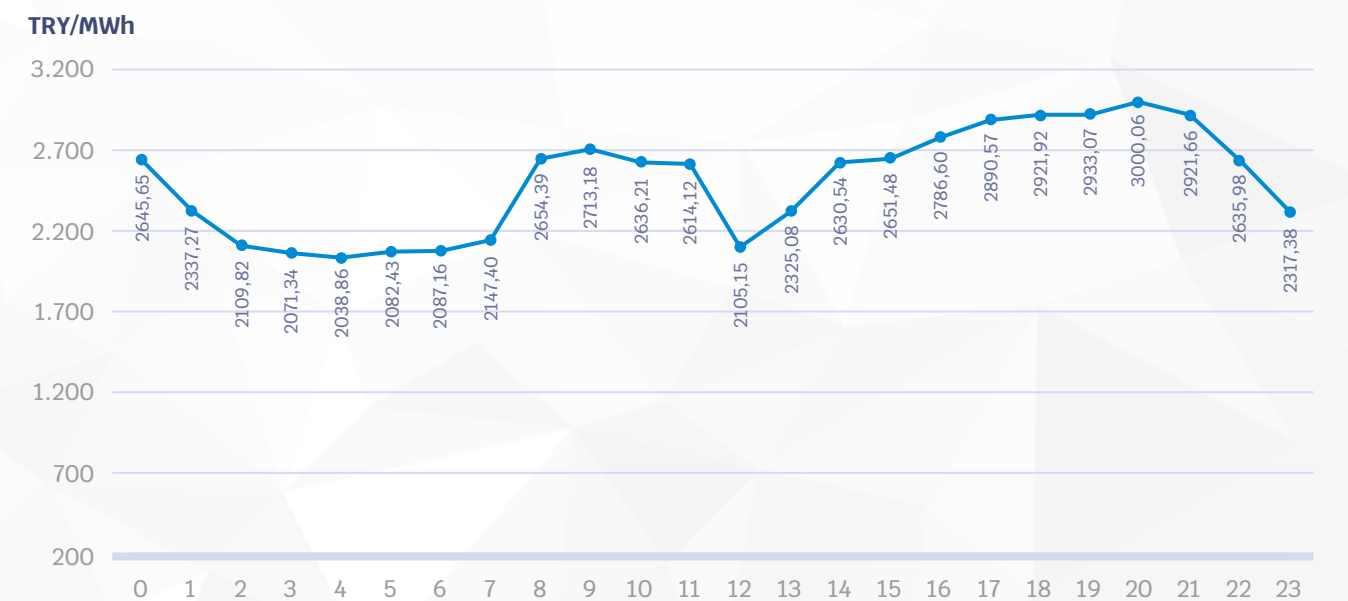
The annual average MCP realized in the Day-Ahead market in 2022 increased by 394.14% year-on-year to 2,510.72 TRY/MWh.

#### AVERAGE DAM CLEARING PRICE IN 2021-2022



While the highest MCP value of 2022 was calculated as 4,800 TRY/MWh in 473 hours in September, October, November and December, the lowest MCP value of 2022 was calculated as 0.00 TRY/MWh between 08.00-14.00 on April 3.

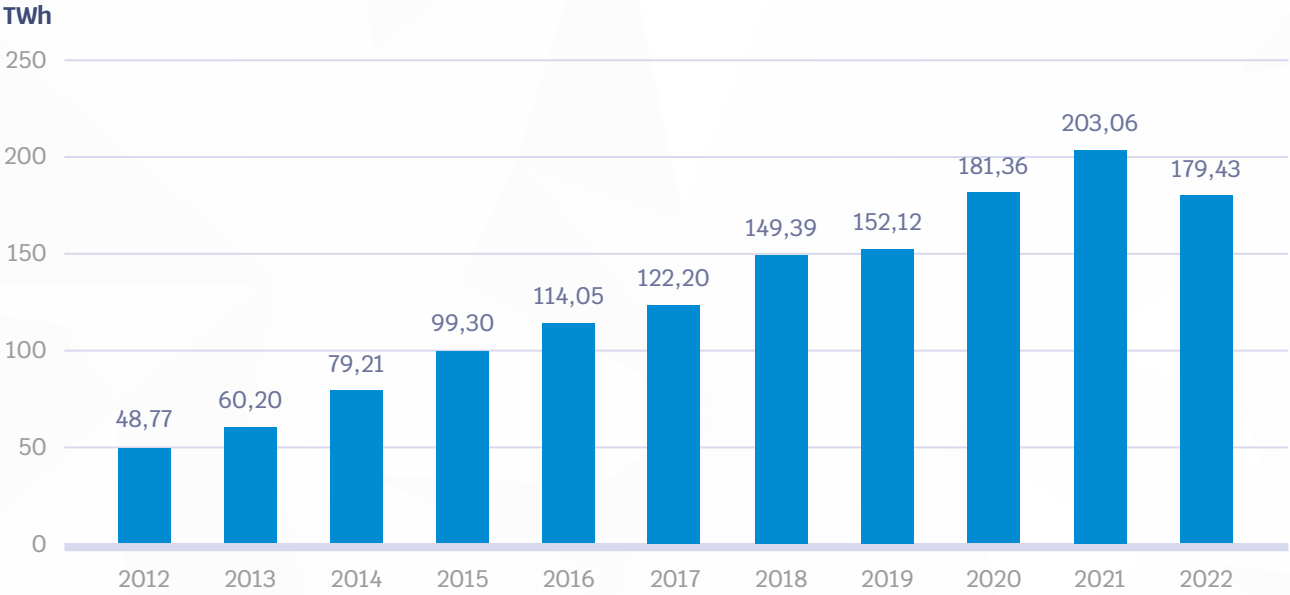
#### HOURLY DAM CLEARING PRICE AVERAGES



When the hourly MCP averages are analyzed, the lowest MCP average is at 04.00 and the MCP average was 2,038.86 TRY/MWh. The highest MCP average is at 20.00 with MCP average of 3,000.06 TRY/MWh. Average of night, day and peak hours increased compared to the previous year.



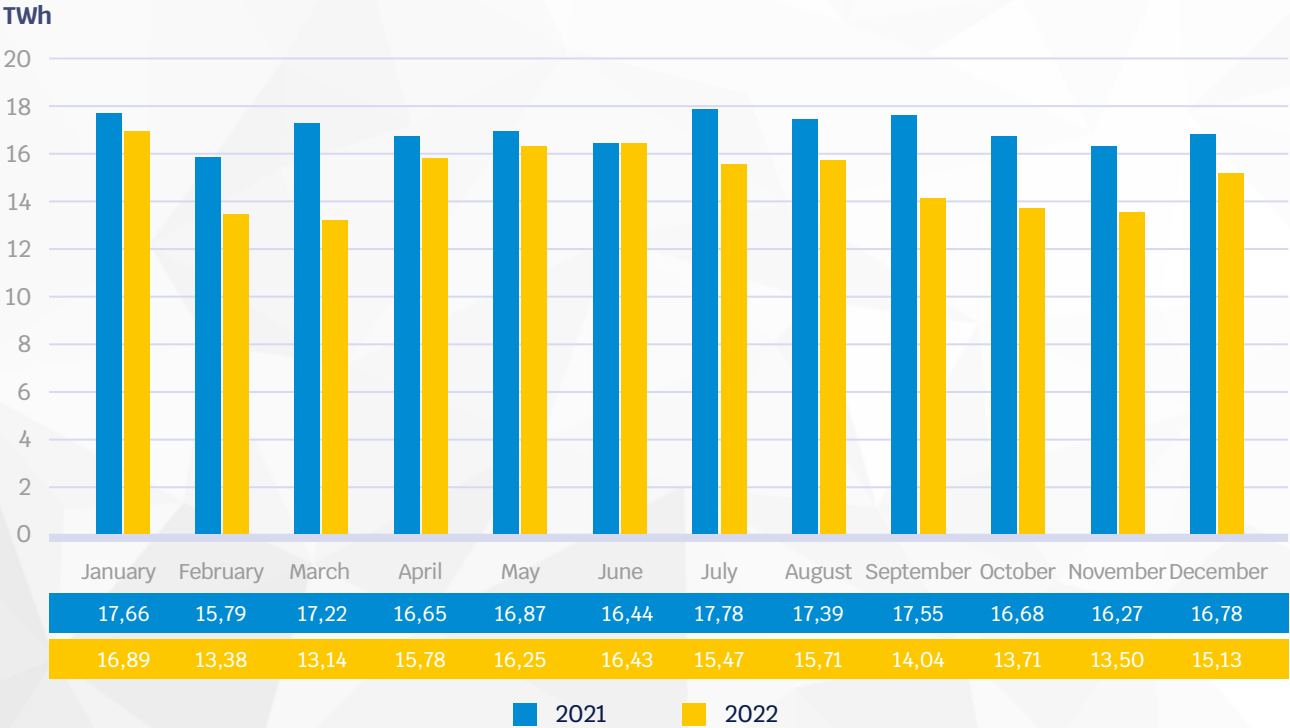
ANNUAL CLEARING QUANTITY and VOLUME AVERAGES IN DAM



\* Match quantity refers to the sum of DAM sales quantities.

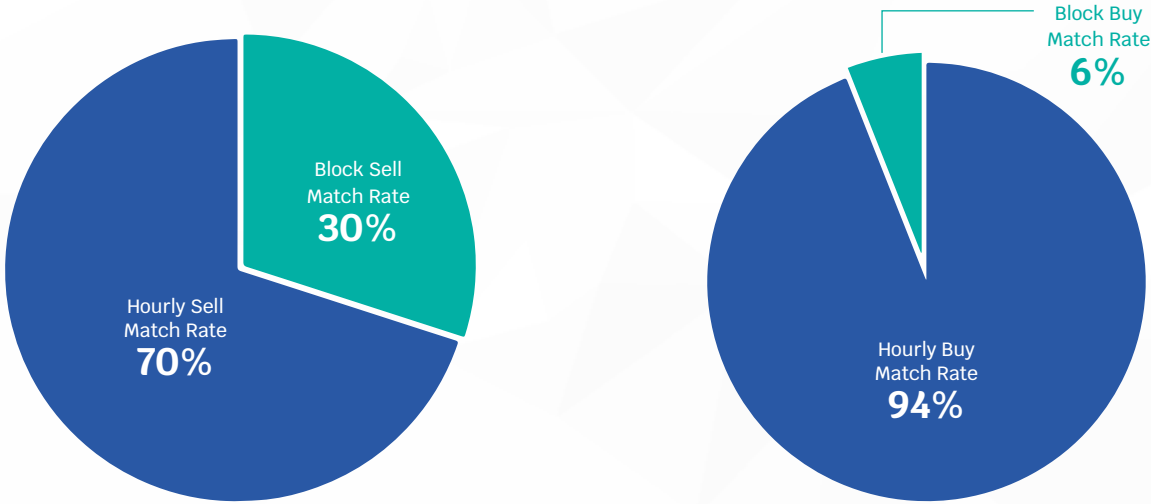
Day-Ahead Market clearing amount for the years 2012-2021 shows an increase every year. In 2022, the annual market clearing volume was 179.43 TWh, with a decrease of 11.64% compared to the previous year.

MONTHLY MARKET CLEARING QUANTITY IN DAM FOR 2021-2022

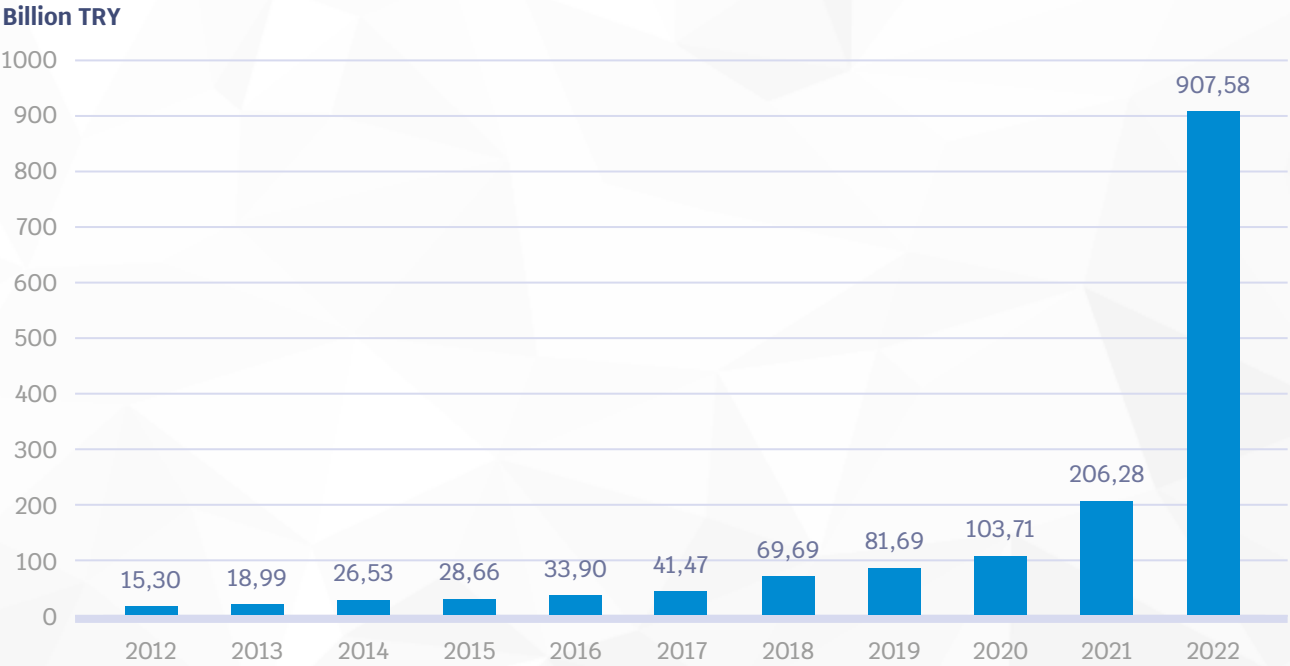


In 2022, the lowest matching amount was 10,444 MWh at 23:00 on Monday, March 28 and the highest matching amount was 32,223 MWh at 11:00 on Thursday, January 13.

HOURLY-BLOCK BID MATCH RATES FOR DAM



ANNUAL TRADING VOLUME IN DAM



The annual trading volume in the Day-Ahead market in 2022 increased by 339.97% compared to the previous year, reaching 907.58 Billion TRY. Trading volume includes the sum of bid and demand amounts.

### NUMBER OF PARTICIPANTS SUBMITTING BIDS TO DAM

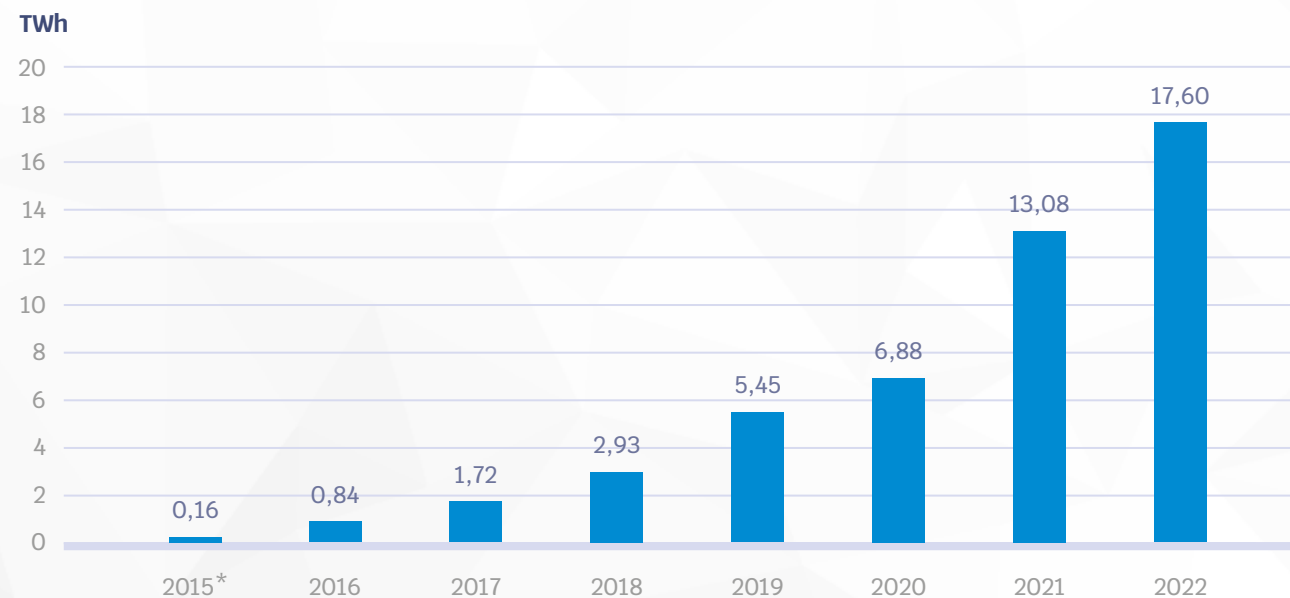
January	February	March	April	May	June	July	August	September	October	November	December
1.011	1.020	1.034	1.050	1.054	1.065	1.052	1.010	997	1.012	1.019	1.030

In 2022, the monthly average number of participants submitting bids to the Day-Ahead market was 1,029.

#### 3.1.1.1.2. Intraday Market (IDM)

Opened on July 1, 2015, the Intraday Market software is the most intensively used market software. The market traded 0.16 TWh in its first year, i.e. 2015, it was 17.60 TWh in 2022. In the Intraday market, which currently has 862 active market participants, 28.6 bids are updated every second and a match occurs every 0.23 seconds. In 2022, 57% of the matches were hourly and 43% were block matches.

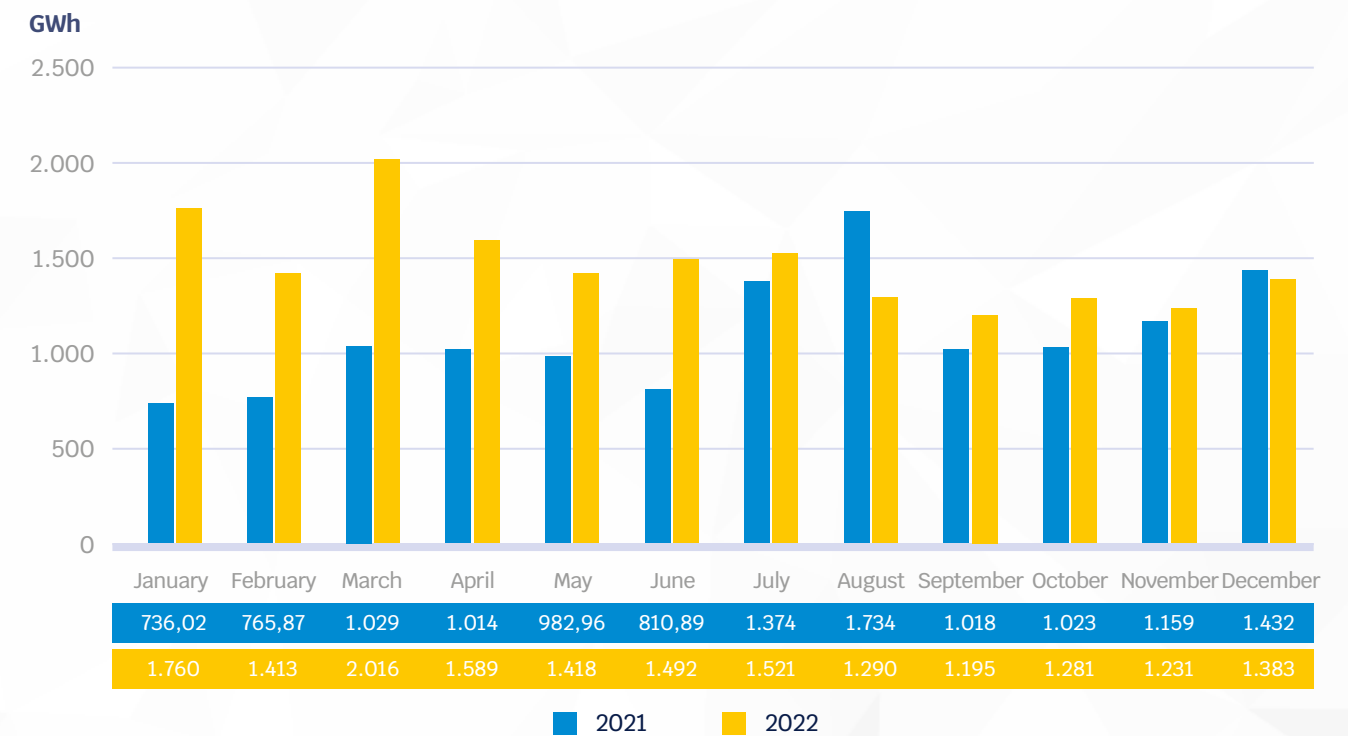
### IDM ANNUAL MATCH QUANTITY



\* IDM started to operate on 1 July 2015.

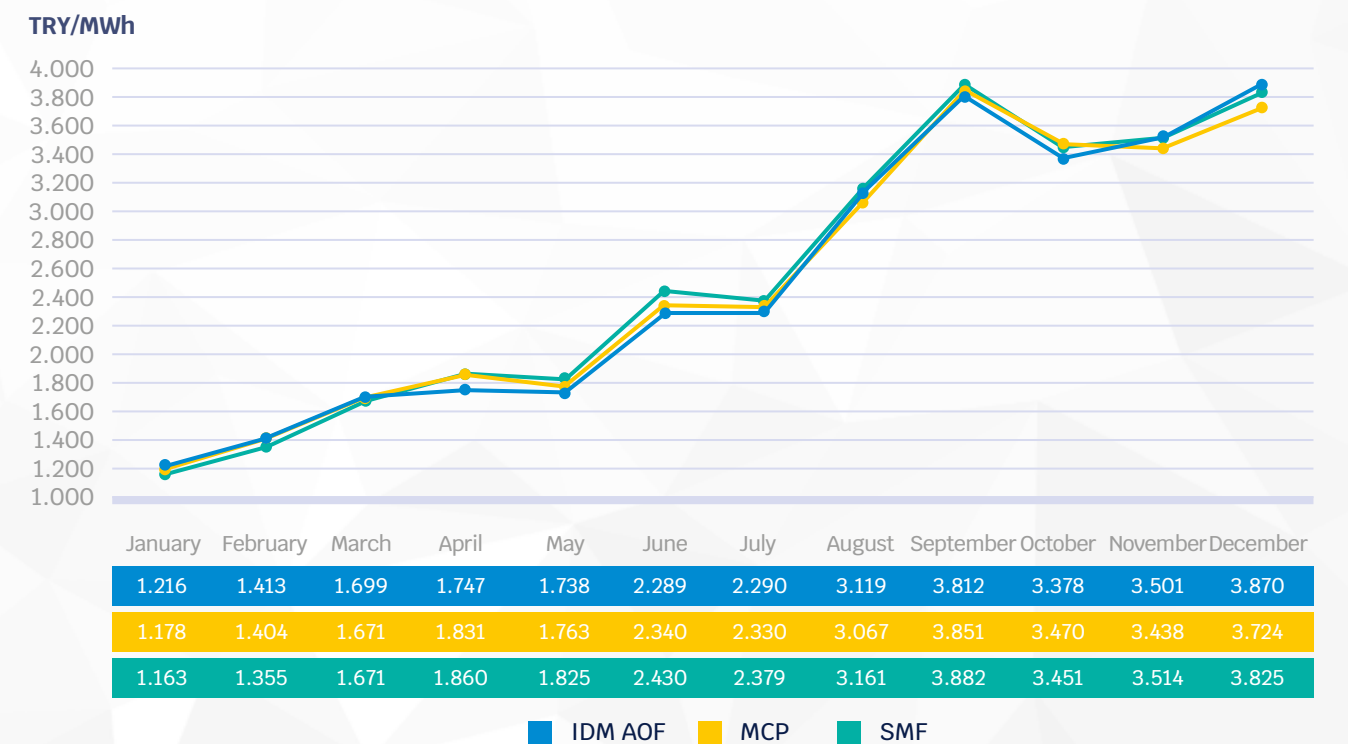
The 2022 Intraday Market matching volume increased by 34% compared to 2021, reaching 17.60 TWh.

### IDM MONTHLY MATCH QUANTITY IN 2021-2022



In 2022, the highest daily peaking occurred on Tuesday, March 29 with 139,153.60 MWh and the highest hourly peaking occurred at 12:00 on Tuesday, March 29 with 8,616 MWh.

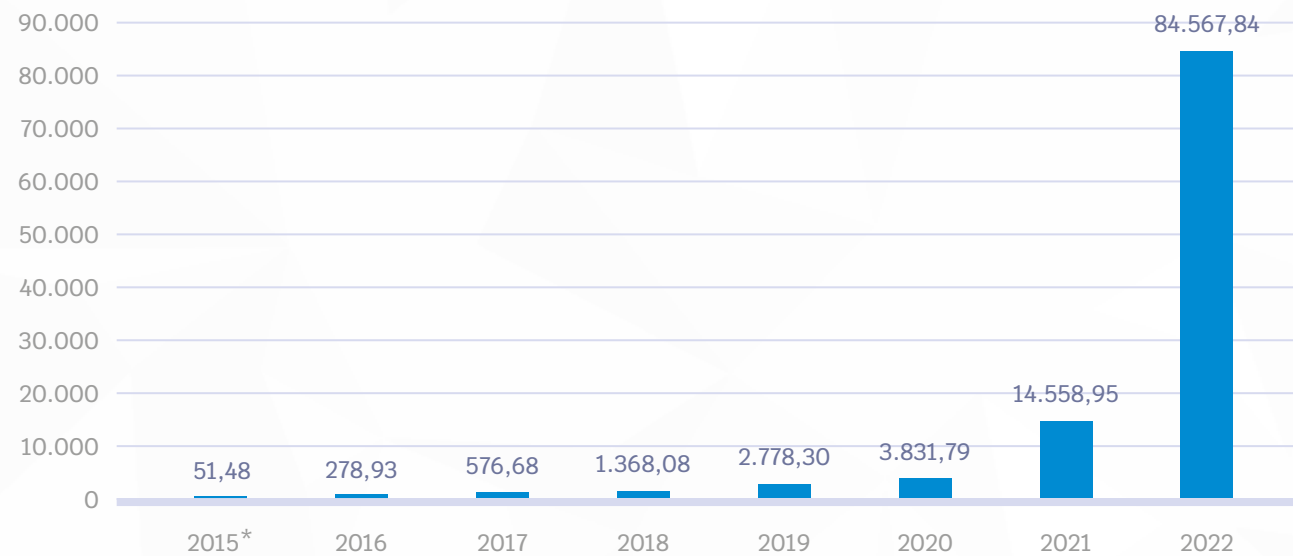
### IDM WEIGHTED AVERAGE PRICE ON MONTHLY BASIS - MCP - SMF VALUES



In 2022, the annual weighted average price of the Intraday Market was 2,403.13 TRY/MWh, the annual MCP arithmetic average was 2,510.72 TRY/MWh and the annual SMF arithmetic average was 2,548.65 TRY/MWh.

### IDM ANNUAL TRADING VOLUME

Million TL



\* IDM started to operate on 1 July 2015.

In 2022, Intraday Market trading volume increased by 481% compared to the previous year, amounting to TRY 84,567.84 Million

### NUMBER OF PARTICIPANTS SUBMITTING BID TO IDM

January	February	March	April	May	June	July	August	September	October	November	December
841	846	885	904	884	881	850	827	838	842	863	877

In 2022, the monthly average number of participants submitting bids to the Intraday market was 862.

#### 3.1.1.2 Power Futures Market (PFM)

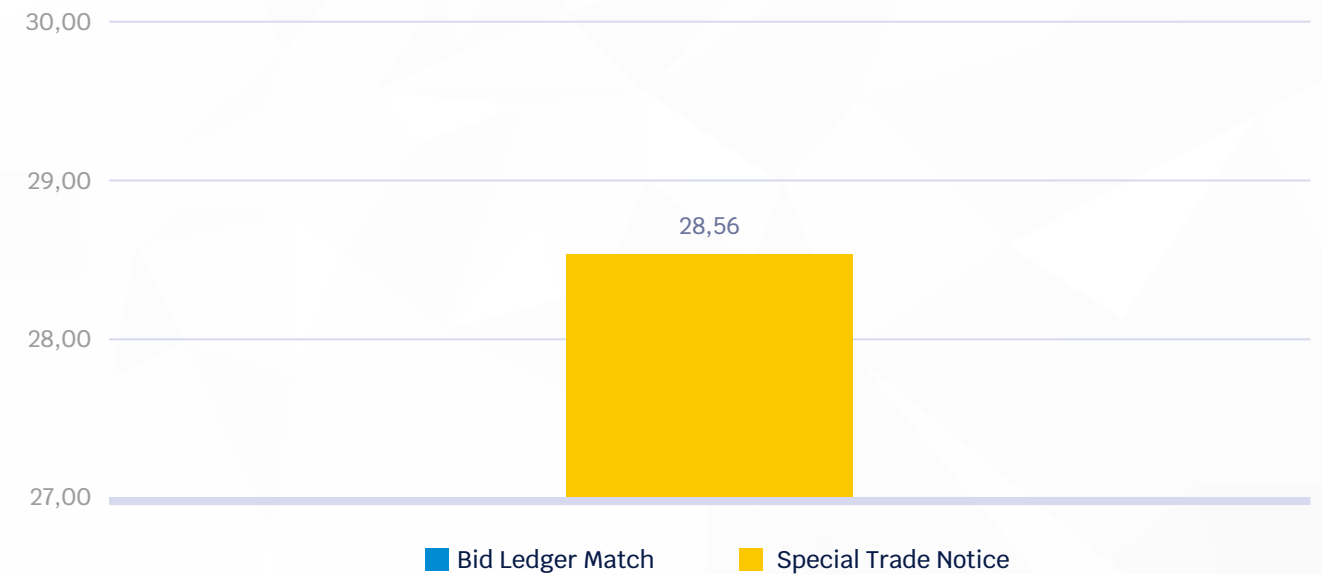
The Power Futures Market is a market that operates according to the continuous trading method, which enables the trading of physical electricity with future dates, and where EXIST acts as the central counterparty in the trades made. In the Power Futures Market, market participants have the opportunity to hedge against price risk (hedging) and to see future price expectations (price discovery). Therefore, spot and forward power markets complement each other, meeting different needs of market participants.

In 2022, 44 active market participants took part in the Power Futures Market; 6 monthly, 4 quarterly and 1 yearly contracts were opened for trading. In addition to standard contracts, the Balance of Month (BOM) contract, which allows management of physical positions during the delivery period, provides flexibility to market participants. On June 1, 2022, the market making module was launched.

Trades in the Power Futures Market take place between 13.00-16.00 on business days. During the session, the market participants make trades, by offering bids in the bid book for the contracts open to trading or by selecting the other party of the trade in the page of special trade notice. At the end of each session, Daily Indicator Price (DIP) is calculated for the contracts open to trading. And the calculated DIPs and other data about the market, together with instantaneous data about the market, are posted via EXIST Transparency Platform.

### PFM MATCH QUANTITY

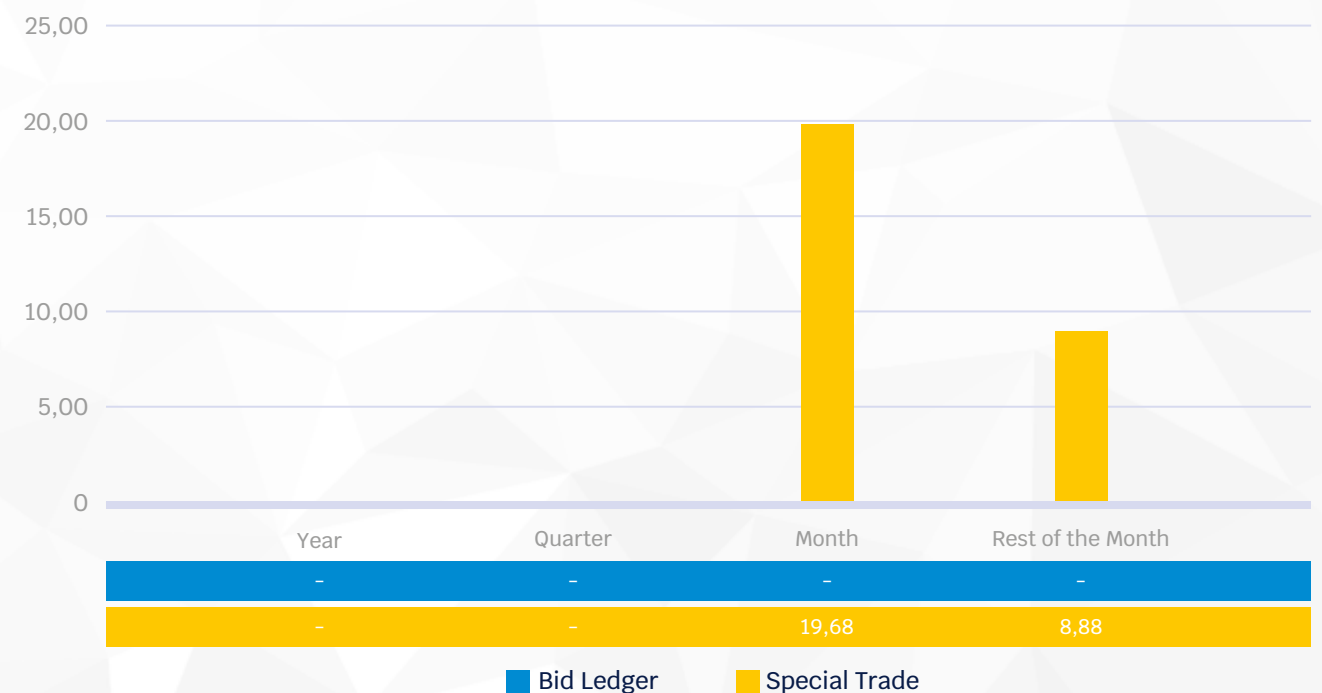
GWh



In the Power Futures Market, the matching amount in all contracts open for trading was 28.56 GWh in 2022. All of these matches were realized as special transaction notices.

### DISTRIBUTION OF PFM MATCH QUANTITIES BY CONTRACTS

GWh



In 2022, monthly contracts have the highest matching amount with a total of 19,680 MWh. Monthly contracts are followed by the rest of the month contracts with a total of 8,880 MWh. In 2022, there were no transactions in the yearly and quarterly contracts.

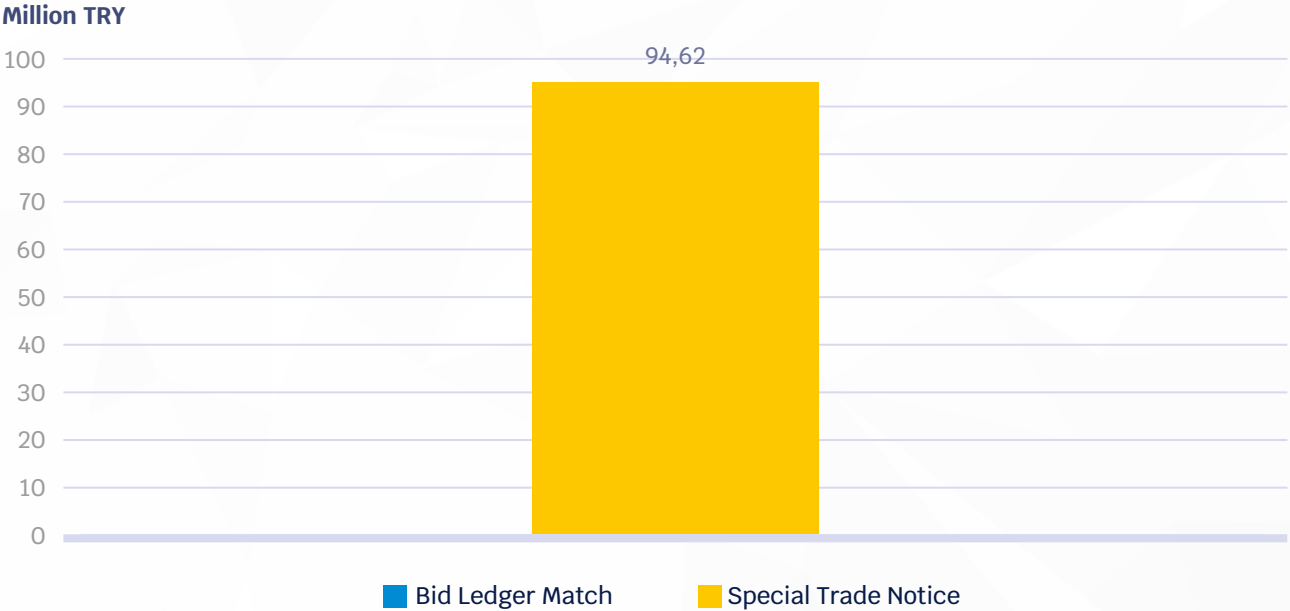


QUANTITY PFM MATCH



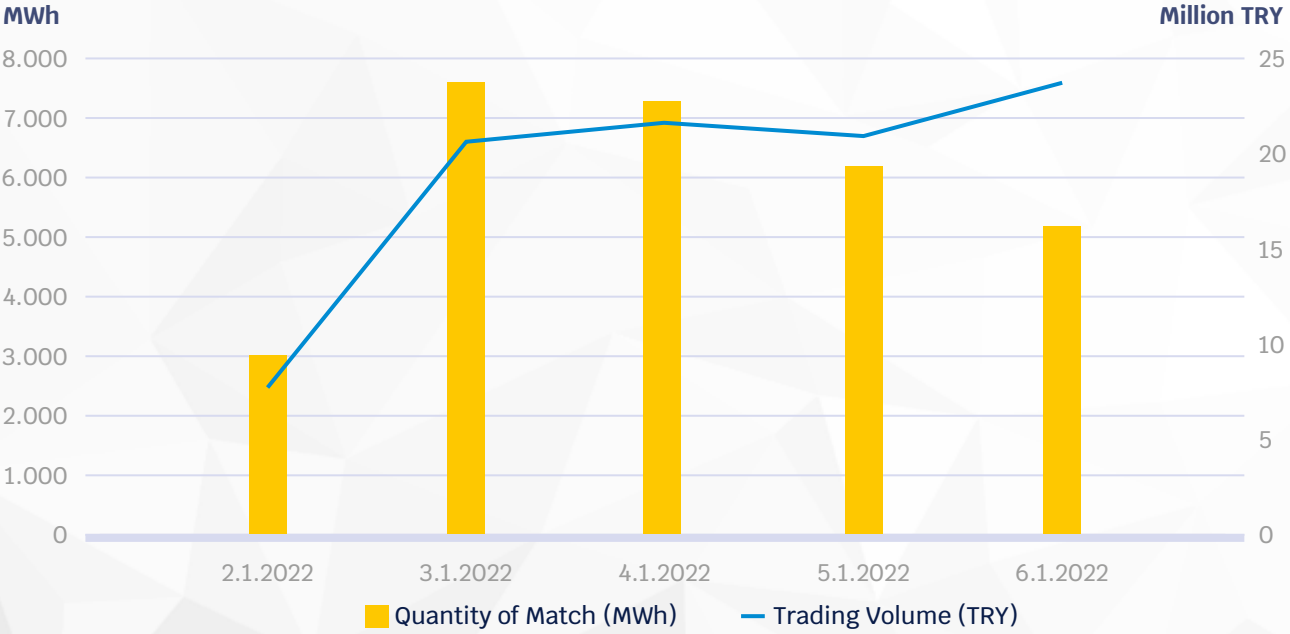
In 2022, 5 transactions were realized, all of which were special trade notification.

PFM TRADING VOLUME

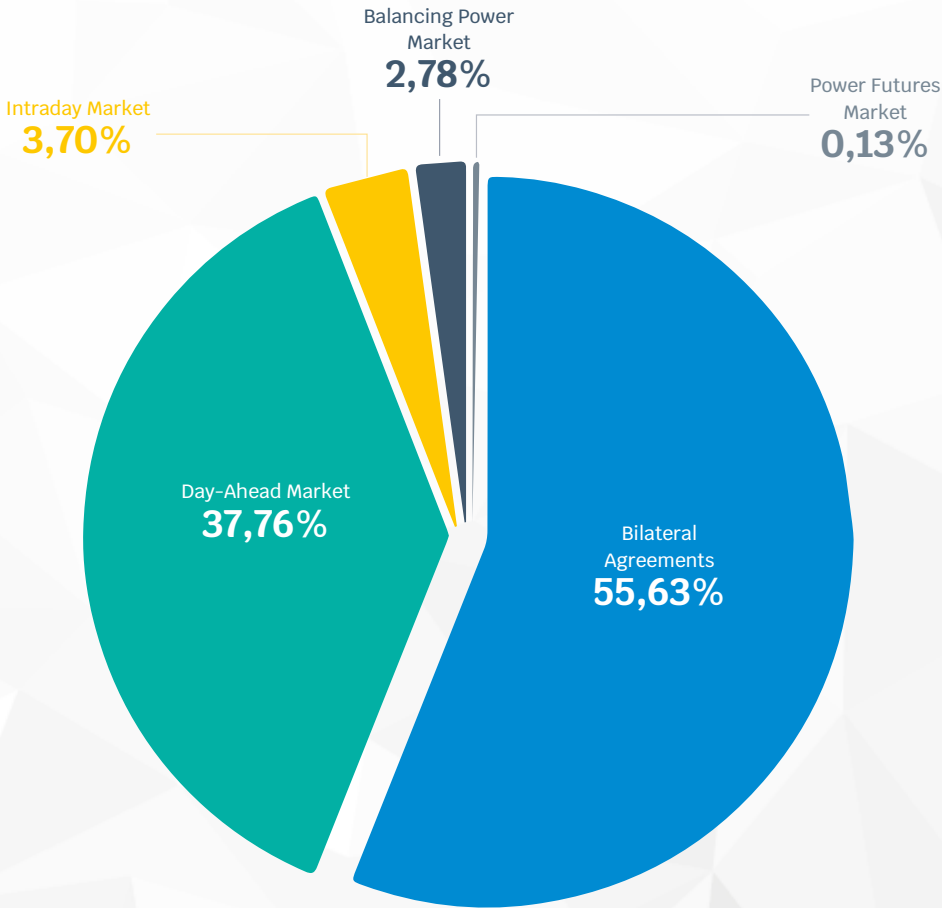


Total trading volum of TRY 94,62 million on purchase and sale basis in 2022 arise from special transactions notices entirely.

PFM DAILY MATCH QUANTITY and TRADING VOLUME



ANNUAL MARKET-QUANTITY DISTRIBUTION



### 3.1.1.3. Environmental Markets

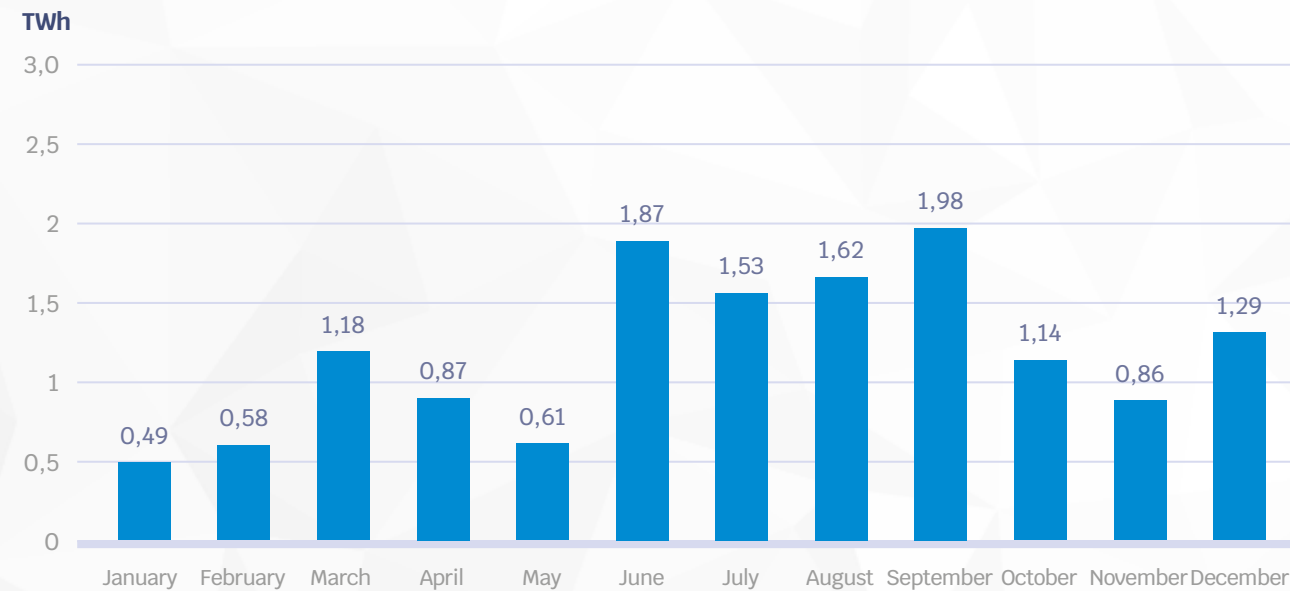
#### 3.1.1.3.1. Renewable Energy Guarantees of Origin System & Organized YEK-G Market

Renewable Energy Guarantees of Origin System & Organized YEK-G Market started on 1 June 2021. Participants can carry out issuance, redemption and bilateral agreement transactions in the YEK-G System, while, in the Organized YEK-G Market, they can buy and sell according to the continuous trading method in five different contract types: solar, wind, hydroelectric, geothermal and biomass.

Cancellation transactions carried out in the YEK-G System can be verified through the YEK-G Portal, which has been put into operation. In addition, e-Government integration of the YEK-G System has been completed and thus, final consumers have the opportunity to view their redeemed YEK-G certificates via e-Government.

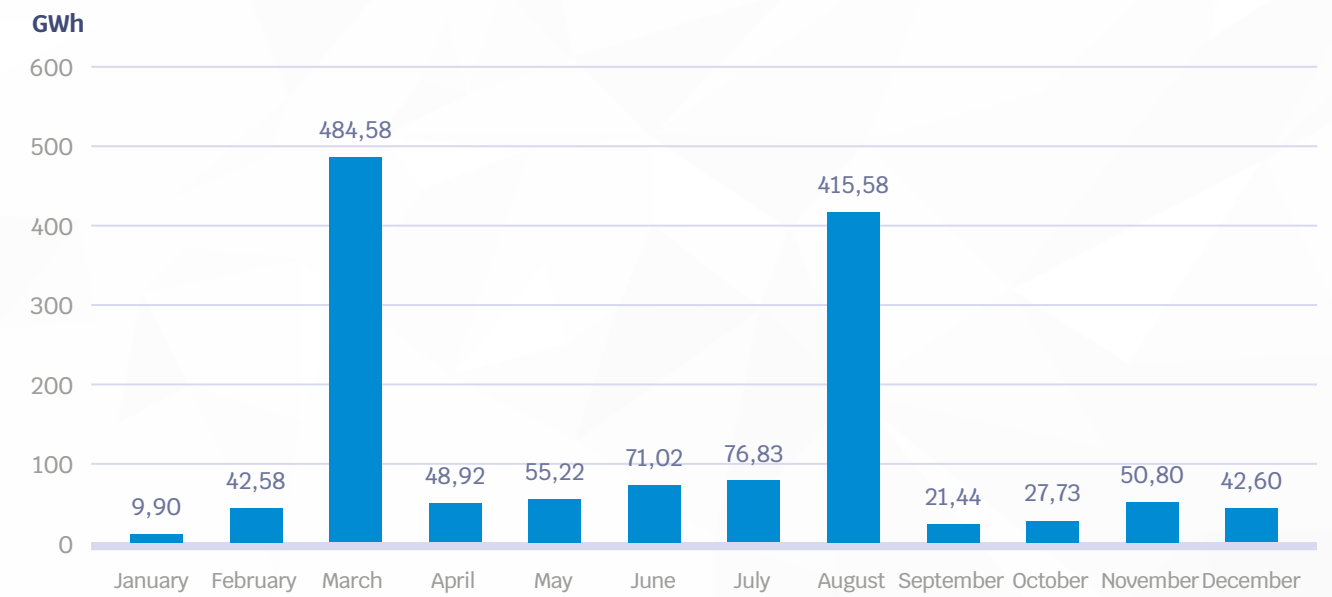
Detailed information on the YEK-G System and the Organized YEK-G market can be obtained through the micro website opened to guide participants. Participants are also provided 24/7 support for almost every issue related to the system and market through the EXIST help desk.

#### YEK-G SYSTEM ISSUE QUANTITY



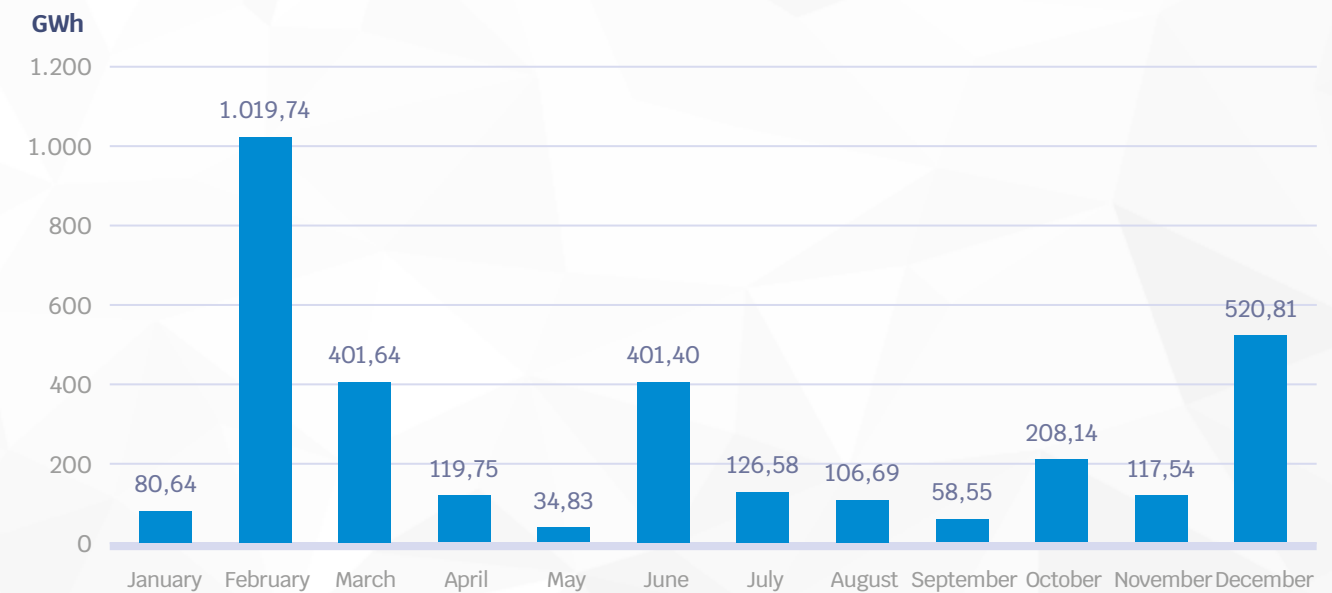
In YEK-G System, the total quantity of issue in 2022 was realized as 14.02 TWh.

#### QUANTITY OF BILATERAL AGREEMENT IN YEK-G SYSTEM



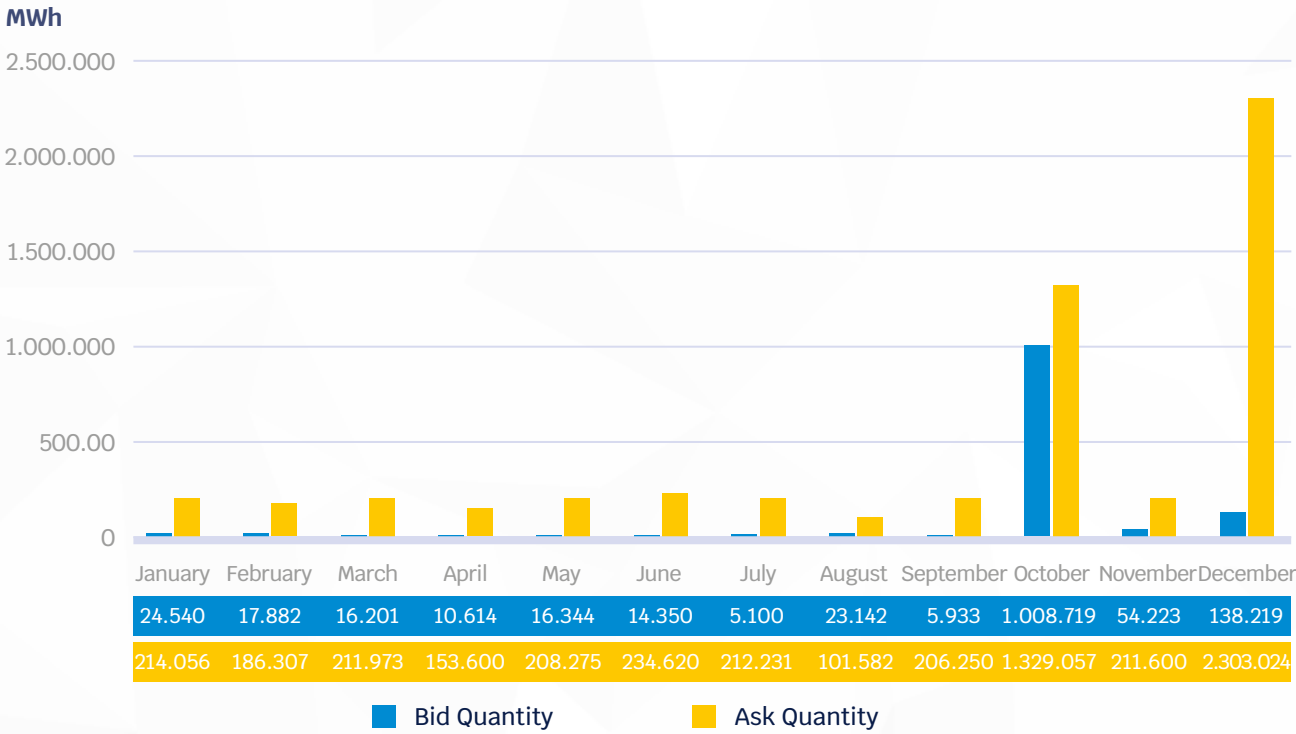
In YEK-G System, the total amount of bilateral agreements for 2022 was 1,347.20 GWh.

#### CANCELLATION QUANTITY IN YEK-G SYSTEM



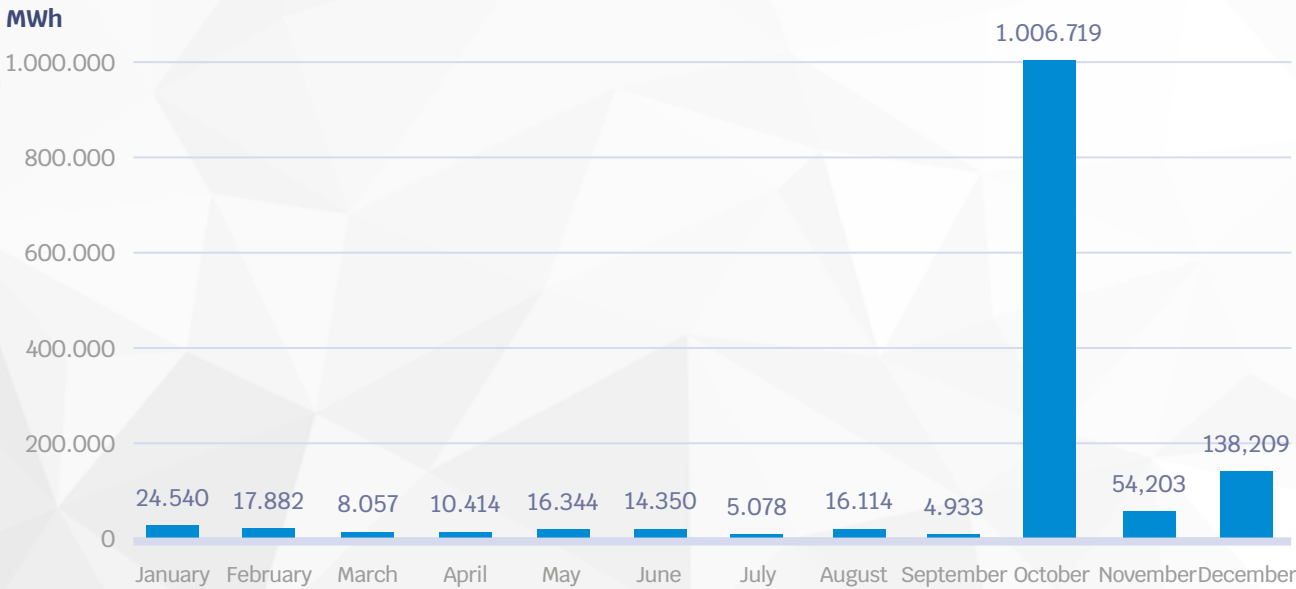
In YEK-G System, the total amount of cancellation in 2022 was 3,196.30 GWh.

QUANTITY OF BID/ASK IN THE ORGANIZED YEK-G MARKET



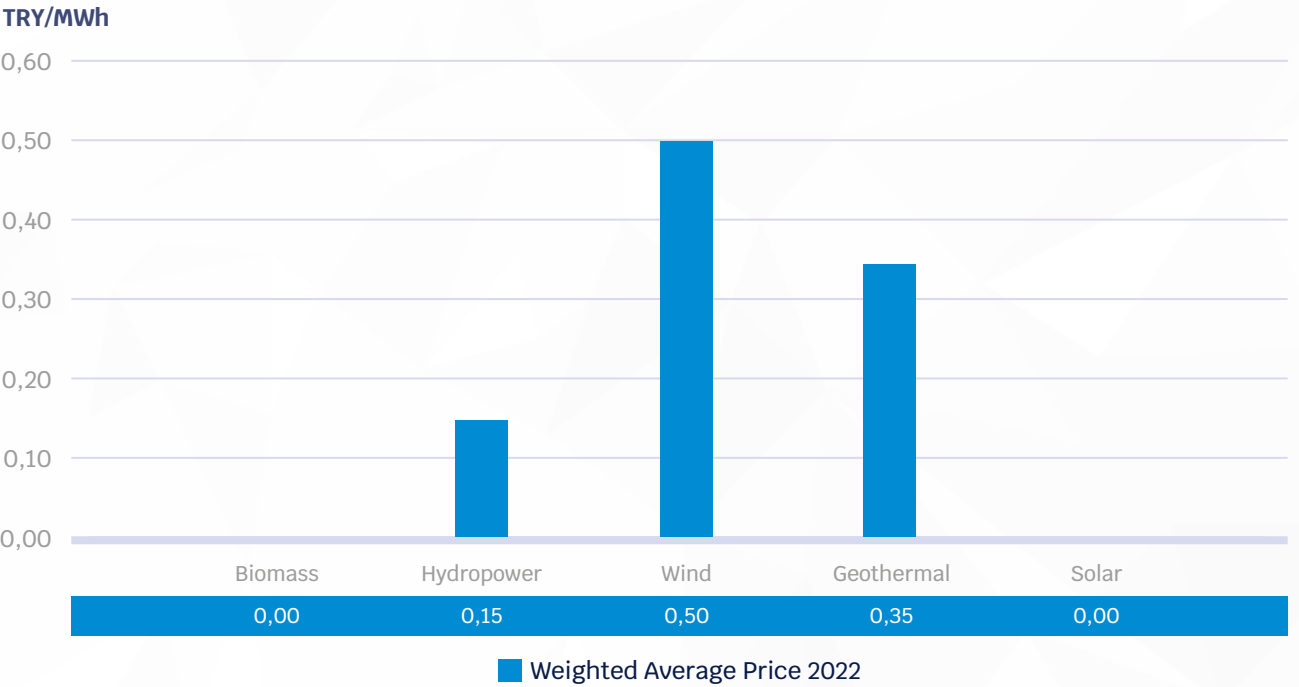
The highest monthly total purchase offer amount for the Organized YEK-G Market was 1,008,719 MWh in October. The highest monthly total ask quantity was 2,303.02 MWh in December.

QUANTITY OF MONTHLY MATCH IN THE ORGANIZED YEK-G MARKET



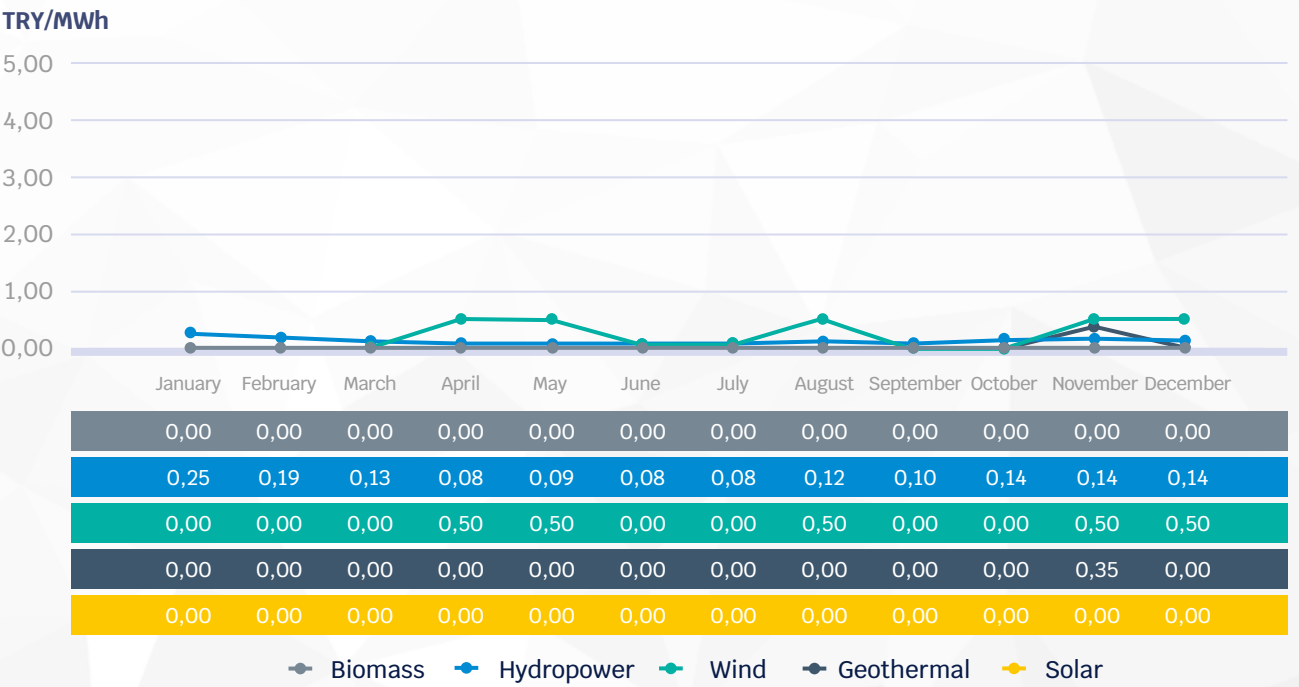
In the Organized YEK-G Market, the highest amount of monthly match was 1,006,719 MWh in October.

ANNUAL WEIGHTED AVERAGE PRICE ON CONTRACT BASIS IN THE ORGANIZED YEK-G MARKET



The annual weighted average contract-based price for the Organized YEK-G Market was 0.50 TRY/MWh for wind contracts.

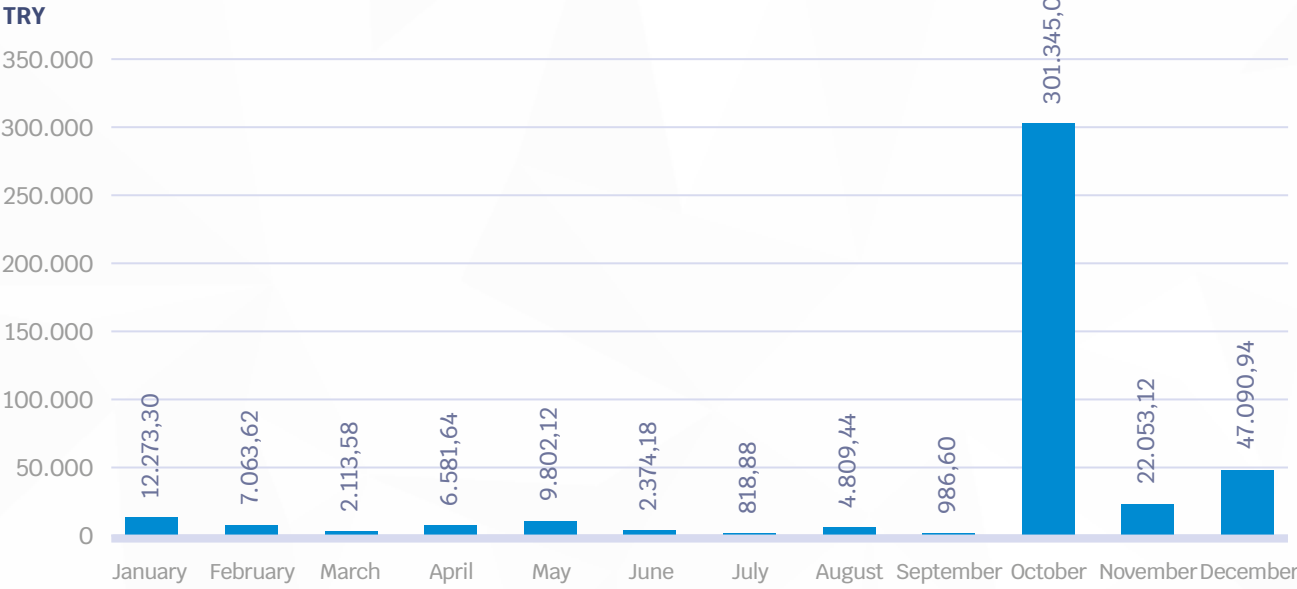
WEIGHTED AVERAGE PRICE FOR THE ORGANIZED YEK-G MARKET



The highest weighted average price in the Organized YEK-G Market was 0.50 TRY/MWh for wind contracts.

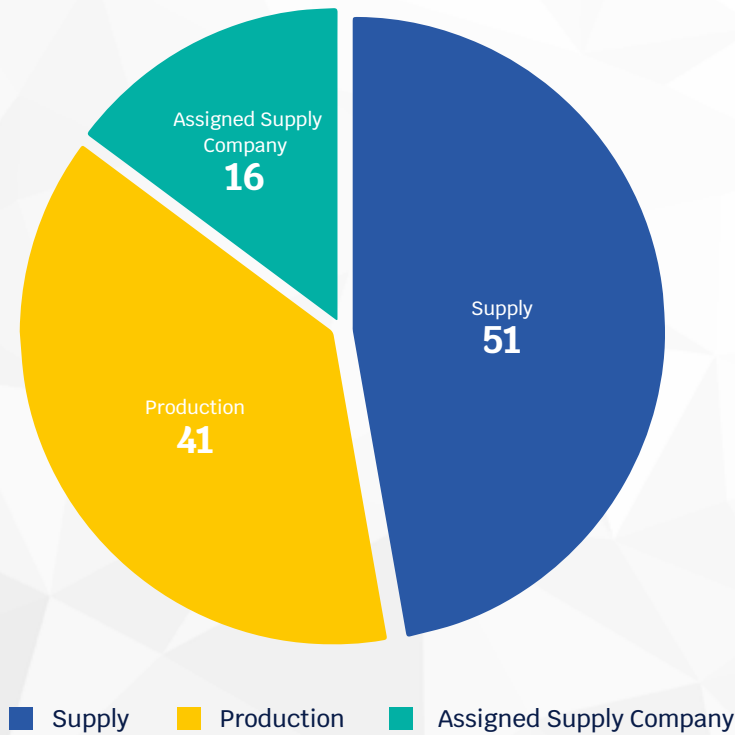


TRADING VOLUME IN THE ORGANIZED YEK-G MARKET



The highest trading volume of the Organized YEK-G Market was 301,345.06 TRY in October, with a total trading volume of 417,312.48 TRY.  
(Trading volume includes sum of bid and ask amounts)

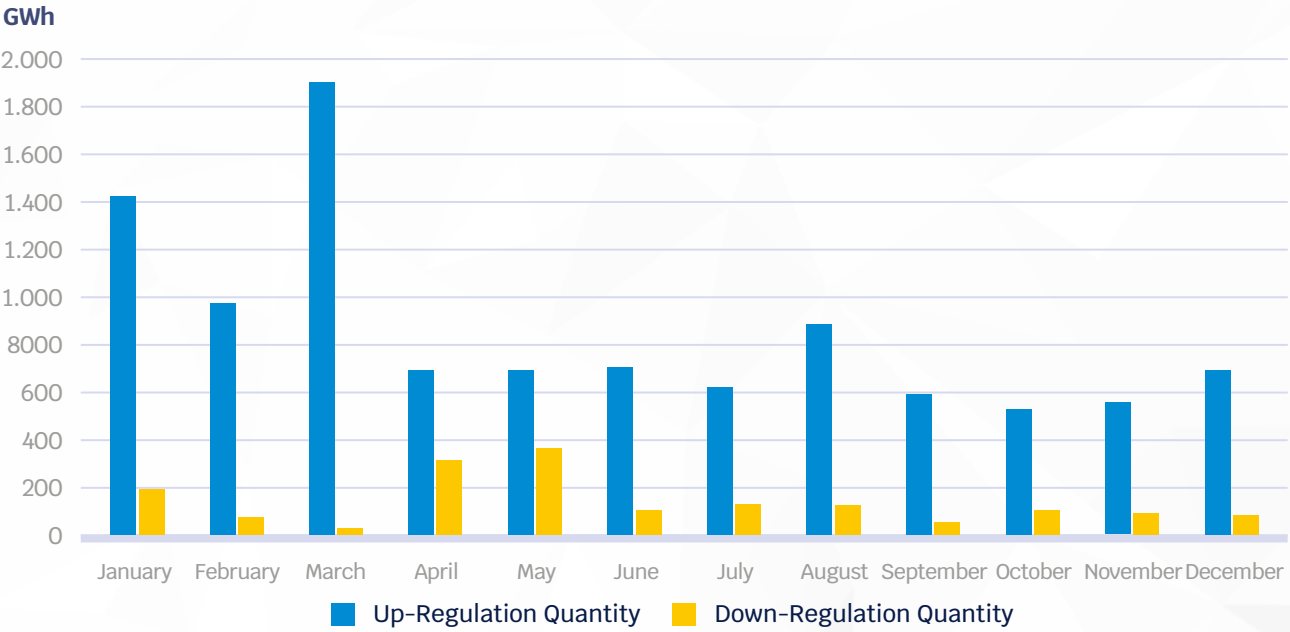
NUMBER OF PARTICIPANTS IN YEK-G SYSTEM and ORGANIZED YEK-G MARKET



A total of 108 participants have registered in the YEK-G System and the Organized YEK-G Market. Among the registered participants, 51 of them hold supply licenses, 41 production licenses and 16 assigned supply company licenses.

3.1.1.4. Settlement and Registration Transactions

BPM INSTRUCTION QUANTITY IN 2022



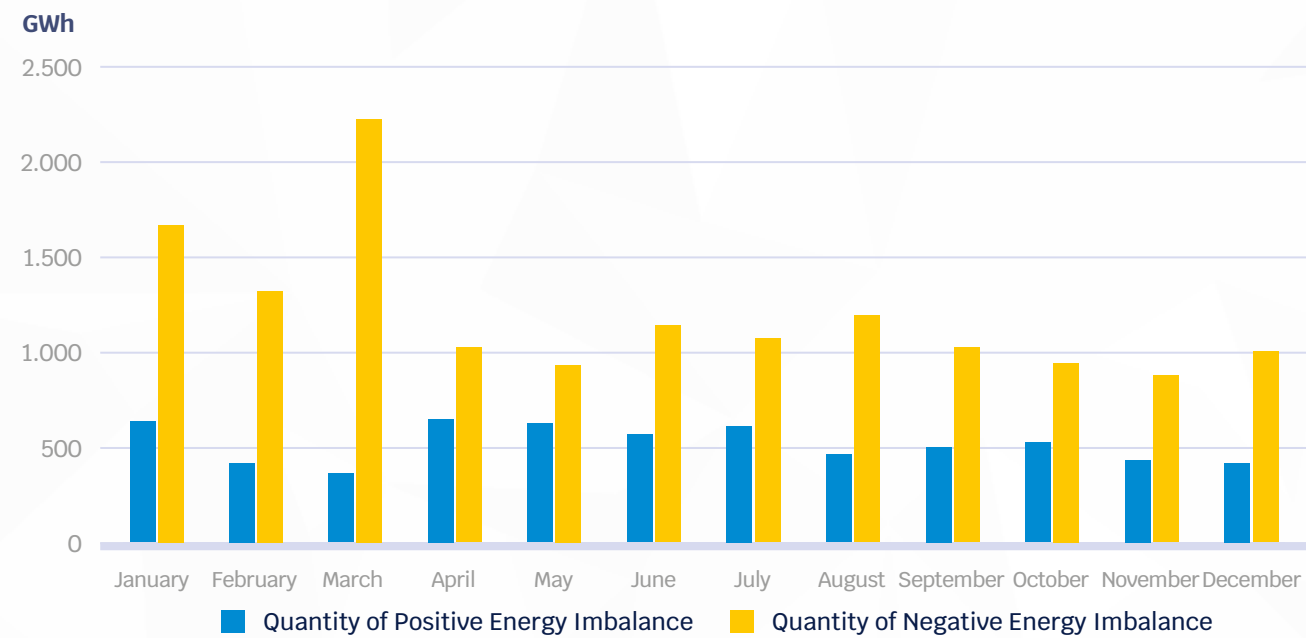
The graph above shows the finalized up-regulation and down-regulation instructions given in the Balancing Power Market.

BPM INSTRUCTION AMOUNTS IN 2022



The graph above shows the monetary equivalent of the finalized up-regulation and down-regulation activities for which settlement transactions were performed in the Balancing Power Market.

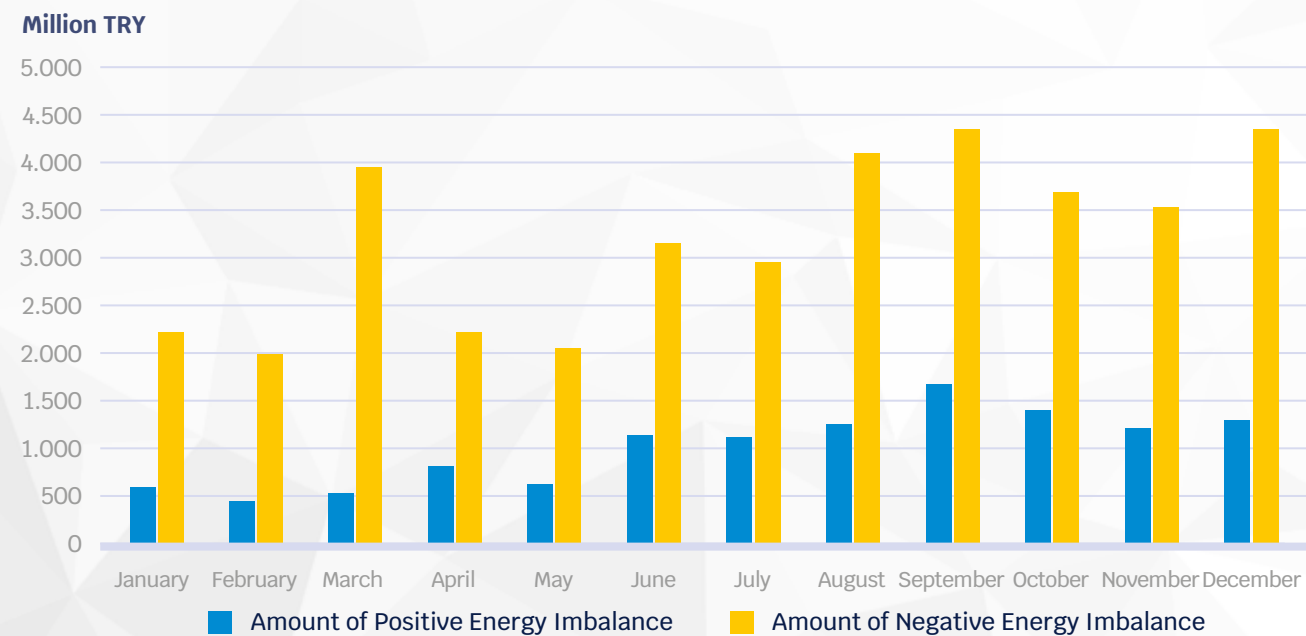
### ENERGY IMBALANCE QUANTITIES IN 2022



The energy imbalance quantities of the market participants are calculated monthly by the Settlement Unit and reflected to the market participants. The graph of energy imbalance quantities settled in 2022 is given above.

In 2022, the highest imbalance occurred in March and the lowest imbalance occurred in November.

### AMOUNTS OF ENERGY IMBALANCE IN 2022

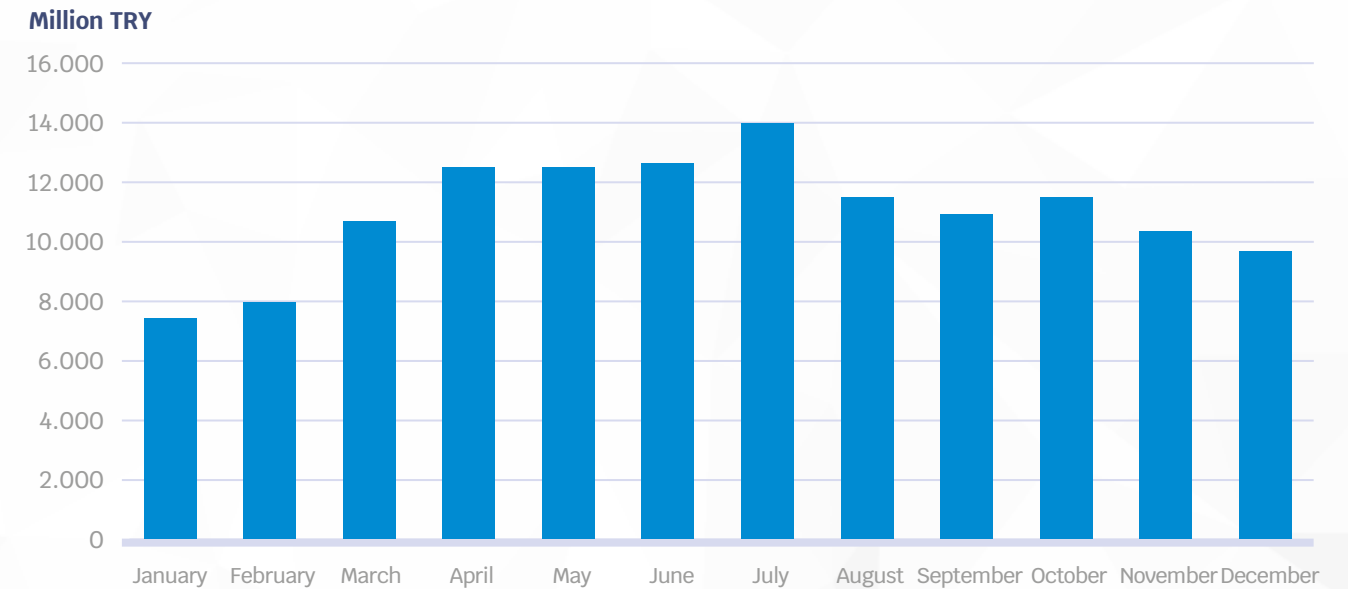


The graph above shows the monthly distribution of the monetary volume of imbalances in 2022. The highest volume of imbalances occurred in September, while the lowest volume of imbalances occurred in February.

### RESSM IN 2022

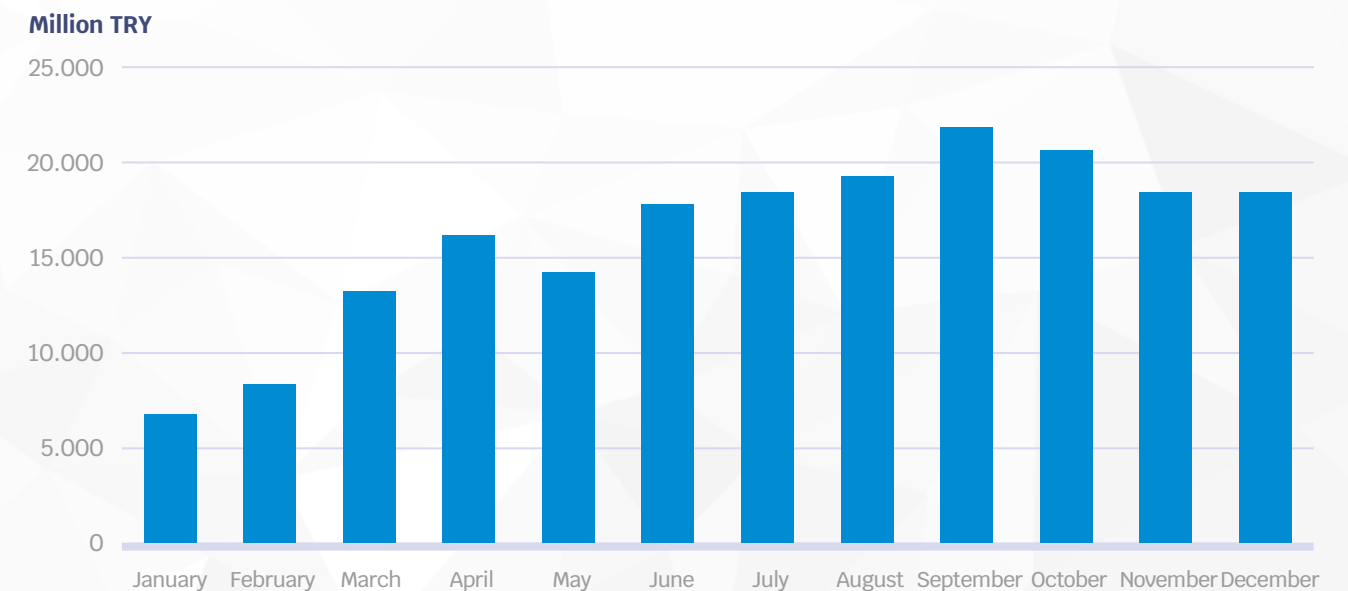
RESSM settlement is registered monthly under the RESSM receivable and payable items.

### RSM TOTAL COST IN 2022



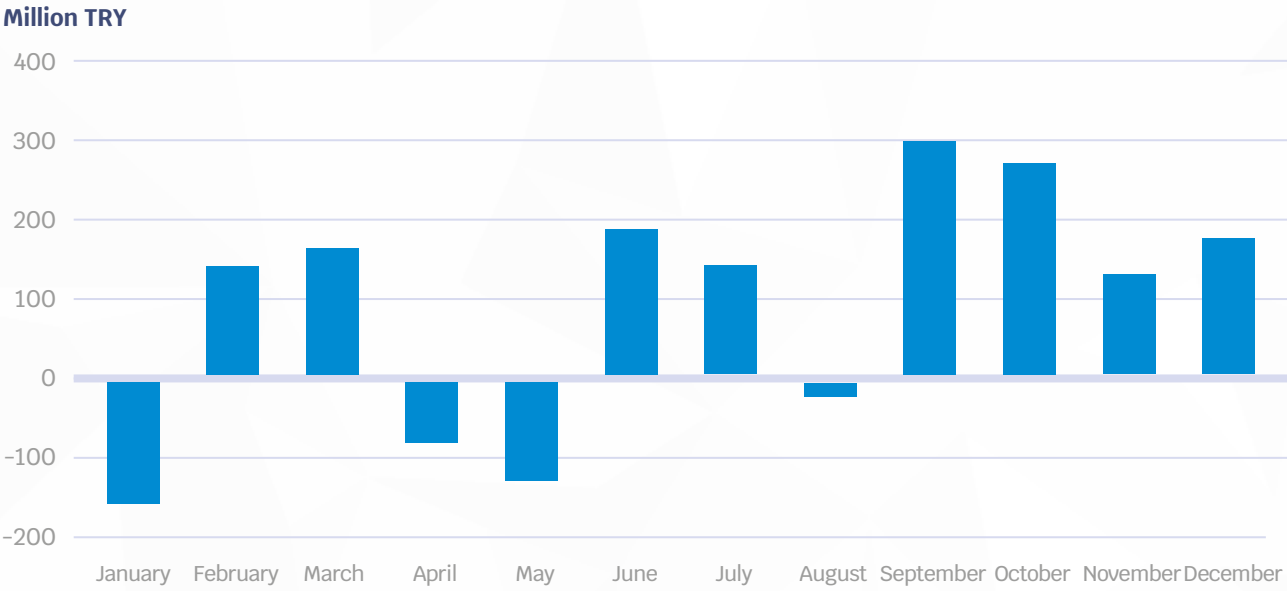
The graph above shows the monthly changes in the total amounts paid to RESSM participants. The highest amount was paid in July and the lowest in January.

### RES INCOME IN 2022



The graph above shows the monthly changes in RES income. September is the month with the highest RES income and January is the month with the lowest income.

NET RESIDUAL BALANCE ADJUSTMENT AMOUNT IN 2022



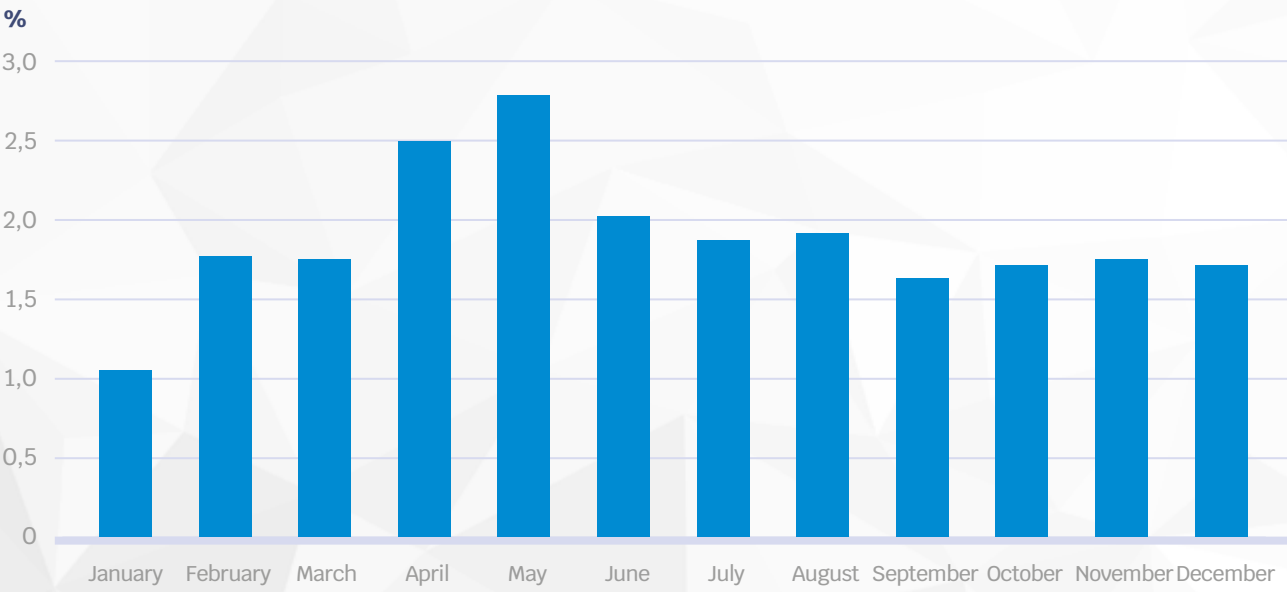
The graph above shows the monthly changes of the net residual balance adjustment amount in 2022.

MONTHLY SETTLEMENT SUPPLY-WITHDRAWAL VOLUME IN 2022



The graph above shows the changes in the settlement-based supply and withdrawal volumes for 2022.

TRANSMISSION SYSTEM LOSS FACTOR IN 2022



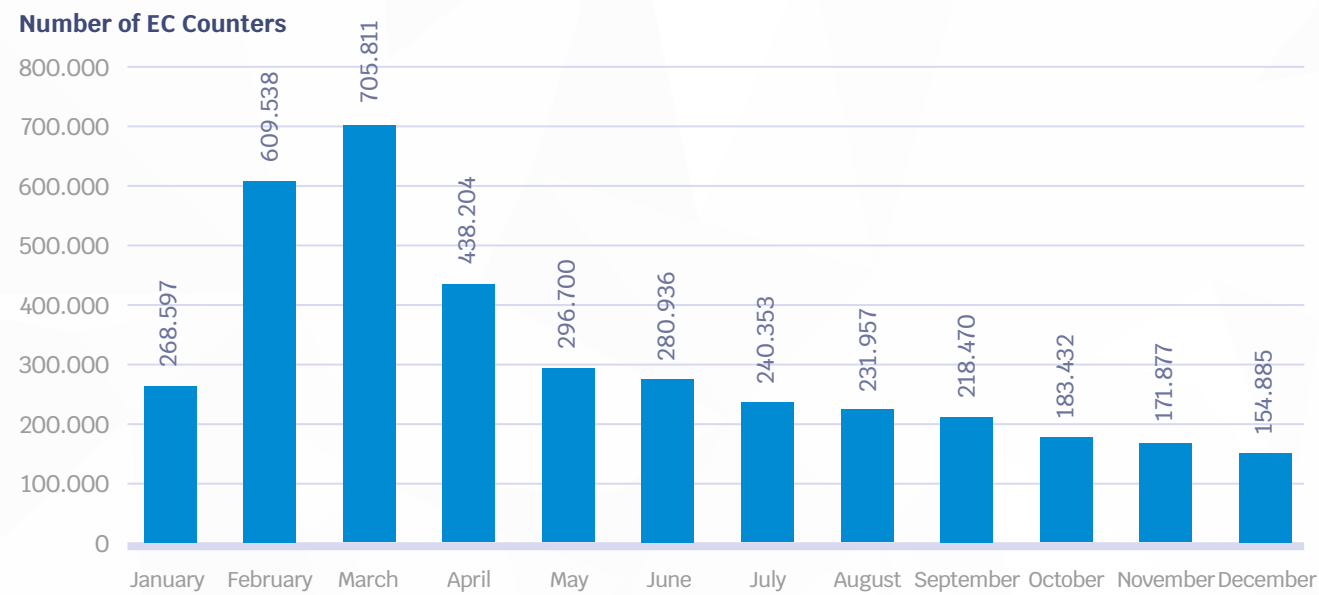
The graph above shows the monthly arithmetic averages of the Transmission System Loss Factor (TSLF) for 2022.

MONTHLY CHANGE OF ORGANIZATIONS REGISTERED WITH EXIST IN 2022

PERIOD	DISTRIBUTION	COMMISSIONED RETAIL	TRANSMISSION	OSB PRODUCTION	SUPPLY	PRODUCTION	GRAND TOTAL
January	21	63	1	1	167	1.250	1.503
February	21	63	1	1	169	1.252	1.507
March	21	63	1	1	168	1.253	1.507
April	21	63	1	1	172	1.257	1.515
May	21	63	1	1	171	1.256	1.513
June	21	63	1	1	174	1.259	1.519
July	21	63	1	1	178	1.260	1.524
August	21	63	1	1	179	1.256	1.521
September	21	63	1	1	183	1.256	1.525
October	21	63	1	1	184	1.256	1.526
November	21	63	1	1	189	1.256	1.531
December	21	63	1	1	197	1.257	1.540

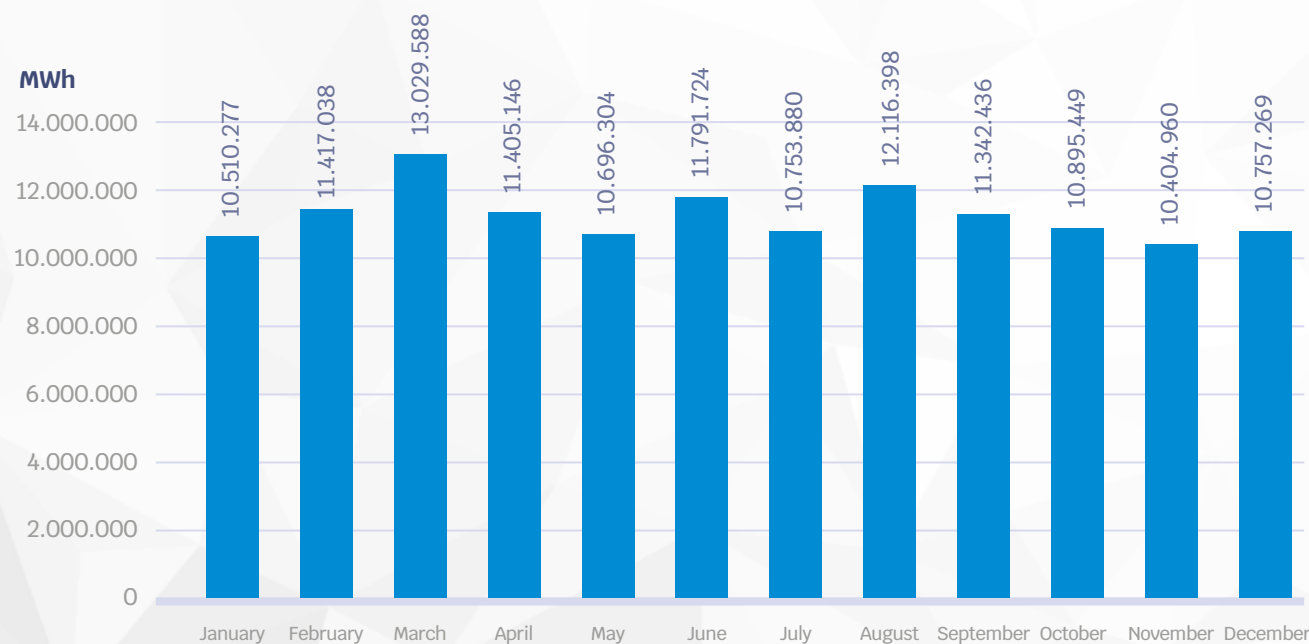


### NUMBER OF CONSUMERS EXERCISING RIGHT OF ELIGIBLE CONSUMER IN 2022



The graph above shows the number of consumers exercising their eligible consumer rights in 2022. While 268,597 eligible consumers exercised this right in January, it decreased to 154,885 in December.

### CHANGE OF CONSUMPTION BY ELIGIBLE CONSUMERS IN 2022



The graph above shows the monthly changes in the consumption of eligible consumers in 2022. March is the month with the highest consumption of eligible consumers and November is the month with the lowest consumption.

### ELIGIBLE CONSUMER TRANSACTIONS IN 2022

TIME PERIOD	NEW ELIGIBLE CONSUMER	SUPPLIER CHANGE	WITHDRAWAL FROM THE PORTFOLIO
January	2.622	11.964	130.143
February	345.997	1.405	5.206
March	148.765	1.646	50.034
April	12.313	3.000	278.985
May	5.186	582	145.628
June	4.625	429	19.843
July	3.884	461	43.848
August	2.278	389	10.202
September	1.913	305	14.772
October	1.486	390	35.971
November	1.403	435	12.270
December	1.011	482	17.273
<b>GRAND TOTAL</b>	<b>531.483</b>	<b>21.488</b>	<b>764.175</b>

The table above shows the breakdown of finalized eligible consumer requests made by suppliers.

### NUMBER OF METERING POINTS IN 2022

Eligible Consumer	29.120.103
Non-Eligible Consumer	17.408.584
<b>GRAND TOTAL</b>	<b>46.528.687</b>

The table above shows the number of metering points registered in the Market Management System by meter reading institutions as of December 2022.

### 3.1.2. Natural Gas Market

EXIST developed its product range for power, natural and environmental markets and took significant steps to increase liquidity in these markets in line with the demands of market participants. Considering all these efforts, the Spot Natural Gas Market (SGM) launched by EXIST in September 2018 and the Natural Gas Futures Market (GFM) launched in October 2021 strengthened Türkiye's position as a regional natural gas hub (Regional Trade Center) compared to neighboring countries.

In 2021, the trading quantity of 1.23 billion Sm<sup>3</sup> in the Spot Natural Gas Market was realized as 2.09 billion Sm<sup>3</sup> in 2022, amounting to TRY 27.487 billion. On March 25, 2022, 55,902,000 Sm<sup>3</sup> daily settlement quantity reached the highest settlement quantity since the market opened.

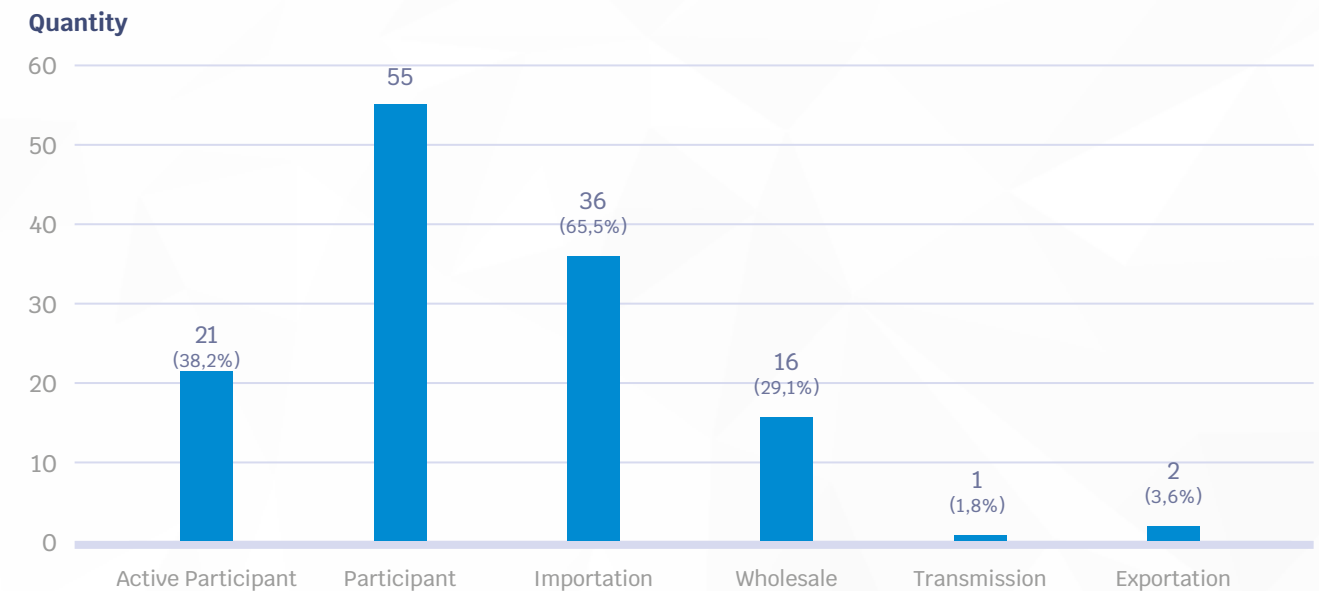
In 2022, record increases in natural gas prices in European and global markets also affected the Turkish market. As a result of the developments in the global natural gas markets following the Covid-19 pandemic, there has been extraordinary activity. The prices formed in Natural Gas trading hubs, which are the reference prices for natural gas trading, have been the main agenda item all over the world since the second half of 2021, and thus, the current trading mechanism and the use of Hub prices as reference prices have been discussed.

Especially after the Russia-Ukraine War, the sanctions imposed on Russia by the European Union directed European countries to alternatives other than Russia for gas supply. In this context, in the search for alternative gas supply within the European Union, Türkiye stands out both as a bridge on the gas route between Asia and Europe and with its maturity in the natural gas market compared to the countries in the region.

The high price volatility in the energy markets since the second half of 2021 has once again brought to the world agenda that Türkiye, which is in a critical position due to its geopolitical position, infrastructure and supply diversity, can be a reliable reference in natural gas trade. With these developments, EXIST continues its efforts to increase the liquidity in our markets and to take the necessary steps to become a regional hub.

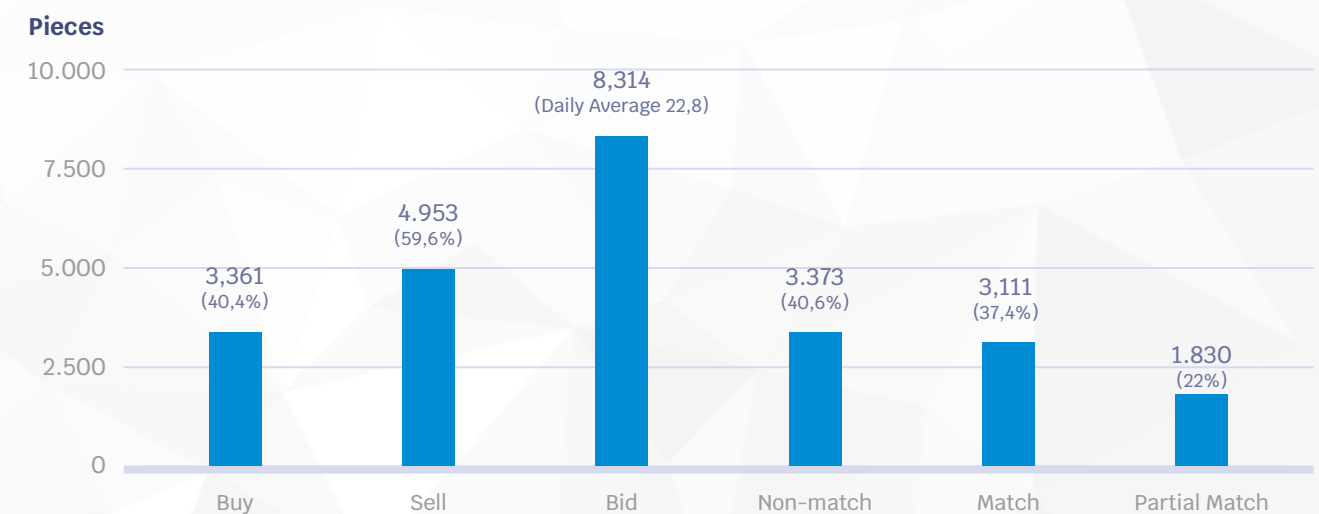
#### 3.1.2.1. Spot Natural Gas Market (SGM)

##### REGISTERED ORGANIZATIONS BY TYPES OF LICENCE



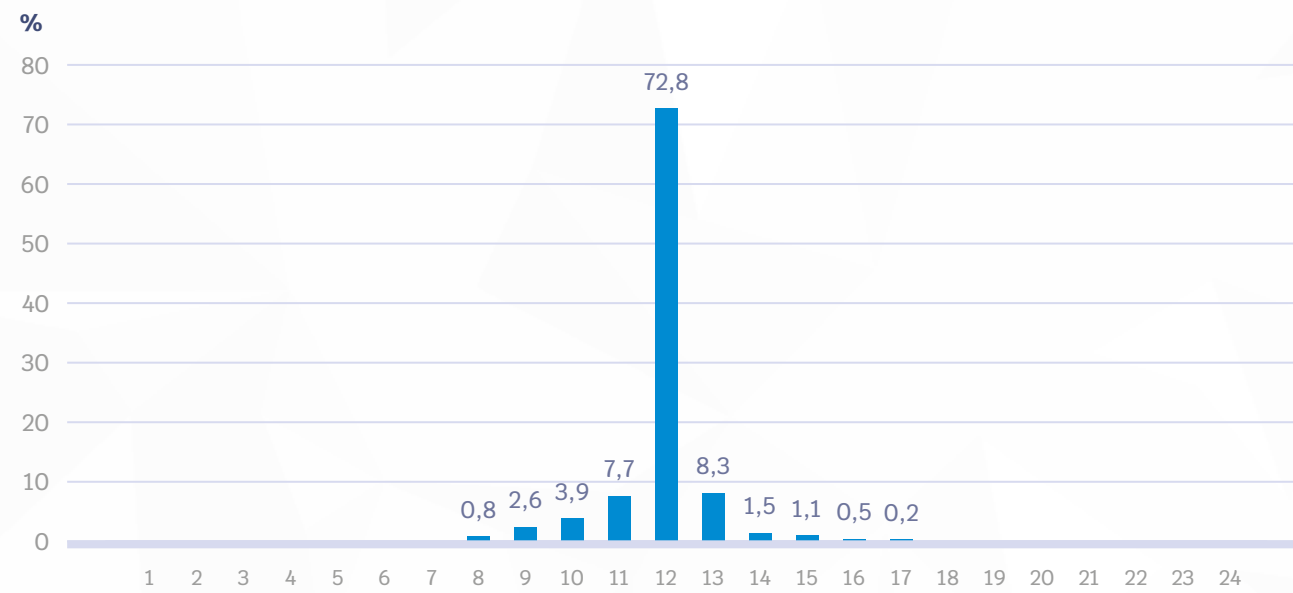
55 organizations operating in the organized wholesale market with various licenses completed their Spot Natural Gas Market (SGM) registration for 2022 and 21 of which (38.2% of all participants) traded on the SGM. The distribution of registered organizations according to the type of license they hold and their active participant status is shown in the graph above.

##### BIDS and MATCHES



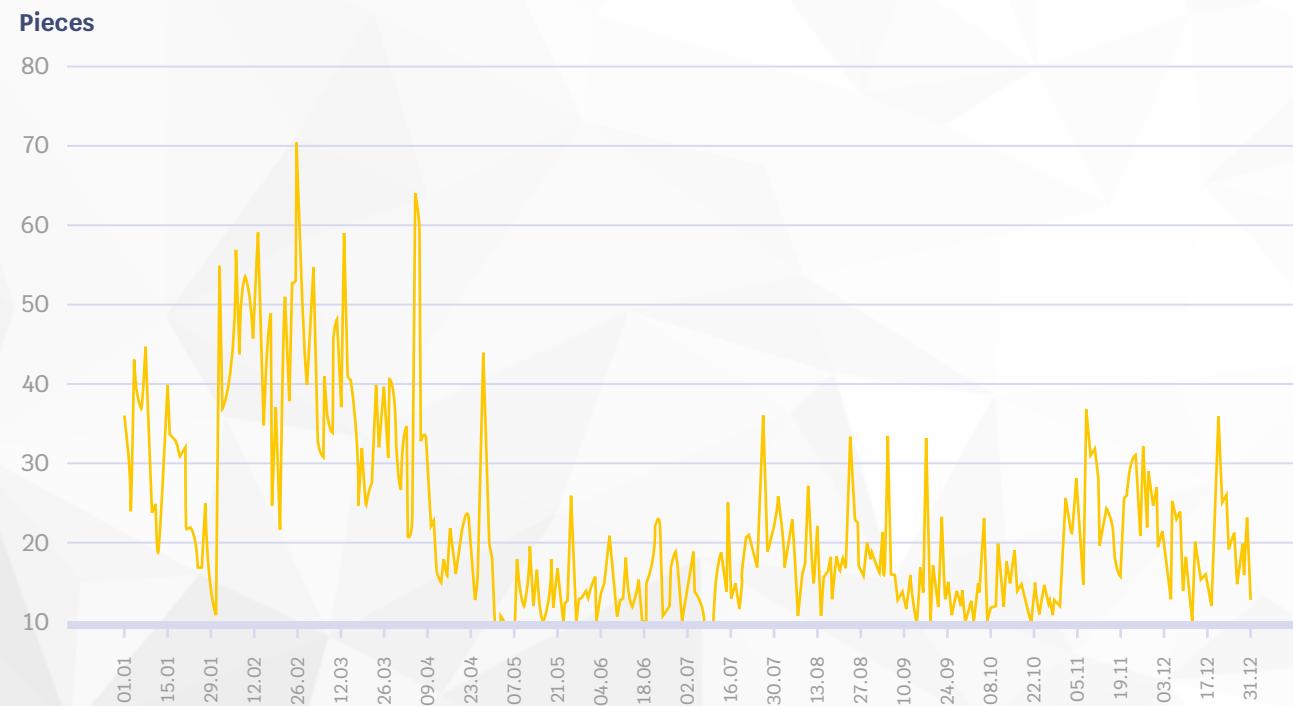
In 2022, active organizations made a total of 8,314 bids (23 on average per day). Of these, 3,361 (40.4%) were buy and 4,953 (59.6%) were sell. On average, 37 out of every 100 bids were matched and by the end of the year, there were 3,111 matches (8.5 per day on average). 22% of the matches were of the “partial match” type.

### HOURLY TRADING DISTRIBUTION



The hourly distribution of the transactions (bids or matches) made in the market is shown in the graph above. 99.9% of all trades are executed between 07.00–18.00 hours.

### DAILY TRANSACTION DISTRIBUTION



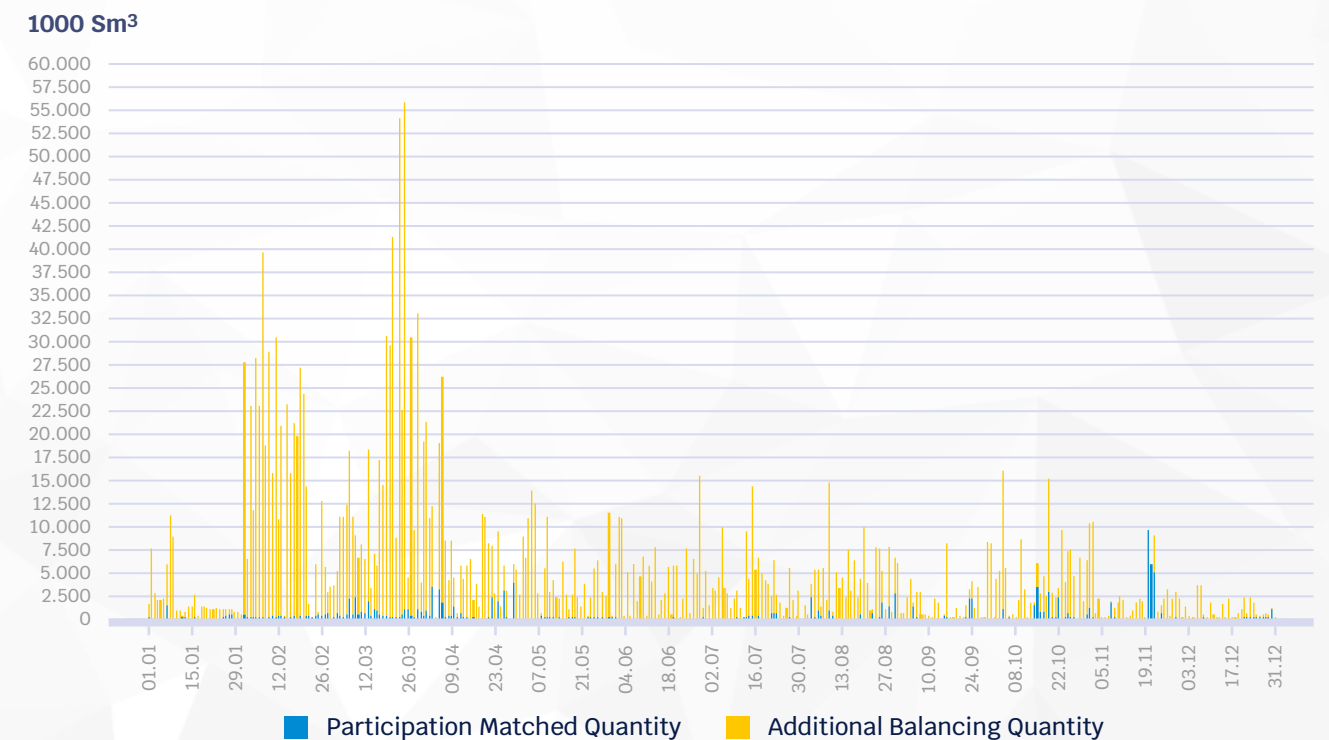
The daily distribution of the transactions (bids or matches) executed in the market is shown in the graph above.

### DAILY REFERENCE PRICE (DRP)



In 2022, the highest DRP was 26,297.00 TRY/1000 Sm<sup>3</sup> on September 21 and the lowest DRP was 6,651.68 TRY/1000 Sm<sup>3</sup> on January 3. The annual average DRP was 15,718.77 TRY/1000 Sm<sup>3</sup>.

### DAILY MATCH QUANTITY

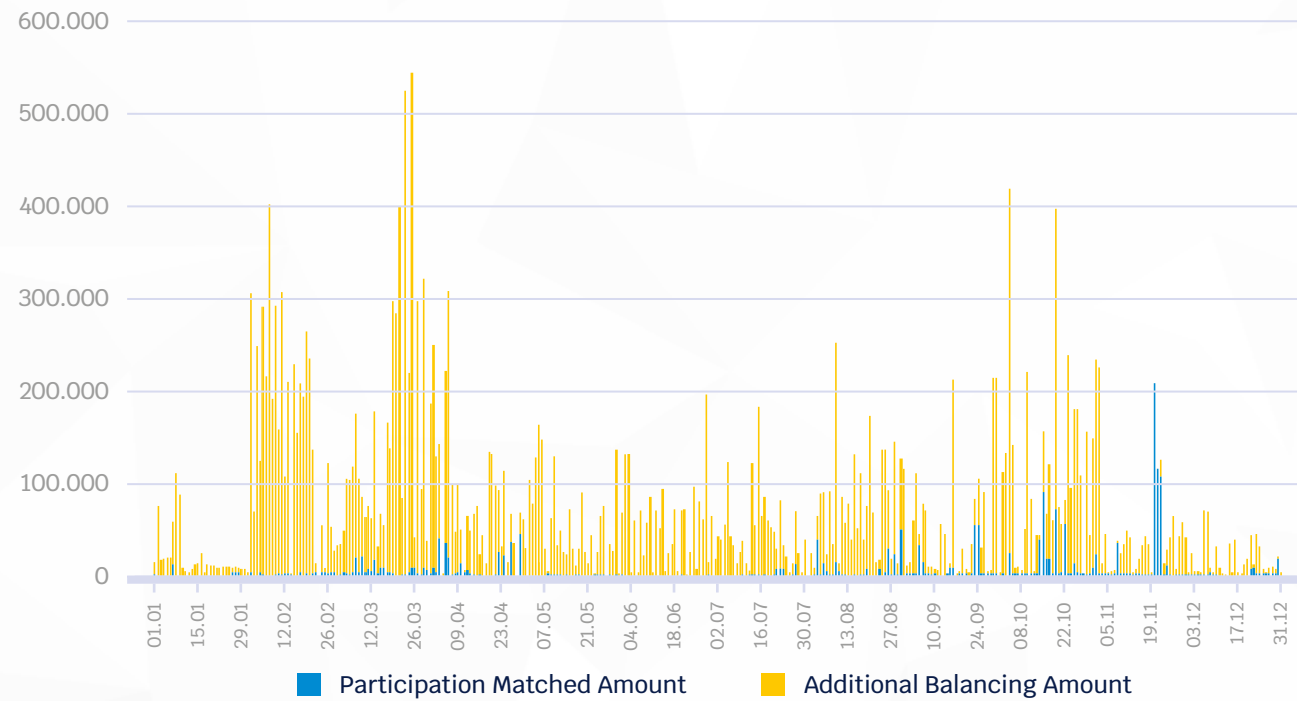


93.1% (1,951 Billion Sm<sup>3</sup>) of the total market matching in 2022 (2,096 Billion Sm<sup>3</sup>) is due to additional balancing transactions. The daily average matching volume in the same period is 5.742 Million Sm<sup>3</sup>.



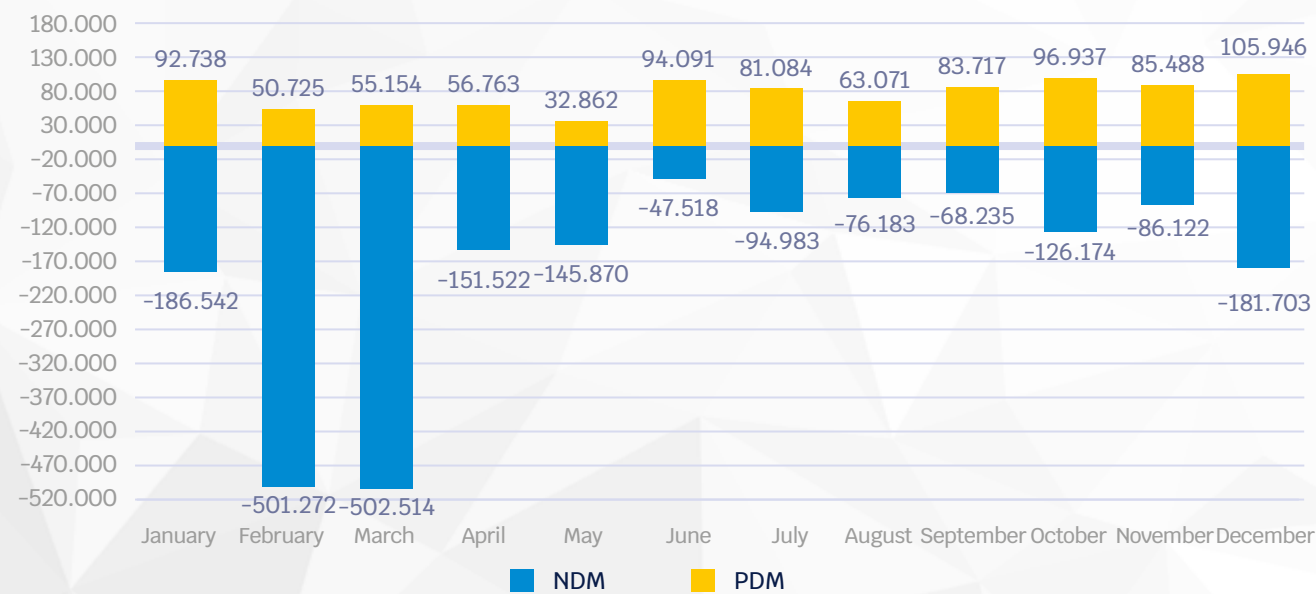
### DAILY MATCH AMOUNT

1.000 TRY



91.3% (TRY 25.1 Billion) of the total market matching amount (TRY 27.5 Billion) in FY22 was due to additional balancing transactions. In the same period, the average daily matching amount was TRY 75.308 Million.

### SHIPPER IMBALANCES

1000 Sm<sup>3</sup>

Imbalances created by shippers in the natural gas market are settled by EXIST on behalf of BOTAŞ. The graph above shows the total negative imbalance (NDM) and positive imbalance (PDM) of all shippers in the relevant month. The net imbalance is negative except for June and September, and the highest imbalance amount was realized in March.

### 3.1.2.2. Settlement and BAST

In 2022, monthly market activities and imbalance settlements are shown in the table below:

PERIOD	MARKET OPERATING FEE (VAT INCLUDED)	INVOICE (VAT INCLUDED)	BAST (ZERO BALANCE AMOUNT)
January	3.188.393	4.124.690.647	515.314
February	4.869.613	11.712.345.042	28.434.072
March	5.055.112	12.361.392.547	5.696.525
April	1.949.839	5.801.142.255	9.381.358
May	1.566.669	4.473.295.780	5.329.759
June	1.297.532	4.083.228.836	1.792.538
July	1.519.538	4.339.021.865	3.264.603
August	1.308.791	5.757.979.375	2.911.417
September	1.173.788	6.531.754.357	3.172.888
October	1.891.289	10.392.454.477	21.573.923
November	1.354.673	5.675.283.903	10.005.756
December	2.046.798	6.250.231.034	59.708.276

### 3.1.3. Transparency Platform

Launched in 2016, the Transparency Platform continues to be developed in line with EMRA's Board Decision on the data to be published on the Transparency Platform, which was updated on 06.01.2022. In this context, as of 2022, there are 159 data available to users on the Transparency Platform. The data published by years are given in the table below:

DATA CLASS	DATA QUANTITY 2017	DATA QUANTITY 2018	DATA QUANTITY 2019	DATA QUANTITY 2020	DATA QUANTITY 2021	DATA QUANTITY 2022
Markets	29	36	42	42	58	58
Production	5	5	6	6	6	6
Consumption	8	10	11	15	15	15
RESSM	10	14	16	16	16	16
Transmission	3	4	10	10	10	10
Natural Gas Transmission	0	12	13	13	13	13
Natural Gas SGM	0	16	23	26	26	26
Natural Gas GFM	0	0	0	0	6	6
Barrages	0	8	8	8	8	8
Market Messaging System	1	1	1	1	1	1
<b>GRAND TOTAL</b>	<b>56</b>	<b>106</b>	<b>130</b>	<b>137</b>	<b>159</b>	<b>159</b>

In 2022, similar types of questions submitted via the EXIST Help Desk (EHD) were categorized and included in the Transparency Platform under the “Frequently Asked Questions” heading for faster access by market participants. Also in 2022, an “About Us” section was added to the Transparency Platform for more information about the platform and data.

All stakeholders can quickly and easily communicate their suggestions and requests regarding the platform through the EHD. These suggestions and requests are evaluated and responded to as soon as possible, and improvements and updates are made if necessary. In this direction, improvement and development activities are carried out continuously.

In 2022, the Transparency Platform provided services under 9 menu headings, with a total of 159 report screens and 186 web services, and 5.5 million page views. One of the major steps taken by EXIST in the field of market transparency, the Transparency Platform continues to serve with the aim of publishing all market-related data from a single center in a fast, reliable, continuous and healthy manner.

## 3.2. Strategy

### 3.2.1. Monitoring and Evaluation of Strategic Plan for 2022

Monitoring and evaluation activities are carried out to determine the realization of the Strategic Plan objectives. The monitoring and evaluation process ensures institutional learning and, accordingly, continuous monitoring and improvement of activities. Within this framework, the “Strategic Plan Monitoring Report” is prepared for the first 6 months of each year and the “Strategic Plan Evaluation Report” is prepared at the end of the relevant year. In each report, all planned actions and performance indicators are evaluated and thus it is followed up and reported whether the targets and objectives are achieved or not.

Monitoring and evaluation spreadsheets were shared with directorates and, information was requested and meetings and consultations were held. The relevant studies were compiled into 6-month and 1-year reports to be submitted to the General Directorate. Within the scope of monitoring and evaluation activities, performance indicators were monitored to determine the extent to which the targets were achieved, and the actions to be taken by the responsible directorates to achieve the performance indicators were evaluated taking into account the deadlines.

The important activities carried out by EXIST in 2022 are as follows:

- Customer Satisfaction and Corporate Prestige Surveys were conducted.
- EXIST Help Desk and telephone infrastructure integration was completed.
- The Energy Market Management System (EMMS) project continued to be managed with agile methodology.
- The project of redevelopment of the existing Intraday Market in accordance with regional operation started to be managed with agile methodology.
- Meetings were organized with foreign energy markets.
- 8<sup>th</sup> Transparency Workshop was held on 22 December 2022. Within the scope of the workshop, the opinions and suggestions of the relevant stakeholders were received and the 2022 Transparency Report was prepared to be shared with EMRA.
- Efforts were initiated for EXIST to become a regional natural gas hub.
- EUROPEX General Assembly Meeting hosted by EXIST.
- Participated in international events outside Türkiye for promotional purposes.
- Human Resources (HR) Analytics project was conducted.
- Work has started for the establishment of an Integrated Management System.
- Efforts were made to increase employee satisfaction, competence and corporate belonging.
- Within the scope of social responsibility projects, a Türk Kızılay blood donation event was organized and 10,000 saplings were planted.

Other activities carried out outside the Strategic Plan:

- Basing on the Guarantees of Origin (GO) system implemented in the European Union, a gap analysis of the Renewable Energy Guarantees of Origin System and Organized YEK-G Market was conducted.
- Studies have been conducted for the design of the remaining energy balance to calculate the resource diversity in Türkiye's energy pool.
- Emissions Trading System (ETS) business development studies were completed.
- Transparency Coordination and Data Deduplication working groups were launched and the first meetings were held with the participants.

### 3.2.2. Targets

2022 Customer Satisfaction Survey results, internal stakeholder development requests and changing conditions, the “EXIST Strategic Plan” was updated on 30.11.2022 by adding and/or rearranging the performance indicators of some targets and the targets, performance indicators and actions for 2023 in order to achieve these targets.

By means of this updating, the following considerations were included in the Strategic Plan for 2023:

- Taking IT Service Management Platform BI Report live,
- Obtaining CMMI certificate,
- Conduct of Market Surveillance Software Phase-2,
- Working towards making EXIST a regional natural gas hub,
- Software or consultancy work for foreign energy markets,
- Development of the Human Relations (HR) Analytics project Phase-2 studies,
- Migration of HR processes to a user-friendly workflow management system,
- Improvements within the scope of Supplier Evaluation System Phase-2,
- Completion of LOGO integration with Existflow Phase-2 (automation of budget processes).

## 3.3. Information Technologies Operations

Information technology operations of our company were carried out under the following headings: market software development, project management, business analysis, demand management, software testing, data warehousing and business intelligence, corporate information technology architecture development, infrastructure development, databases management, operational security, vulnerability management and security tests, technical evaluation studies, standardization and business continuity.

Our market participants’ access to our current market applications was ensured with an availability rate of 99.9%.

### 3.3.1. Database Conversion with PFM Open Source Code

Within the scope of the Transition to Open Source Software Project, the Power Futures Market (PFM) application, which went live in 2021, was switched from a commercial database to an open source database.

Thus PFM project is no longer dependent on a specific database.

### 3.3.2. YEK-G Project Technology Transfer and Phase-2 Project

In 2021, the necessary technology transfer was made within the EXIST teams regarding the new needs and developments in 2022 of the YEK-G project, where we applied blockchain technology for the first time, and software developments were completed.

Thus, a structure that can respond to market expectations much faster and realize more efficient operations has been provided.

### 3.3.3. Demand-Side Redundancy (DSD) Project

DSD project aims to settle the Demand Side System, which is planned to be executed through TEİAŞ, and present it to the participants. Calculations will be made basing on formulas determined according to the data to be received via web services from TEİAŞ. Developments have been completed to a great extent and it is scheduled to be put into use in 2023.

### 3.3.4. Blockchain Training

Consultancy and training activities were carried out to provide blockchain awareness to the team working within EXIST, to enable them to develop applications using smart contracts in the blockchain ecosystem with solidity, and to bring them to a level where they can brainstorm about possible blockchain user scenarios in the energy market.

### 3.3.5. Worldwide Software Architecture Summit 2022

Our officials attended the Geekle Worldwide Software Architecture Summit with speakers from leading companies in the software world to meet the latest technologies and approaches used in software architecture and to increase our awareness.



### 3.3.6. IT Infrastructure Monitoring

Our IT infrastructure is monitored from end to end in order that fast solutions are used in case of possible problems.

Necessary research and POC processes were carried out within the scope of network layer monitoring and necessary investments were made for commissioning in 2023.

### 3.3.7. Open Source Systems

We are working on transferring all market applications operated by EXIST to the “Container” architecture and migrating to the open source Kubernetes platform.

Transfer to the open source database system is ongoing. In this context, the Cluster structure, redundancy and DR tests for the open source database were successfully carried out, and the physical structure in which the database infrastructure of our Company will be built for many years has been made ready and developments in this direction continue.

We continue to support R&D activities in connection with open source applications/databases/systems.

### 3.3.8. Development of IT Infrastructure

- Investments were made to completely renew the “IT Network Infrastructure” in our main data center and DR data centers and our preparations for the renewal works to be carried out in the second half of 2023 were completed.
- In addition to the legacy “Server+Storage” structure in our company’s IT infrastructure, investments were made for Hyper-Converged infrastructure and servers were purchased to form the core structure.
- Necessary updates were made to our physical devices in all system/database/network layers in our IT infrastructure.
- Hardware investment has been made for our central database and works have been initiated to make it live.
- If, in the event of a disaster, EXIST systems cannot provide service through the main data center or in the event of a prolonged outage, applications are tested on the systems in DR in order to continue to provide service through the DR systems.

### 3.3.9. Improvements of Optimization Software

- Algorithms and models of the Day-Ahead Market (DAM) optimization software were updated according to legislative changes and performance studies were completed.
- The DAM optimization software written in Java, was rewritten in Python.
- POC study for the end-to-end machine-learning platform was made where units other than Optimization and Data Analytics Directorate can easily use artificial intelligence and machinelearning methods.

### 3.3.10. Software Test

- Within the scope of the second phase of the Energy Markets Management System (EMMS) Project, integration, system, performance tests, front-end automation and service automation works continued.
- Within the scope of the Intraday Market (IDM) 2.0 Project, integration, system, performance tests, front-end automation and service automation works have started.

- Software tests have started within the scope of YEK-G Technology and Knowledge Transfer Project.
- Software tests started under the Demand Response Project.
- Software and performance tests of the General IDM Project have been completed.
- Unique software test automation infrastructure of EXIST was created and performance tests were performed on this infrastructure along with front-end and service-based test automation tests in projects during the year.
- Test processes of 160 requests were completed within the scope of current market practices and new requests.

### 3.3.11. Data Warehouse and Business Intelligence

- The first step of the Energy Markets Management System (EMMS) Project was completed in October. Business Intelligence, Analytics and Transparency Platforms received their data through the newly developed settlement system after this date, and new analyses needed were added to our platforms. Development work continues for the second step of the project, namely Registration, Eligible Consumer and Collateral Processes.
- Within the scope of the IDM 2.0 Project, infrastructural and front-end improvements required by the Business Intelligence and Transparency Platforms continue.
- Within the scope of the transformation of operational databases into open source databases, necessary improvements were made to transfer data to data warehouses through the new database of the Power Futures Market.
- In order for our Business Intelligence, Analytics and Transparency Platforms to function properly, records of 125 claims, 80 problems and 40 requests were examined during the year, and necessary development work was completed by responding to them.

### 3.3.12. Project for Migration of rapor.epias.com.tr Reports to Transparency Platform

We continue to work on the project to display the reports publicly available on rapor.epias.com.tr on the Transparency Platform.

### 3.3.13. Transparency Report Layer Development Project

The project, which will provide the opportunity to display Transparency Platform data interactively on the Business Intelligence Platform and to use different analyses together based on date information, has been completed and put into service.

### 3.3.14. Near-Time Data Transfer and Integration Project

The test process for instant data transfer to our data warehouses over our databases used in the operational process with an open source solution has been successfully completed and the first live media transfers have started.

### 3.3.15. Agile Transformation Project

The Company continues its IT agile transformation efforts in order to quickly adapt to the changing business environment, produce higher quality services in a short time and increase efficiency. In this context, in addition to the pilot EMMS Project, IDM 2.0 and YEK-G Projects have also started to be carried out using agile methods.

Agile Awareness, Agile Methods and Agile Excellence trainings were given to the relevant units within EXIST in order to disseminate agile methods, train agile coaches and increase maturity. Communication activities for our company's agile transformation continue.

### 3.3.16. Preparation Works for CMMI Certification

In order to increase the software development maturity of our Company, the CMMI Certification Process was initiated, and in the first stage, gap analysis studies were carried out on active projects in the first quarter of the year. After a second assessment in the third quarter of the year, it was observed that the findings previously identified had been largely eliminated, and efforts were made to establish a CMMI Audit Team within the organization in the ongoing process. In addition, planning was made for the trainings to be provided to the identified candidate personnel.

### 3.3.17. Data Governance

With respect to data governance, the current situation of our company was analyzed and a data governance roadmap was prepared.

Within the scope of the National Data Dictionary Phase-3, in the project carried out by the Digital Transformation Office of the Presidency of the Republic, data dictionary entries of PFM, YEK-G and SGM applications were made, role hierarchy was defined and data quality studies were carried out in order to document the data dictionaries and existing web services of the institutions in the specified formats and increase inter-institutional integration capabilities.

### 3.3.18. IT Budget and Master Plan

IT needs of all units were collected and consolidated, IT Infrastructure Capacity Planning studies were completed, IT Development Plan and Master Plan were prepared and IT budget was created.

### 3.3.19. Architectural/Operational Activities

Activities such as preparation of IT Development Plan, preparation of IT budget, preparation of IT Infrastructure Capacity Planning Report, change management, reporting of service outages, preliminary evaluation and execution of IT procurement requests, preparation and updating of IT architectural components, creation of IT application portfolio, IT coordination, IT training needs, and participation in internal and external (independent) audits were carried out.

Regarding corporate applications, operational activities such as providing user support for 4 corporate applications, preparation of reports and improvements (Supplier Evaluation Process, Budget Transfer Processes, Employee Expense Forms ERP Integration) were carried out.

Architectural modeling studies were initiated for the existing markets opened within EXIST. The SGM application was modeled end-to-end in the Enterprise Architecture application. Network Infrastructure Architecture Change and Hyperconverged Server Architecture were evaluated.

### 3.3.20. Technical Assessment/Review Works

98 technical procurement requests were put into the procurement process by conducting technical examinations and/or preparing technical specifications. 11 technical evaluation reports and information notes were prepared. Company interviews, demos and POC studies were carried out within

the scope of product selection and procurement in many areas such as IT Service Management, Integrated Risk Management, Virtual Desktop (VDI), devices provided for use by the employees.

Technology research on Virtual SAN (vSAN), Virtual Desktop (VDI), Database on Cloud, Hyperconverged Server, Edge Cloud, Test Case Management were carried out..

### 3.3.21. Governance Activities

IT Strategy and Steering Committee Procedure was published and the committee was established to oversee the appropriate use of IT investments in line with the IT Strategic Plan and the alignment between the Company's business goals and IT goals on behalf of the Board of Directors.

Consultancy services were provided for the procedures and processes prepared in accordance with the needs of the units.

### 3.3.22. Standardization and Documentation

New IT processes and procedures (Product/Service and Supplier Evaluation Process, IT Asset Management Procedure, Technical Evaluation Process) were created and commissioned, and revisions were made in the existing processes/procedures.

In the EXIST workflow application, flows were created for Product/Service and Supplier Evaluation, Training Request and Budget Transfer Processes.

Efforts were started for standization of IT devices given to the employees of the company and the process was improved and accelerated.

### 3.3.23. Activities for Improvement of IT Maturity

ITIL v4 High Velocity IT, ITIL v4 Direct Plan and Improve trainings were attended by relevant IT staff in order to increase awareness and maturity level in Governance and Service Management areas.

### 3.3.24. Business Continuity

For business continuity, the tests of the new Emergency Operation Center (EOC) were planned together with the Risk Management unit and the EOC tests were carried out by organizing the IT side.

### 3.3.25. Demand Management

Prioritization, scaling, planning and execution of software development demands received through the demand management service fulfillment application were carried out.

329 software development requests received from internal and external stakeholders through different channels including new features and corrections were completed and closed.

#### ■ Significant Transparency Platform Regulations

All requests received by EMRA have been developed and transition to live has been completed. For transparency application developments regarding PFM, NGFM, YEK-G data display, correction of



errors related to the data transmitted from BOTAŞ, Load Forecast Plan infrastructure change arrangement, Supply Demand Data display, RESSM draw and cost pages, Real Time Generation data, transfer of Load Forecast Plan data received from TEİAŞ to the Transparency API project, update of TEİAŞ licensed power plant investments, regulations of Natural Gas Transmission-Capacity and Reserve, regulation of EÜAŞ GTŞ Bilateral Agreements data, regulation of Natural Gas Market participant page, addition of Euro exchange rate price display on DRP page, provision of data flow to EXIST RESSM reports unit cost page all have been completed.

#### ■ Significant BPMYS Regulations

Developments in connection with the transfer platform commissioned by TEİAŞ on the Ancillary Services Settlement Application went live. The development of the changes regarding the additional collateral account in case of the distribution of the group responsible for the balance was completed and went live. With respect to the amendment published in the Official Gazette, the RESSM account update was completed. Due to the change in the collateral calculation method, improvements in imbalance collateral have gone live.

#### ■ Significant Business Intelligence and Reporting Regulations

Developments related to Human Resources and Attendance Systems Business Intelligence Reporting Processes and Employee Productivity Application were completed. Integration of relevant data from Transparency and Business Intelligence into reporting applications was ensured. EXIST Help Desk (EHD) and EXIST Platform were integrated. Reports requested by BOTAŞ were created, analysis was prepared in Business Intelligence from Difference Fund data, reports requested by EMRA were prepared, improvements were made in the Bilateral Agreement Data Report, requests of the Market Surveillance Directorate were completed, reports requested by the Court of Accounts were prepared, and requests from TEDAŞ General Directorate were met.

### 3.3.26. Security Operations Centre

Security Operations Center (SOC) activities continued uninterruptedly throughout 2022, and within the scope of these activities, security alarm rules were continuously improved in line with changing needs, and faster and more effective detection and response stages of security incidents were improved. Security alarms are reviewed 24/7 by analysts at the SOC center, incidents that pass the evaluation are reported to the EXIST security unit and intervention is taken when necessary.

### 3.3.27. Penetration Tests and Vulnerability Management

In 2022, two penetration tests were conducted on our information systems and applications, both on our local network and on the internet. For these tests, new software developed for the markets in 2022 was also subjected to detailed security tests.

Our systems and market applications we develop are regularly scanned with network vulnerability scanning and web application security scanning tools and security vulnerabilities are analyzed.

### 3.3.28. End Point Detection and Response

In line with the IT Development Plan, endpoint detection and intervention solutions were examined in 2022, tests were conducted to prove the applicability of the identified solutions, technical requirements were determined and the procurement process was finalized. The circulation of the solution will be completed.

## 3.4. Enterprise Risk Management

EXIST enterprise risk management activities are carried out in compliance with the Directive on Enterprise Risk Management Policy. As stated in the Directive, the coordination of risk management activities, reporting of risks, follow-up of actions and awareness raising activities are carried out by the Risk Management Department. Risk management activities are carried out by taking into account internal and external regulations, best practices and standards and are updated according to changing conditions and needs. Opportunities and threats arising from fundamental areas such as the course of the Energy Market, macroeconomic developments and technological changes are monitored and reported together with internal dynamics and taken into consideration to be transformed into appropriate actions.

The past fiscal year was a highly volatile one, especially in the context of energy markets, where risks continued to increase on a global scale and the importance of risk management increased. Macro risks were also monitored, including the damage caused to economies by the pandemic crisis and the serious changes in access to energy, energy pricing and market practices due to the Russian-Ukrainian War. Risk management activities were meticulously carried out to ensure that the Company's activities and processes are minimally affected by internal and external risks, appropriate actions are taken and activities are reported. Risks that may prevent EXIST from achieving its targets were identified and both the relevant risks and the related control points and the actions taken/planned to be taken were reported to the Company's senior management through risk reports.

Risks that may prevent EXIST from achieving its goals are monitored under the main risk categories determined within the scope of goal-based corporate risk management studies. By exchanging information on risks with the units, contributions were made to the development of company processes and activities. In addition to risk monitoring within the company, risks that may prevent EXIST from achieving its strategic goals were identified by analyzing and monitoring national and international conditions. Dashboards were created on the basis of risk categories and all risks were dynamically monitored through indicators. Root causes, actions and indicators related to risks were periodically updated

In order to ensure business continuity within the Company, the Emergency Operation Center is constantly made available against the risk of interruption of critical processes. In accordance with the provision in the EXIST Business Continuity Policy that "an emergency drill shall be conducted at least once a year", an earthquake drill scenario was conducted in December to test the uninterrupted continuity of the Company's systems in extraordinary situations, and the Yenibosna Emergency Operation Center was also used in this context. In addition, within the scope of Emergency and Crisis Management Center activities, coordination meetings of the Ministry of Energy and Natural Resources were attended and awareness trainings on Enterprise Risk Management and Business Continuity Management were organized within the Company.



## 3.5. Activities for Enhancement of Corporate Capacity and Development

### 3.5.1. Activities of Value-Oriented Human Resources Management

We continue our organizational restructuring activities in line with global energy markets in order to meet the needs of the era with our expert and competent human resources staff. Accordingly, in 2022, the organizational structure of some sub-units was redesigned, while the number of team leadership positions were increased to ensure a more agile organizational structure and to benefit from the advantages of technical leadership.

Based on our goal to create an employee profile with a high level of belonging and loyalty to the Company, our human resources practices are based on the principle of “employee focus”. In order to make our relations with our employees stronger and more sustainable, we take care to establish continuous communication, and we attach great importance to receiving feedback on almost every issue concerning employees, including basic issues such as career management and performance management, and to make continuous improvements in practices related to them.

In 2022, we expanded the scope of our Employee-Centered Interview Program in order to establish a sincere communication with our employees and enable them to share their thoughts directly. To this end, our human resources managers and experts held one-on-one interviews with most of our employees, and thus employee motivation was closely monitored.

We made a radical change in our performance management model and included individual goals that are fed by our Company’s strategic goals. Thanks to our performance management system, which takes into account 360-degree competency assessments along with individual goals, we measure the contribution of our employees to business results and ensure that they receive feedback from their entire environment to support the development of their personal and professional competencies.

Thanks to our new performance evaluation software, which we started preliminary work on in 2021 and completed and fully launched in 2022, we have enabled our employees to follow their performance monitoring and evaluation processes much more easily and effectively and to focus on their development.

We closely monitor the new generation working patterns that have become widespread, especially during the pandemic period, and we take proactive approaches to the working patterns in our Company. The remote working model in our Company was reviewed and improved as the pandemic eased. While taking into account the trends in working life and the expectations of employees, we especially observe how the remote working scheme responds to needs and aim to continuously improve our working model thanks to feedback.

In order to minimize the transportation problems of our personnel who work at the Company headquarters, we have increased the flexibility of the start and end of our daily working hours to two hours this year. In addition, we strive to make working for the Company attractive by offering ring shuttle service alternatives to central transportation points.

Thanks to our online communication and internal social media platforms, which we have launched to make our online communication more dynamic and enjoyable with the new working arrangements, our employees can share their opinions and thoughts with each other more quickly and easily. These platforms, which are available on our corporate intranet and where our employees can transparently view instant posts, are attracting increasing interest.

We aim to increase the satisfaction of our employees day by day in order to maintain our work efficiency and employee happiness at the highest level. As in previous years, the Employee Satisfaction Survey was conducted in 2022 with the high participation of our employees. The surveys we organize periodically reveal positive developments in satisfaction rates and help us discover the aspects of our Company that are open to improvement.

In our company, we attach great importance to the Leaver Evaluation Survey in order to manage the employee experience in the best way from beginning to end and to reveal the negative factors affecting the employee experience, and we carry out the necessary work for the effective use of the survey results. We both organize surveys and conduct detailed face-to-face interviews with our employees who decide to leave their jobs. We evaluate the reasons for the departure of our employees one-on-one and create remedial actions regarding the relevant issues.

We carry out our activities with our expert and competent human resources staff on the basis of our people-oriented, innovative and continuous learning-oriented corporate culture. With Career Management, we prioritize keeping the right human resources in the right place and clarifying career plans in the most ideal way in the medium and long term. In this direction, as in every year, career plans of our employees were made in 2022 and career moves were realized as a result.

With respect to our Critical Positions and Backup System, which is one of our Career Management practices, backup plans for 2022 were created for critical positions that are important for the uninterrupted continuation of our Company’s activities at the expected quality, and many development activities such as personalized trainings, certificates, rotations were carried out within the scope of the development plans of our backup employees.

In order to support the formation of corporate culture and increase employee motivation and productivity, we attach importance to social and cultural activities that will enable our employees to communicate effectively with each other and support business-private life balance. As every year, we organized social events (internal and external social events, hobby club events, etc.) with high participation. We also provide dietician and psychologist consultancy services to our employees in order to offer a better quality and richer working experience and to balance their work and private lives.

We attach great importance to our training activities in order to raise the skills and abilities of our qualified and well-equipped human resources to higher levels and to expand our continuous learning corporate structure. Accordingly, more than 200 trainings and over 1,900 content were shared with our employees on our digital training platform EXIST Training Portal in 2022.

By focusing on the development areas of our employees, the trainings needed to ensure the development of their personal and professional competencies was optimized within the framework of the 2022 training plan and training catalog. With the investment and support of our Company in training, a total of 72 trainings were organized for 258 employees within the scope of personal development, professional development and compulsory trainings in 2022.

Based on our corporate learning culture that strives to prepare our employees more competently for both the present and the future, the EPIK PRO Mentoring Project was launched in 2022. Within the scope of the project, training and group coaching services were provided, and the processes were completed with Menti-Mentor interviews.



## 3.5.2. Management Systems

### 3.5.2.1. Quality Management Systems

Periodical studies continued within the scope of ISO 9001 Quality Management System and ISO 10002 Customer Satisfaction Management System activities. Documents were updated, business processes were developed, process targets were measured and reported, internal audits were conducted, management review meetings were held, external audits were completed and improvement efforts continued. Periodic semi-annual and annual process performance evaluations were also conducted in 2022 and submitted to senior managers for approval.

The validity of ISO 9001 and ISO 10002 standards was audited by independent auditors as it has been usually done every year since 2017. It was found that the systems were effectively implemented and improvements were ongoing, and the certificates were renewed. The accredited certificates were published via the corporate website of EXIST.

In order to increase the satisfaction of customers receiving services from EXIST, a detailed study was conducted to identify the needs and expectations of customers by analyzing customer business processes from the customer's perspective. In this context, a Customer Demands Analysis Report was prepared using data from EXIST Help Desk, Call Center, Customer Satisfaction Surveys, Process Monitoring Measurement KPI Reports and shared with senior management. In order to meet these needs and expectations, it is aimed to improve business processes.

### 3.5.2.2. Information Security Compliance Studies

#### ■ Information Security Management System (ISMS) Risk Analysis and Internal Audit

As required by the ISO 27001 ISMS standard, ISMS risk analysis was conducted in 2022 with the renewed methodology and internal audit work was completed. As a requirement of the standard, a surveillance audit was conducted by TSE and the audit was successfully completed.

#### ■ Compliance with the Information and Communication Security Guide Issued by Presidential Digital Transformation Office (DTO)

Works on compliance with the Guidelines published by the DTO have started and most of the current situation and gap analysis studies have been completed.

## 3.5.3. Communication, Organization and Training Activities

In line with our Company's mission and vision, the communication activities carried out to contribute to EXIST's national and international recognition and corporate reputation continued in 2022 in a comprehensive manner.

In 2022, the focus of communication activities, mainly shaped around the newly opened markets in 2021, was the hosting of the General Assembly of EUROPEX, the European Energy Exchanges Association. In addition, the preparation of EXIST's current promotional film and promotional brochures in Turkish and English, communication activities for newly opened and currently operating markets, social responsibility projects and the transformation of market training content into animated films are among the other prominent topics.

### 3.5.3.1. EUROPEX General Assembly Meeting



The General Assembly Meeting of EUROPEX (Association of European Energy Exchanges) was held in Antalya on June 9–10, 2022, hosted by EXIST with the participation of the Board of Directors and General Assembly Members.

Mr. Fatih Dönmez, Minister of Energy and Natural Resources, Mr. Alparslan Bayraktar, Deputy Minister of Energy and Natural Resources, Mr. Pieter Schuurs, EUROPEX Chairman of the Board of Directors, Mr. Christian Baer, EUROPEX Secretary General, EUROPEX Board of Directors and General Assembly Members and former executives attended the 20th anniversary dinner of EUROPEX.

In the context of EUROPEX organization preparations, preparation of technical specifications, determination of the organization company, coordination of transportation, accommodation, social activities and organization services, preparation of visual designs for the event and communication activities were successfully carried out and positive feedback was received from the participants.



### 3.5.3.2. EXIST Corporate Presentation Movie and Brochures



The corporate presentation movie, prepared in Turkish and English in accordance with the new corporate identity, in which EXIST and its activities are conveyed in their current form, was completed in line with the information received from the relevant units and scenario approvals and broadcasted via all corporate digital channels.



### 3.5.3.3. Market-Oriented Communication Operations



#### ■ Micro Websites of the Markets

Micro websites were launched for market participants and all interested parties to get detailed information about the Day-Ahead Market (DAM), Intraday Market (IDM) and Spot Natural Gas Market (SGM), to easily access promotional films and trainings, and to get answers to frequently asked questions.

In this process, the content received from the relevant departments was adapted to the design concepts created and converted into a microsite format. All technical processes were meticulously followed, and the micro websites of [www.gopnedir.com](http://www.gopnedir.com), [www.gipnedir.com](http://www.gipnedir.com), [www.sgpnedir.com](http://www.sgpnedir.com) prepared in Turkish and English, which were approved by the relevant units and launched and put into service.



#### ■ Market Presentation Movies

In connection with the production of DAM, IDM, EOM and Transparency Platform presentation films, content was received from the relevant units and scripted, production processes were completed following the approval of the scripts, and these presentation films were posted via EXIST corporate social media accounts and Youtube channel.



### ■ Market Presentation Brochures



Turkish-English presentation brochures on DAM, IDM, PFM, SGM, GFM, YEK-G and Transparency Platform were prepared and added to the corporate materials section of the EXIST website and made available to all interested parties.



### ■ Social Media Communication of the Markets

Information prepared in the form of posts and video content on DAM, IDM, PFM, SGM, GFM and YEK-G were periodically shared on EXIST corporate social media accounts, and announcements of anniversaries, sessions and trainings related to the markets were also made. In addition, promotional activities were carried out for the simulation and go-live phases of the newly commissioned Energy Markets Management System (EMMS) module.

### 3.5.3.4. Communication Works Regarding YEK-G System and Market

Special communication activities were carried out in 2022 regarding the YEK-G System and the Organized YEK-G Market, where consumers who prefer sustainable energy can contribute to the protection of human and environmental health and the sustainability of natural life and make sustainable energy accessible to everyone by offering consumers the opportunity to choose between electricity products.



### ■ YEK-G Presentation Movie

The approximately 3-minute YEK-G presentation film prepared for large-scale consumers was shared on EXIST's corporate social media accounts and Youtube channel, and also posted as an advertisement on Youtube, LinkedIn and Meta channels for 15 days. Performance data regarding the advertisement broadcasting, where a specific target audience for large-scale consumers was identified, are given below.

- **Youtube:** The presentation film, displayed 540 thousand times in total, viewed 222 thousand times and 320 thousand interactions realized.
- **LinkedIn:** The presentation film, shown 152 thousand times in total, viewed 73 thousand times and 596 interactions realized.
- **Meta (Facebook/Instagram):** The presentation film, displayed 1 million 797 thousand times on Facebook, viewed 1 million 369 thousand times and 115 thousand interactions realized. The presentation film, which was displayed 3 million 216 thousand times on Instagram, viewed 2 million 479 thousand times and 188 thousand interactions realized.





### ■ YEK-G Social Media Communication

Via corporate social media accounts of EXIST, posts and video content about the YEK-G System and the Organized YEK-G Market were regularly shared throughout the year. These include announcements such as monthly organized market sessions, market trainings, system and market data, e-Government integration, general promotional and informative content, YEK-G themed celebrations and information content for special days and weeks such as World Environment Day, World Animal Protection Day.



### ■ YEK-G Magazine Advertising

An interview and advertisement on YEK-G were published in the Energy Supplement of InBusiness magazine and an advertisement was published in Gas&Power magazine.

### ■ YEK-G Presentation Brochure

A presentation brochure prepared in Turkish and English specifically for the YEK-G System and Market was posted via EXIST's corporate website.

### 3.5.3.5. Organizations Officially Supported by the Company

In 2022, important national and international events and organizations were supported institutionally.



Türkiye-Azerbaycan  
2nd Energy Forum



APEX (The Association of Power Exchanges)  
Conference



IENE (Instute Of Energy For South East Europe)  
Energy Outlook Presentation Meeting



5th Energy and Natural Resources Summit



12nd Türkiye Energy Summit



ISTRADE (Energy Trade and Supply Summit)





11th Turkish Wind Energy Congress



Turkish 2023 Summit



Eurasia R&amp;D, Innovation &amp; Technology Summit and Exhibition



Boğaziçi Energy Summit



Digital Energy Forum (DEF) 22



Corporate Governance Society, Governance Meeting

### 3.5.3.6. Social Responsibility and Sustainability Communication

EXIST continues its social responsibility and sustainability activities in line with the principle of “respect for people and the environment”, which is at the center of its business approach. The activities carried out in this direction in 2022 are as follows.



#### ■ EXIST Memorial Forest

Awarded with the title of “Carbon Neutral Company” by zeroing carbon emissions arising from its direct and indirect effects in 2021, EXIST continued its social responsibility efforts in this area in 2022. On behalf of EXIST employees, an “EXIST Memorial Forest” of 10,000 saplings was formed within the borders of Şile, Istanbul. On December 10, 2022, images of the sapling planting event organized with the participation of EXIST employees and their families were shared on corporate social media accounts.



#### ■ Solar Power Plant (SPP)

Communication activities were carried out on corporate social media accounts and in the internal communication magazine Enerjist regarding the rooftop Solar Power Plant (SPP), which was realized to support sustainable energy use and sustainable environment.





### ■ Blood Donation

In cooperation with the Türk Kızılay, a blood donation campaign was organized under the title “Blood is Life! Touch Another Life” blood donation campaign was organized. EXIST volunteers donated blood in the field tent set up by the Türk Kızılay in the company garden.

### ■ Energy Efficiency

Energy efficiency-themed movies made by the Ministry of Energy and Natural Resources were shared on EXIST corporate social media accounts and the efforts were supported in this respect.

### ■ Sustainability Policy

A draft of the EXIST Sustainability Policy has been prepared in line with the opinions of the relevant units.

### 3.5.3.7. Market Training Movies

The training contents on Power Futures Market (PFM), Spot Natural Gas Market (SGM), Natural Gas Futures Market (GFM) and Renewable Energy Guarantees of Origin System, about which training have been given by EXIST experts, were requested from the relevant units, then making them into animated movies. The animated movies were posted on EXIST’s corporate Youtube channel, making the training contents more efficient and effective.



### 3.5.3.8. Media Coverage

#### ■ Conventional Media

Carrying out its activities by observing the principles of “transparency” and “reliability” since its establishment, EXIST gives importance to quick and easy access of the public to accurate and reliable information. According to national and international print media data, EXIST was covered “positively” in 365 out of 424 news articles between January 1 – December 31, 2022. The total advertising equivalent value of the news reaching 37.494.872 people is TRY 21.226.296 in total.

#### ■ Digital Media

As a result of regular monitoring and tracking studies conducted on digital media platforms using the keywords “EPIAŞ” and “Enerji Piyasaları İşletme A.Ş.”, a total of 18,268 results were identified in the period of 1 January – 31 December 2022. 45% of the results were from the Web (news) and 53.5% from Twitter. The highest monthly results occurred in March (2,593), April (1,888) and January (1,873).

In 2022, 8,229 news articles with keywords in the web category were identified, these news articles were read 10 million 667 thousand times and an advertising equivalent of over 3 million TRY was realized.

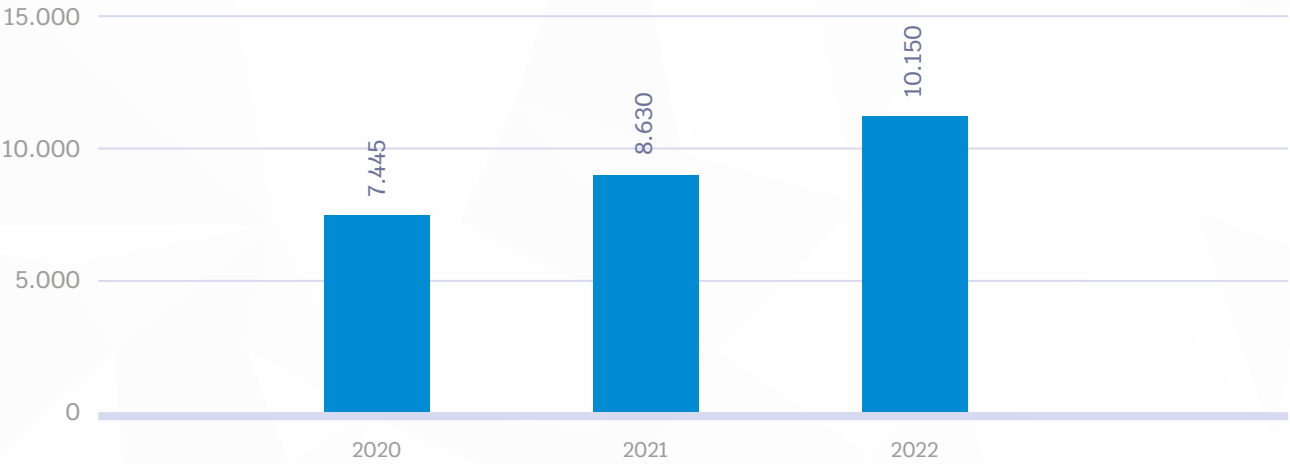
#### ■ Social Media

In 2022, contents prepared in line with the approved social media calendar and instant developments were shared on EXIST corporate social media accounts during the relevant periods. These posts led to a performance increase in the reach and interaction of social media accounts of the company and this was reflected in the number of followers of the accounts.



■ EXIST Official Twitter Account

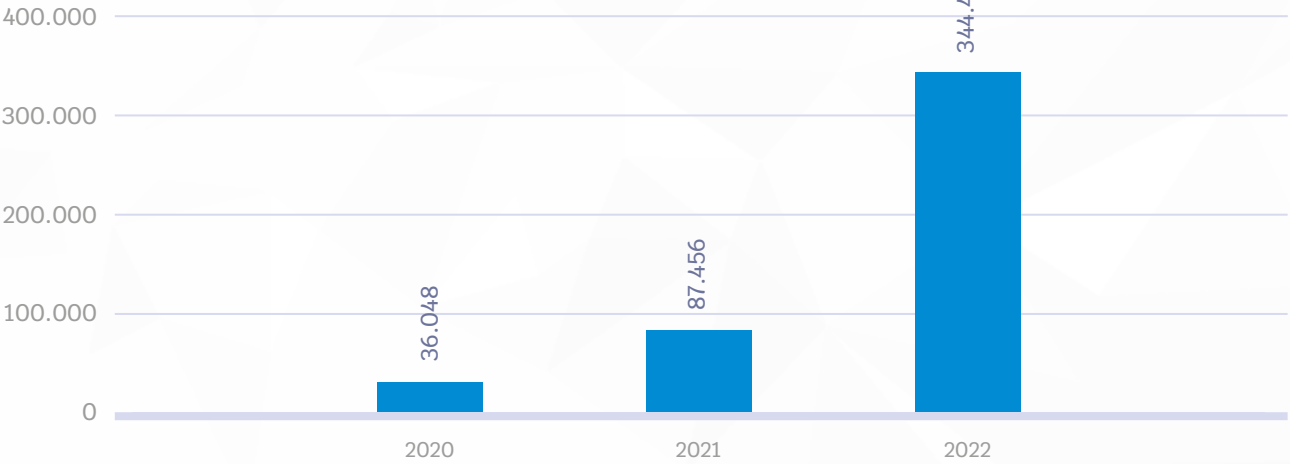
Followers (Cumulative)



The number of followers of the EXIST corporate Twitter account increased by 17.6% to 10,150 in 2022. The increase in followers is 28.3% higher than the previous year. The shared content was viewed 328 thousand times with average monthly interaction rate calculated as 4.5%. The number of profile visits increased by 132.7% to 197,241 from 84,765 in the previous year.

■ EXIST Official Youtube Channel

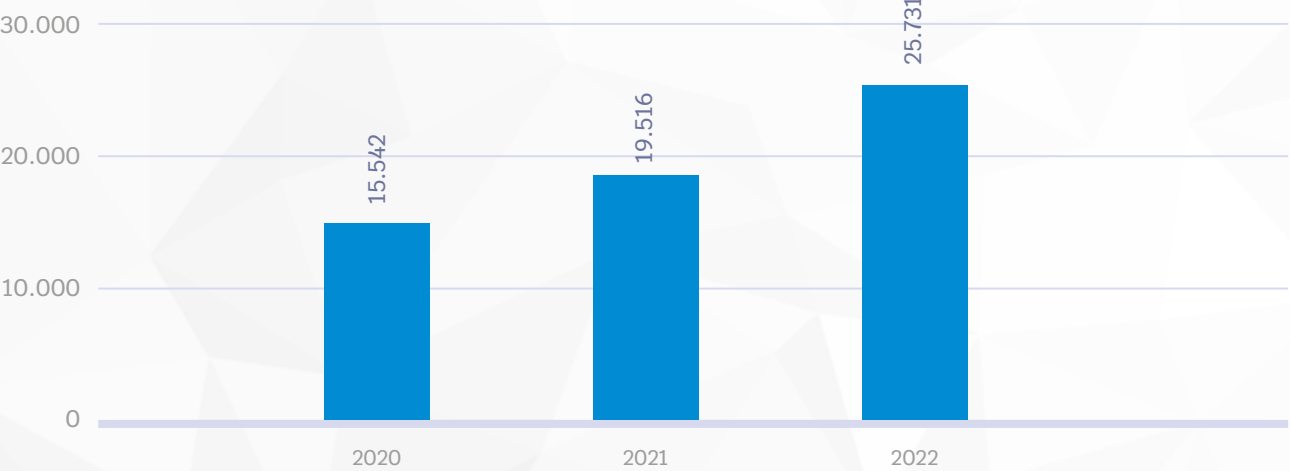
Views (Cumulative)



The number of subscribers to the EXIST corporate YouTube channel increased by 37.8% to 2,447 in 2022. The number of views of channel content increased 5 times compared to the previous year and exceeded 250 thousand, and the total viewing time increased from 10,161 hours in 2021 to 14,709.8 hours in 2022.

■ EXIST Official Linkedin Account

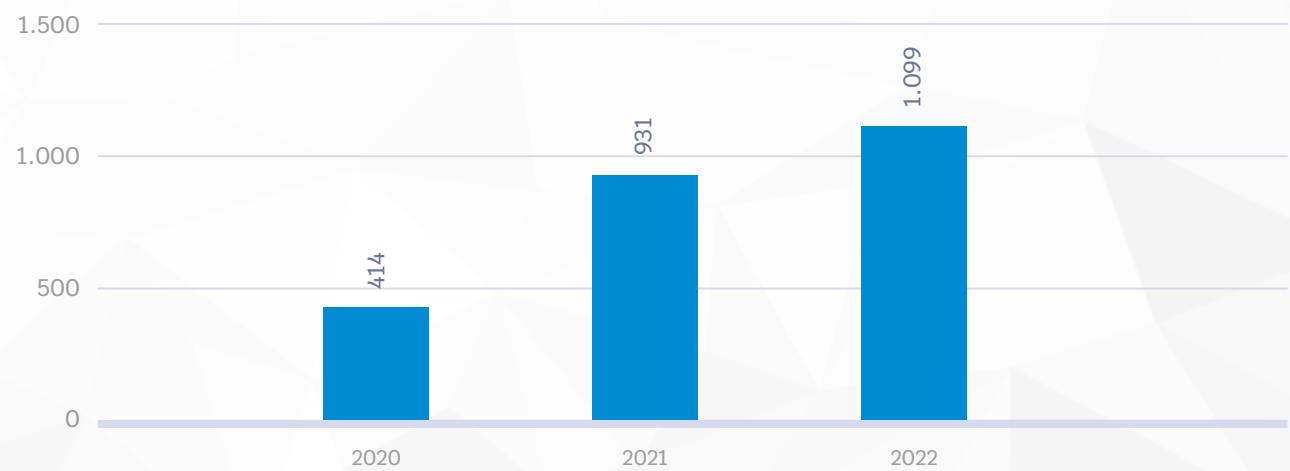
Followers (Cumulative)



The number of followers of EXIST corporate Linkedin account increased by 31.8% to 25,731 in 2022. The follower increase was 56.4% higher than the previous year. Shared content was viewed over 800 thousand times, with an average monthly interaction rate of 5.8%. Profile pages were viewed a total of 34,692 times by an average of 966 unique visitors per month.

■ EXIST Official Instagram Account

Followers (Cumulative)



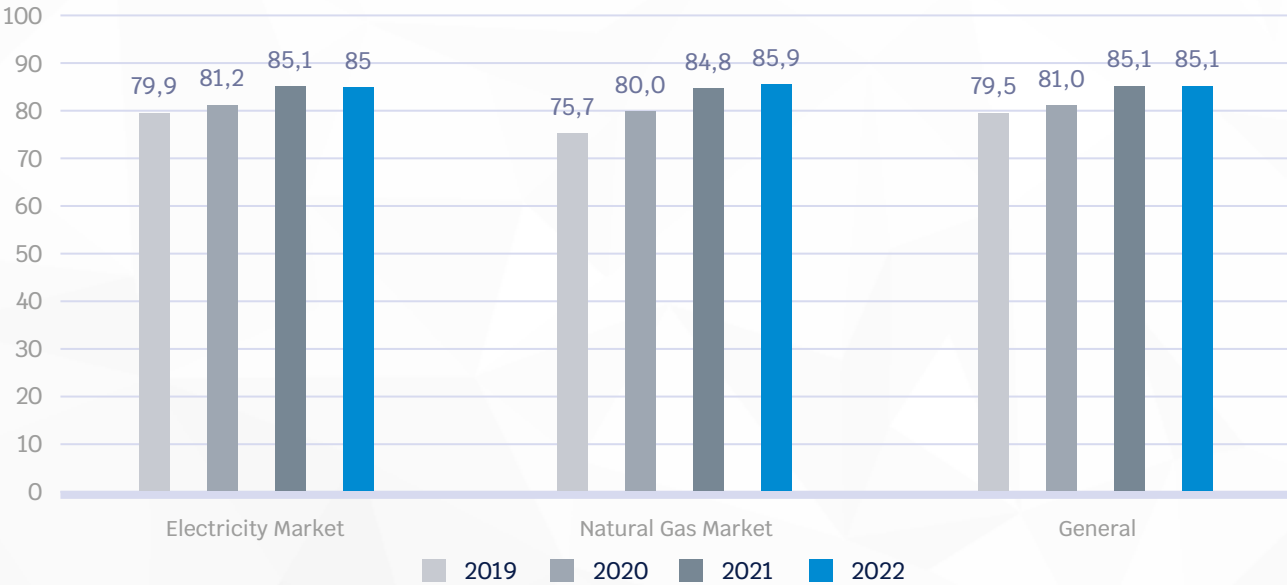
In 2022, the number of followers of the EXIST corporate Instagram account increased by 18% to 1,099. Shared content was viewed more than 3.5 million times with an increase of 101% compared to the previous year and an average monthly reach of over 230 thousand accounts. In 2022, a total of 5,645 profile movements were realized.



3.5.3.9. Participants Satisfaction and Corporate Prestige Surveys

Participants Satisfaction Survey was conducted in line with the “increasing participant satisfaction and regular communication channels” stated in EXIST 2019–2023 Strategic Plan, Goal 1, Objective 1.2. The survey, which included questions on products, services and reputation, was conducted using CATI (Computer Assisted Telephone Interviewing) with participants in the power and natural gas markets across Türkiye. Considering the entire satisfaction scale, the participant satisfaction rate was 85.1 out of 100 participants.

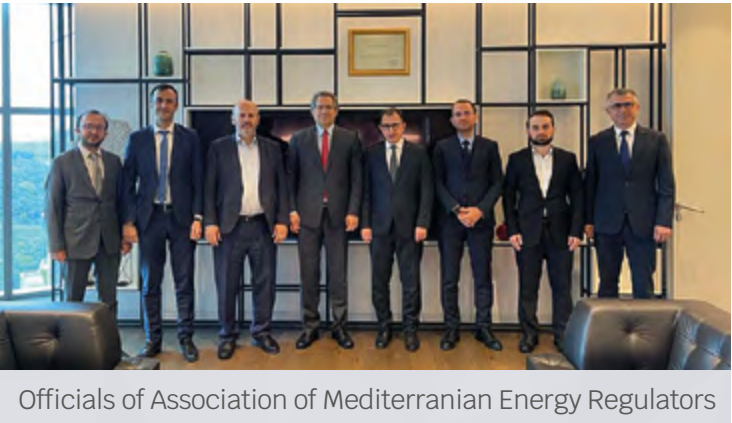
The overall result of the Corporate Prestige Survey conducted with internal and external stakeholders was 86.6 out of 100.



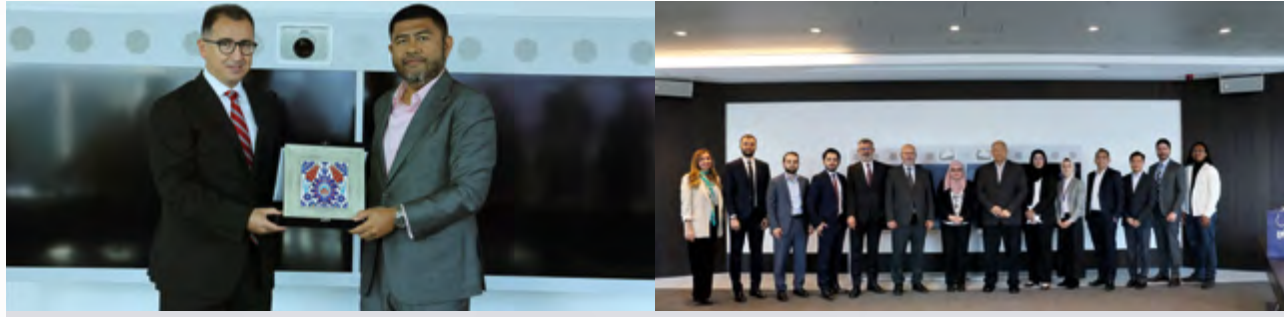
3.5.3.10. External Communication Activities

■ International Relations

In 2022, communication activities were carried out for visits by officials of international institutions and organizations and representatives of foreign countries.







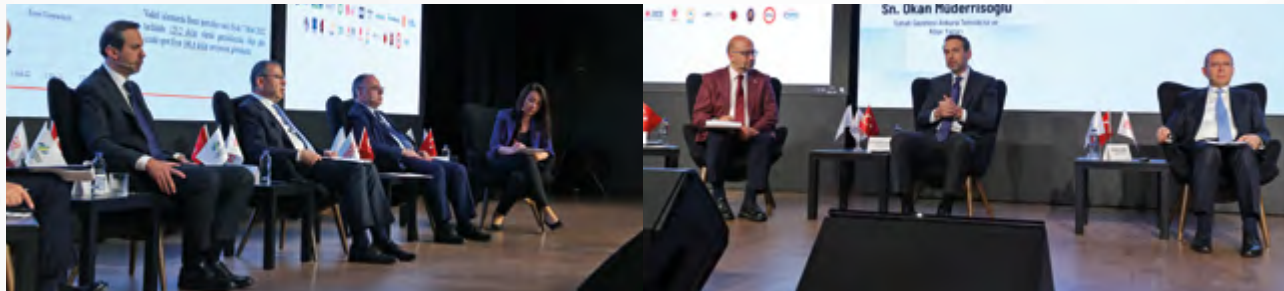
Representatives of the Malaysian companies TNB, MyPower and Single Power



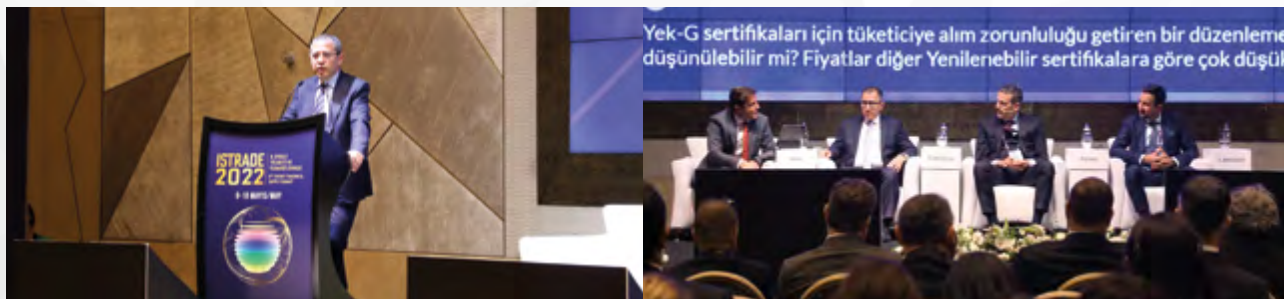
Diplomatic representatives of Germany, Argentina, Austria, Czech Republic, Brazil, Brazil, France, Guatemala, Germany, Greece, Japan, the Netherlands, Hungary, Spain, Sweden, Sweden, Japan, the Netherlands

### ■ Leadership Communication

Executives of EXIST communicated through their speeches at the organizations they attended in 2022.



Mr. Abdullah Tancan, Chairman, Mr. Alparslan Bayraktar, Ph.D, Vice Chairman, delivered speeches at the 5th Energy and Natural Resources Summit.



Mr. Abdullah Tancan, Chairman, Mr. Mustafa Karahan, Board Member and Mr. Ahmet Türkoğlu, CEO, delivered speeches at the Energy Trade and Supply Summit (ISTRATE)



Speeches delivered by Mr. Abdullah Tancan, Chairman, and Mr. Ahmet Türkoğlu, CEO in the Digital Energy Forum 2022



Speech by Mr. Ahmet Türkoğlu, CEO, at the Eurasia R&D, Innovation & Technology Summit



Speech by Mr. Ahmet Türkoğlu, CEO, at APEX (The Association of Power Exchanges) Conference



Speech by Mr. Ahmet Türkoğlu, CEO, at 12th Türkiye Energy Summit



Speech by Mr. Ahmet Türkoğlu, CEO, at Türkiye Summit 2023



Speech by Mr. Avni Çebi, Strategy Development Director, at 26th IENE National Energy Conference





### Award Communication

In 2022, communication activities were carried out through the awards received by our Company and our executives.



Mr. Ahmet Türkoğlu, CEO,  
Award "Türkiye's Biggest Company" by Fortune 500 Türkiye



Mr. Ramis Kulak, Finance and Support Services  
Director, Fortune CHRO Award

Fortune CFO Award,  
Mr. Rasim Kulak, Finance and Support  
Services Director



Fortune C-Suite Series Technology Leaders  
Award, Mr. Mehmet Uçansoy, Information  
Technologies Director

CIO 2022 Award,  
Mr. Mehmet Uçansoy,  
Information Technologies Director



IDC CIO Awards,  
Mr. Mehmet Uçansoy,  
Information Technologies Director



IDC Future Enterprise Awards,  
Mr. Mehmet Uçansoy, Information  
Technologies Director, and other directors

### Other Communication Activities

Other external communication activities carried out in 2022 are listed below:

- Publication of 134 website update and announcement requests received from the Legislation and Compliance and Financial Affairs departments regarding the Power and Natural Gas Markets
- Designing and printing the Regional Trade Center Report
- Communication of record-breaking matching quantities of the markets
- Design of European Energy Markets Report
- Design of Draft Energy Markets Bulletin
- Communication of EXIST Innovation Centre
- Turkish-English editing and updating of EXIST website
- Creating and posting "Frequently Asked Questions" section for EXIST and energy markets on the EXIST website in coordination with the relevant units





### 3.5.3.11. Internal Communication Activities

In line with the requests of the relevant units, various in-house contents were prepared and graphic design and video production processes were carried out in coordination with the relevant units. According to the concept envisaged for promotional products, gifts for stakeholders were organized, in-house magazine were published and chat programs were held.

#### ■ Energetical Speeches

The speakers and topics of the Energetic Conversations event organized periodically are as follows:

- Dr. Oğuz Can, Vice President of Nuclear Regulatory Authority  
“Climate Change and Carbon Trading”
- Prof. Dr. Mikdat Kadioğlu, Istanbul Technical University Faculty Member  
“From Air to Water – Mistakes Considered as True”
- Prof. Dr. Zekâi Şen, Medipol University Faculty Member  
“Shallow Thinking and Deep Learning”
- Assoc. Prof. Dr. Sohbet Karbuz, Expert on Energy Security, Geopolitics and Energy Models  
“Energy Crisis in Europe”
- Caner Can, Energy Advisor  
“New Energy Architecture of EU”
- Fatih Kölmek, Senior Executive, Ukrainian Energy Security Project  
“Change in Energy Sector and Career Development”
- Şerif Sarıkaya, GAZBİR-GAZMER Project and International Relations Director  
“Natural Gas and Hydrogen”
- Avni Çebi, EXIST Strategy Development Director  
“Compassionate Cities”

#### ■ Enerjist Magazine

The content, design and publication works of Enerjist, the internal communication magazine, its design was renewed and prepared with special interviews and video shootings.

- Issue 10 – Turning Point in Natural Gas Trading: Natural Gas Futures Market
- Issue 11 – Social Life at EXIST: Learning, Having Fun, Discovering, Sharing
- Issue 12 – Special Coverage, Mr. Birol Karatay
- Issue 13 – Environmental Sustainability Vision



#### ■ Corporate Identity

Within the scope of efforts to popularize the corporate identity, existing digital applications were revised in accordance with the corporate identity, and printed materials that were out of stock were produced in accordance with the new corporate identity and placed in stock and made available to the entire company. A detailed product list of the activities carried out is provided below:

Existflow applications, business cards, e-mail signature, kariyer.epias.com.tr logo application revision, personnel ID card, congratulations, thank you, condolence cards, presentation template, corporate envelopes, corporate cardboard file, corporate promotion presentation, letterhead, social media templates, invitation, roll up, pen, notepad, flags, agenda, notepad, calendar.

#### ■ Other Communication Activities

Other in-house communication activities performed in 2022 are as follows:

- Preparation and design of in-house mailing contents shared on behalf of senior management
- EPIK Pro Mentorship Project
- EXIST 7<sup>th</sup> Anniversary

### 3.5.3.12. Hosted Organizations

The organizations hosted by EXIST in 2022 are as follows:

- EUROPEX General Assembly Meeting
- EXIST 8<sup>th</sup> Transparency Workshop
- EXIST 7<sup>th</sup> Ordinary General Assembly Meeting
- Corporate Governance Society, Governance Meeting

### 3.5.3.13. Corporate Promotional Materials

For the purpose of corporate representation, promotional materials were selected for high-level guests and delegation members, national and international stakeholders, etc., submitted to senior management for approval, follow-up of purchasing procedures, distribution, etc.

In this context, the selection and follow-up of production and procurement processes and distribution processes of gifts such as a special set consisting of a corporate agenda, calendar and a message from the CEO, tile plaques consisting of patterns symbolizing our country, a corporate fragrance set produced with the EXIST Safran brand registered as a trademark of our organization, a notebook with Göbeklitepe concept and similar gifts were completed.

### 3.5.3.14. Market Trainings

In response to the demands of our market participants, the number of trainings provided in 2022 was increased and a total of 12 trainings were provided in 10 different types. As in the previous year, the trainings were organized free of charge through “online platforms”. In addition, there are 20 animated training movies with detailed content on all markets on the EXIST official Youtube channel.



A total of 1,955 people attended the trainings given in 2022 and the trainings were broadcasted live on EXIST's official Youtube channel. Up-to-date training calendar and detailed information content were continuously posted on the EXIST website, and social media announcements were regularly made before the training days.

The trainings held in 2022 and the number of participants are as follows:

TRAINING	PERIOD	NUMBER OF ATTENDANTS
YEK-G System and Organized YEK-G Market	March	110
Power Futures Market	March	80
Power Markets	May	280
Natural Gas Market	May	100
Natural Gas Futures Market	May	90
Natural Gas Market	July	180
Power Markets	July	310
Power Futures Market	September	85
YEK-G System and Organized YEK-G Market	September	100
Power Markets	December	350
YEK-G System and Organized YEK-G Market	December	95
Natural Gas Futures Market	December	175

### 3.5.3.15. Transparency Workshop

8<sup>th</sup> Transparency Workshop, organized annually by EXIST was held on 22 December 2022. As in 2021, a total of 187 people participated in the online event, including EMRA officials, officials from other relevant public institutions and organizations, private sector representatives and officials from consulting companies.

The program was streamed live on EXIST's corporate Youtube channel to ensure that interested parties other than Workshop participants could easily follow the program, and sessions on Evaluation of Existing Transparency Data, Newly Opened Markets and Newly Developed Products, and IDM 2.0 – EMMS Projects Information Presentations were held.

The suggestions and requests submitted by market participants at the Workshop were taken into consideration and the Transparency 2.0 Project, which will be shaped in the light of these requests and suggestions, will be launched in 2023.



### 3.5.4. Investment and Important Purchases

The investments made by EXIST in the fiscal year 2022 are shown in the table below in comparison with the previous fiscal year.

INVESTMENT (TRY)	2021	2022
<b>Building Investments</b>	<b>640.065</b>	-
<i>Building Investments</i>	640.065	-
<b>Fixtures Investments</b>	<b>10.790.306</b>	<b>39.196.536</b>
<i>IT Investments</i>	10.161.829	37.355.633
<i>Other Investments</i>	628.478	1.840.903
<b>Software Investments</b>	<b>8.357.108</b>	<b>2.445.638</b>
<i>IT Investments</i>	178.780	2.445.638
<i>Accounting Investments and Software Licences</i>	159.506	-
<i>Other Investments</i>	8.018.822	-
<b>Licence Investments</b>	<b>417.449</b>	<b>1.275.865</b>
<i>IT Investments</i>	337.329	1.255.948
<i>Licences</i>	80.120	19.917
<b>R&amp;D Investments</b>	<b>21.071.331</b>	<b>42.895.908</b>
<i>Completed</i>	21.071.331	42.895.908
<b>Leasehold Investments</b>	<b>9.038</b>	-
<i>Leasehold Investments</i>	9.038	-
<b>Investments in Progress</b>	<b>5.885.102</b>	<b>16.390</b>
<i>R&amp;D Investments</i>	5.735.814	-
<i>Other Investments</i>	149.288	16.390
<b>TOTAL</b>	<b>47.170.398</b>	<b>85.830.338</b>



## 3.6. International Activities

### 3.6.1. International Cooperations and Visits



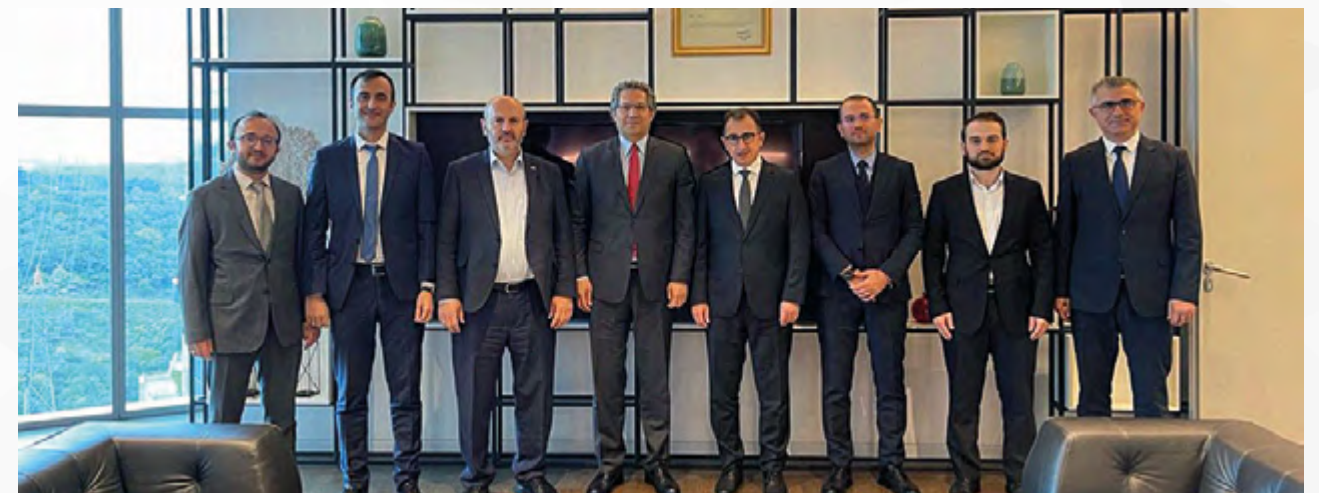
- The presentation of “SEE Energy Outlook 2022” published by the Institute of South East Energy (IENE) was hosted by our Company on May 24, 2022. In addition, EXIST contributed to the “Country Profiles” and Gas sections of the “SEE Energy Outlook 2022” study.



- EXIST hosted consular representatives and commercial attaché representatives from 13 different countries on 29 June 2022. EXIST CEO and officials met with diplomatic representatives of Germany, Argentina, Austria, Czech Republic, Brazil, France, Guatemala, Spain, Sweden, Sweden, Japan, the Netherlands, Hungary and Greece and informed their guests about the developments in the Turkish energy market, energy trade and activities of EXIST.



- Konstantin Konstantiov, President of the Bulgarian Energy Exchange (IBEX) and Angelin Tsachev, CEO of the Bulgarian Electricity Transmission System Operator (ESO), visited our Company together with the accompanying delegations on March 22, 2022. During the meeting, the markets operated by EXIST and the software developed by EXIST were discussed and ideas were exchanged regarding the electricity trade potential between the two countries.



- The Mediterranean Energy Regulators Association (MEDREG) visited our Company on April 21, 2022. During the meeting, Hasan Özkoç, MEDREG Director, Bardhi Hoxha, Deputy Director and Head of Corporate Affairs and Management Unit were informed about the Turkish energy market and operations of EXIST.





- Executives from Malaysia's public electricity company TNB Group (Tenaga Nasional Berhad) visited our Company on August 19, 2022 and were informed about the markets operated by EXIST and the services offered. Presentations were made to the visitors about the liberalization process of energy markets in Türkiye, milestones in the increase of sustainable energy capacity of Türkiye and eligible consumer services of EXIST and mutual views were exchanged.



- On 13 December 2022, RCE (Romanian Commodities Exchange) officials visited EXIST. Mutual presentations were made about the Natural Gas Markets of the two countries and views were exchanged. It was agreed to sign a memorandum of understanding (MoU) between the two companies.



- Nigerian Bulk Electricity Trading Plc. (NBET) visited our Company on August 23, 2022 and received information about operations of EXIST. In the event, attended by Mr. Zainab Shamsuna Ahmed, Nigeria's Minister of Finance and also the Chairman of the Board of Directors of NBET, a cooperation agreement was signed between NBET and EXIST.
- On 1 July 2022, a presentation was made at South Eastern European Gas (SEEGAS) on the Turkish Natural Gas Markets and the collateral and settlement structure related to the markets.





- Hikmat Hasanov, Head of Strategic Planning and Innovation Department of Azerbaijan Energy Markets Regulatory Authority AERA, and the accompanying delegation visited our Company to receive training on the Turkish energy sector and markets.

### 3.6.2. EUROPEX Working Group

Association of European Energy Exchanges (EUROPEX) is an association of European energy exchanges and aims to promote wholesale power, Natural Gas and environmental markets with a market-based approach and to protect the interests of the relevant markets for their development, to focus on the development of legislation in Europe regarding wholesale energy trading and to create a negotiation platform at European level. EUROPEX carries out these activities through four working groups, namely “Electricity Markets”, “Gas Markets”, “Environmental Markets” and “Financial Markets and Transparency”. Our Company participates in each working group and closely follows the developments in the relevant markets.

2022 EUROPEX General Assembly Meeting was hosted by EXIST in Antalya on June 9-10, with the participation of the Board of Directors and General Assembly Members. Mr. Fatih Dönmez, Minister of Energy and Natural Resources, Mr. Alparslan Bayraktar, Deputy Minister of Energy and Natural Resources, Mr. Pieter Schuurs, Chairman of the Board of EUROPEX, Mr. Christian Baer, EUROPEX Secretary General, EUROPEX Board of Directors and General Assembly Members and former executives attended the 20<sup>th</sup> anniversary dinner of EUROPEX organized within the scope of the Organization.

## 3.7. Legislation Activities

As regards the organized wholesale power and natural gas markets and the organized YEK-G market operated by EXIST, preparatory works have been carried and new regulations are drafted as to be sent to EMRA in line with the needs and expectations of the markets were carried out. We also presented our assessments and opinions to EMRA regarding public consultations on the drafts proposed by EMRA. In addition, amendment and update activities were carried out in accordance with the needs arising in relation to the Procedures put into effect by our Company pursuant to the provisions of the relevant legislation.

In this context, the legislative arrangements contributed and/or enacted in 2022 regarding the energy markets operated and/or financial settlement transactions and other financial transactions carried out by EXIST are shown in the table below.

### LEGISLATION ON OPERATED MARKETS

TYPE OF LEGISLATION	REGULATED BY	NAME OF THE REGULATION	PUBLISHED/ DECIDED ON
Regulation	EMRA	Electricity Market Balancing and Settlement Regulation	24.02.2022 15.06.2022 1.07.2022 19.11.2022
Regulation	EMRA	Regulation on the Certification and Support of Renewable Energy Resources	10.02.2022 1.03.2022 19.11.2022
Procedures and Principles	EMRA	Collateral Procedures and Principles	17.06.2022
Procedures and Principles	EMRA	Procedures and Principles for Ensuring Transparency in Organized Wholesale Electricity Markets	8.01.2022
Procedures and Principles	EMRA	Procedures and Principles Regarding the Structure of the Day-Ahead Market Orders and Evaluation of Orders	8.04.2022
Procedures and Principles	EMRA	Procedures and Principles Regarding the Determination and Implementation of Resource-Based Support Fee	18.03.2022 30.03.2022 30.09.2022
Procedures and Principles	EMRA	Procedures and Principles Regarding Payments Not Made Within the Scope of Unlicensed Generation	15.06.2022
Method	EXIST	Collateral Calculation Procedure	10.01.2022 17.06.2022 1.07.2022 15.08.2022 19.08.2022 23.09.2022 28.11.2022
Method	EXIST	Procedure for Unrequited Market Transactions	25.05.2022

In addition, our Company cooperated with an expert company for the translation of power and natural gas market legislation into English, and this work continued in 2022, ensuring the up-to-dateness of the legislation translated into English. The translations of the legislation in English are posted on the EXIST official website and shared with the public, allowing them to be used in the decision-making process of international investors investing or wishing to invest in the energy sector of our country.

The internal legislation put into effect/amended in 2022 regarding the internal functioning of the Company are shown in the table below.

INTERNAL LEGISLATION

TYPE OF LEGISLATION	NAME OF THE REGULATION	EFFECTIVE / AMENDMENT DATE
Directive	EXIST Performance Management Directive	21.01.2022
Directive	EXIST Travel Management Directive	21.01.2022
Directive	EXIST Organization Directive	4.03.2022
Directive	EXIST Company Vehicles Directive	8.04.2022
Directive	Internal Directive No.6 on Representation and Binding	19.08.2022
Directive	Directive on Foundation, Function and Working Principles of Information Technologies Strategy and Steering Committees	21.10.2022
Circular	EXIST Remote Working Circular	12.04.2022
Circular	EXIST Hobby Clubs Circular	30.05.2022
Circular	EXIST Performance Management Circular	9.08.2022

3.8. Legal Activities

Legal Counseling Department is in charge of providing legal counseling services to the Board of Directors, CEO and EXIST internal units, representing EXIST before all kinds of judicial and administrative authorities and answering all kinds of correspondence written to EXIST by judicial authorities.

Together with the lawsuits taken over from TEİAŞ in accordance with the legislation, the number of pending lawsuits followed up as attorney of EXIST representative in 2022 is 143. There were 65 enforcement proceedings filed for the legal follow-up of amounts payable EXIST. There are currently no lawsuits or execution proceedings against EXIST that may materially affect financial status and activities of EXIST.

Additionally, in 2022, the Legal Advisory Department reviewed 191 contracts to which EXIST was a party and prepared 76 legal opinions on various issues for EXIST internal units. Thus, the Legal Advisory Department contributed to the safe and rapid implementation of the projects by reviewing and evaluating the consultancy and service contracts at the beginning of all projects from a legal perspective.

In addition, nearly 280 legal applications made by judicial and administrative authorities and individuals were evaluated and their requirements were fulfilled.

The secretariat of EXIST Board of Directors meetings was carried out by the Legal Counseling Department in 2022.

Preparation and execution of the 7th EXIST Ordinary General Assembly Meeting dated March 4, 2022 was carried out by the Legal Consultancy Department.

The resolutions taken at the General Assembly and the Board of Directors were published and announced in the Trade Registry Gazette and notary procedures were followed.

The Legal Advisory Department contributed to the preparation and drafting of energy markets legislation by personally attending both internal meetings and EMRA meetings, and by providing opinions, comments and legislative suggestions.

There were no administrative or judicial sanctions in 2022 against EXIST and the members of the Board of Directors due to practices contrary to the provisions of the legislation.



# 4

## R&D and BUSINESS DEVELOPMENT OPERATIONS

## 4.1. Market-Oriented Product and Service Development Activities

### 4.1.1. Energy Markets Management System (EMMS)

EMMS (Energy Markets Management System) project is being developed to restructure the existing BPMYS software and data architecture and to renew the related software in line with the changing business processes in order to ensure that our software infrastructure can respond to market needs in a faster, more transparent and reliable manner in line with the rapid development trend of energy markets. The project aims to achieve the following objectives.

- To be ready for the future by renewing its software and data architecture in accordance with new technological developments;
- To become capable of responding to rapidly changing market needs in a faster, more transparent and reliable manner;
- To develop our software programs in accordance with the principles of convenience, depth and innovation; and
- To have an IT infrastructure that can become a pioneer in international energy markets.

In the last quarter of 2021, the first sprint work of the EMMS project was started in parallel in 2 teams (primer and pioneer teams) according to the agile project management methodology. In February 2022, EMMS Project Data Warehouse work started with the 3<sup>rd</sup> team.

EMMS Settlement Module, which was put on trial in the simulation environment in July 2022, was successfully opened to the use of market participants in the live environment together with Business Intelligence and Data Warehouse enhancements on 17.10.2022.

The Primer team has started development work on the Collateral Module since the 19th sprint. In parallel, the same team also continues to work on additional development activities related to settlement, as requested by EMRA. By the end of the first quarter of 2023, the EMMS Collateral Module is scheduled to be opened to the tests of market participants in a simulation environment. In addition, in the second quarter of 2023, EMMS Registration and Eligible Consumer Modules are planned to be opened to the tests of market participants in the simulation environment.

So far, three teams all are executing the project according to their planned milestones. In the early third quarter of 2023, the transition of EMMS to a live system with all modules will be completed.

#### ■ Switching to Live EMMS Settlement Completed

EMMS settlement went live and the Oracle Exadata-based BPMYS settlement procedure, which had been in active use since 2009, was replaced with a multi-node, horizontally scalable and JAVA-based structure running in Kubernetes environment.

In this way, the settlement procedure, which is very important for our energy markets, has been freed from database dependency, and thanks to horizontal scalability, it has become able to serve the number of eligible consumers that may increase in the future.

### 4.1.2. GENERAL IDM Project

GENERAL IDM is the repository where the information of non-market participant users is kept and where the business transactions related to these users are carried out. It is planned as an advanced user management application where transactions can be performed. It has been developed as a version of the EKYS application that we use in existing systems for non-market participant users. In the first phase, it will be used for the management of users in Transparency 2.0 and TTY (Demand Side Backup) applications. Its development has been completed and it is scheduled to go live in 2023.

### 4.1.3. Carbon Markets

The business development studies of the primary and secondary markets within the scope of the National Emissions Trading System, which is planned to be implemented in Türkiye, have been completed. Within the scope of the primary carbon market, it is aimed to auction emission permits (emission allowances) with a single seller model and trade them for the participants within the scope of the National Emissions Trading System.

In the secondary carbon market, it is aimed to trade emission allowances within the scope of the continuous trading mechanism between participants and buyers-sellers included in the National Emissions Trading System.

The carbon market models put forward within the scope of business development studies include the following headings:

- Registration Process
- Primary Market Structure
- Secondary Market Structure
- Financial Considerations
- Integration Process

If our Company, which continuously supports the work carried out by the Ministry of Environment, Urbanization and Climate Change, is assigned to operate carbon markets, the process will be carried out based on business development studies.

### 4.1.4. Market-Making

Market-Making Mechanism studies were initiated and the draft document containing the Market Making System rules was sent to EMRA in February 2022. In March 2022, meetings were held with EMRA and BOTAŞ on the draft document. In addition, a presentation on the Market Making Mechanism was made to all sector stakeholders at the 9th System Workshop held in April.

### 4.1.5. Sale Obligation in the Scope of Spot Import

Works are carried out in coordination with EMRA pursuant to the regulations regarding the obligation to sell in the scope of Spot Imports. Works are underway to put into effect as soon as possible the regulations, which are expected to contribute significantly to Türkiye's goal of becoming a Regional Business Hub by increasing liquidity in the market and developing the market.



### 4.1.6. Efforts for Making Türkiye a Regional Gas Hub

To make Türkiye a Regional Gas Hub, advanced Natural Gas hub structures have been examined. In addition, the existing Natural Gas market structures in Eastern European countries were also investigated. In addition, various scenarios were created for Türkiye to become a gas trading hub and SWOT analyses were conducted based on these scenarios. The studies were shared with relevant public stakeholders.

### 4.1.7. Operations for Development of Power Market

#### 4.1.7.1. IDM 2.0 Project

With the increased number of participants in the Intraday Market and the shortening of the trading time close to real time, the depth is increasing day by day.

The project to renew the Intraday Market software was launched in May 2022 and the new software is planned to be launched in the simulation environment in March 2023 and to go live in May 2023. Like EXIST's other software programs, the new software was developed using local and national resources.

The new software is compatible with the multi-region structure and 15-30 minute contract infrastructure. Reports can be easily tracked and limit operations can be managed through the software. Bulk offer entry with Excel and the ability to export data are other prominent features of the software. Offer matching numbers and rates can be tracked. "Iceberg" and "Cascade" offer options, which have been added as new offer options, will allow participants to present their offers in a more flexible way. Finally, important data, graphs and announcements for participants can be displayed on the dashboard and announcement screens.

Launched in the first quarter of 2022, IDM 2.0 Project was planned as 18 sprints and all planned project milestones have been successfully completed so far. The project will be opened to the tests of market participants in a simulation environment at the end of the first quarter of 2023. Following the successful completion of the project, IDM 2.0 is planned to be offered to market participants in a live environment in the second quarter of 2023.

#### 4.1.7.2. YEK-G Phase-2 Operations

The Renewable Energy Guarantees of Origin (YEK-G) System and Market started to operate as of June 1, 2022. Blockchain technology was used in the YEK-G System, which was developed entirely with local and national resources, aiming to increase the transparency, security and traceability of the System.

YEK-G System, which certifies every 1 MWh of energy produced using sustainable energy resources, has two main practical uses for consumers:

- Supporting environmental policies by voluntarily certifying that the energy they consume is produced from Sustainable energy resources;
- Neutralize carbon emissions from energy consumption and submit relevant data to international carbon reporting programs;

In recent years, it has been observed that companies have sought YEK-G and similar certification systems for voluntary carbon emission reduction targets. Especially companies exporting to Europe feel the need to declare that the electricity they consume in their production processes is met from sustainable energy and that they have neutralized their carbon emissions due to their electricity consumption. This is due to the voluntary carbon-neutrality commitments made by the foreign companies to which they export their products.

Various works have been carried out to increase the recognition of the YEK-G System within the European Union and develop additional modules for the system. Accordingly, opinion documents on gap analysis, country document and disclosure mechanism have been prepared for the YEK-G System. In addition, studies on the design of the national residual energy balance related to the System are ongoing.

Legislation on the YEK-G System is translated into English and posted on the EXIST corporate website. The relevant legislations are shared with end consumers who want to use YEK-G documents in international reporting programs to be forwarded to reporting programs.

The Carbon Disclosure Project (CDP), the platform where companies in Türkiye voluntarily disclose and report their carbon emission reductions, also included YEK-G documents in its reporting, thus certifying the international validity of the YEK-G System.

## 4.2 Internal Business Development Activities

### 4.2.1. Product/Service and Supplier Evaluation System

In the present competitive environment, effective supplier selection plays an important role in achieving success for businesses. Working with the right supplier significantly affects the competitiveness of businesses. With supplier selection, it is aimed at determining the suppliers that can continuously supply the demands of an enterprise at affordable prices, in the desired quantities and in good quality.

Many qualitative and quantitative criteria and decision-makers are involved in the selection process. Different approaches to supplier selection, which is defined as a multi-criteria decision-making problem in the literature, were examined and the most suitable system was established for EXIST and went live on 07.10.2022.

With the Product/Service and Supplier Evaluation System, the requester will be asked questions related to “Quality and Performance Control” and “Functional Requirements Control”, while the purchaser will be asked questions related to “Contract Administrative Control” and “Product/Service Price and Solution Approach”. As a result, successful suppliers will be worked with according to the resulting score and new purchases will be shaped in line with these scores. In this way, our Company’s sources will be used more effectively, efficiently and internal customer satisfaction will be increased.

In the Phase-2 as the second step of the project, improvement areas will be identified and improvements will be made.

The benefits of the Product/Service and Supplier Evaluation System can be summarized as follows:

- Creation of corporate memory
- Support of the proactive management approach
- Compliance with the standards
- Risk management
- Local and foreign customer satisfaction
- Efficient control
- Optimum use of resources

### 4.2.2. EXIST Help Desk (EHD) and Business Intelligence Report

EXIST Help Desk (EHD), which was established to increase customer satisfaction and regular communication channels, and the user-friendly EHD Business Intelligence (BI) Report Project where EHD processes can be monitored and reported instantly to measure the satisfaction and improve the quality of our service went live.

All managers have been trained on the use of the EHD Business Intelligence (BI) Report, and efforts will continue to make the reporting system more effective by taking actions according to the suggestions and improvement requests received.

### 4.2.3. EXIST Call Centre

The project was initiated to record the requests, suggestions and complaints of stakeholders who call EXIST by phone and to monitor all external stakeholder communication from a single platform by integrating the telephone switchboard with the currently used EXIST Help Desk (EHD) application. The architectural structure was designed, infrastructure components were established, integrations and reporting studies were completed.

EHD Telephone Integration Project was completed, aiming to record and report information, transactions, suggestions-improvements and problem notifications of customers who call our Company by phone.

The technological infrastructure of the EXIST Call Center was renewed in order to increase customer satisfaction by improving the quality of the service provided by telephone.



# 5

## INTERNAL AUDIT and MARKET SURVEILLANCE OPERATIONS

## 5.1. Internal Audit Activity

Internal audit activities have been performed with reference to international internal audit standards and good practices, in order to provide an independent and objective assurance service to stakeholders. In this context, the effectiveness of risk management, control and governance processes in audit engagements have been evaluated and improved.

The areas that can be audited are identified with a risk-based audit approach; priority processes have been included in the audit plan and audit activities were carried out within this scope. Besides, an action follow-up activity was carried out regarding the findings obtained in the previous audit studies.

The findings included in the audit reports and the suggestions regarding the findings were shared with the relevant business units, contributing to the development of the Company's processes and activities. Necessary studies were carried out regarding the selection of independent audit firms, and the results of the study were presented to the Audit and Compliance Committee (ACC). Supervision and coordination of independent audit activities was carried out, suitable conditions were created for an effective and efficient audit, and the relevant report was received on time.

Reports were prepared for internal audit activities and related issues have been submitted to ACC. The findings included in the prepared reports and the suggestions regarding the findings were shared with the relevant business units, contributing to the development of the Company's processes and activities.

## 5.2. Market Surveillance Operations

Market surveillance activities are carried out in order to ensure reliable, transparent, efficient and competitive transactions in the markets operated by EXIST and report unusual transactions, prices and similar market movements. During the operation period, continuous and instant reporting activities submitted to the Energy Markets Monitoring Group Presidency established within EMRA.

"Monthly Market Surveillance Report", "World Energy Markets Report", "Daily Market Surveillance Bulletin and "Day-Ahead Report" issued by the Market Surveillance Directorate before the announcement of MCP on every business day were regularly published, additional analyses were added and improvements were made and shared with the relevant units of EMRA and relevant persons.

"Monthly Market Surveillance Report", which is prepared after the Power and Natural Gas Market settlement data are announced, consists of national and international general energy market data, power and Natural Gas markets and collateral data. By the end of 2022, a total of 74 issues were published.

"World Energy Markets Report", which is published every two months to follow the developments in the world energy markets and their interaction with the Turkish energy markets, covers power markets, Natural Gas markets, coal and oil markets and environmental markets. By the end of 2022, a total of 17 issues had been published. Works have been started to automate all data and issue the World Energy Markets Report (DEP) 2.0.

Pursuant to Article 15/9 of the Organized Wholesale Natural Gas Market Regulation, the "OTSP Quarterly Report" is submitted to EMRA in order to monitor, analyze and report the prices in the Natural Gas Market. The report includes general market data, transaction prices, transaction amounts and volumes, etc. for the relevant quarter. In 2022, 4 reports were shared with EMRA. In addition to periodical reports, instant information and reports are also made in line with the developments in the markets. Suggestions to contribute to market development are also shared.

The Market Surveillance System, which is an important element of market surveillance activities and can be characterized as Phase-1, has been completed and Phase-2 has been started which is developed by using data science methods and artificial intelligence technologies, have continued.

The aim is to increase the level of confidence in the markets with a surveillance system that will be in constant development with changing legislation, added markets and other changing market dynamics.



# 6 FINANCIAL STATUS



## 6.1. Balance Sheet (Prepared as per Turkish Tax Procedural Law)

Balance sheets of EXIST as of 31.12.2021 and 31.12.2022 including market transactions are comparatively shown below.

### COMPARATIVE BALANCE SHEET OF EXIST (TRY)

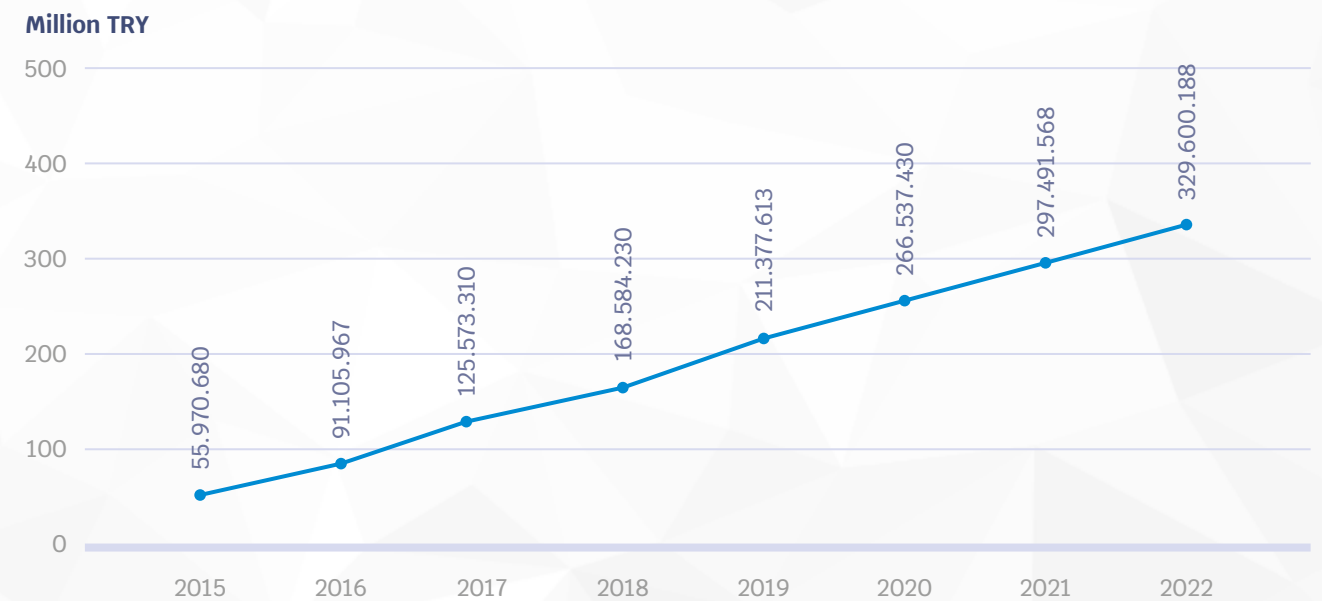
ASSETS	2021	2022	LIABILITIES and EQUITY	2021	2022
<b>I. CURRENT ASSETS</b>	<b>17.624.306.872</b>	<b>61.745.765.962</b>	<b>III. SHORT TERM LIABILITIES</b>	<b>17.562.719.002</b>	<b>61.701.946.765</b>
<b>A. LIQUID ASSETS</b>	<b>110.506.085</b>	<b>109.887.933</b>	<b>A. FINANCIAL LIABILITIES</b>	-	-
1. Banks	110.506.085	109.887.933	1. Bank Loans	-	-
<b>B. SECURITIES</b>	-	-	<b>B. TRADE PAYABLES</b>	<b>850.027.537</b>	<b>12.901.591.285</b>
<b>C. TRADE RECEIVABLES</b>	<b>829.057.284</b>	<b>12.871.463.022</b>	1. Trade Payables	834.617.037	12.886.130.285
1. Trade Receivables	829.057.284	12.871.413.022	2. Notes Payable	15.356.202	15.356.202
2. Deposits and Guarantees Given	-	50.000	3. Deposits and Guarantees Received	18.000	12.000
<b>D. OTHER RECEIVABLES</b>	<b>77.619</b>	<b>3.442.304</b>	4. Other Trade Payables	36.299	92.799
<b>E. INVENTORIES</b>	<b>16.668.497.748</b>	<b>48.736.870.357</b>	<b>C. OTHER PAYABLES</b>	<b>1.240.515</b>	<b>43.601.127</b>
1. Order Advances Given	16.668.497.748	48.736.870.357	<b>D. ADVANCES RECEIVED</b>	<b>16.668.487.000</b>	<b>48.736.864.993</b>
<b>F. COST OF LONG-TERM CONST. and REP.</b>	-	-	<b>E. PROG. PAYM. FOR LT. CONST. and REP.</b>	-	-
<b>G. SHORT TERM PREP. EXP. and INC. ACCR.</b>	<b>16.167.657</b>	<b>24.102.184</b>	<b>F. TAXES PAYABLE and OTHER DEBTS P.</b>	<b>9.611.477</b>	<b>12.204.943</b>
<b>H. OTHER CURRENT ASSETS</b>	<b>479</b>	<b>162</b>	<b>G. PROVISIONS FOR DEBT and EXPENSE</b>	-	-
			1. Provisions for Legal Liab. of Curr. Profit	12.036.403	8.529.479
<b>II. FIXED ASSETS</b>	<b>251.259.900</b>	<b>285.780.991</b>	2. Prepaid Tax and Other Liabilities on the Current Profit (-)	12.036.403	8.529.479
<b>A. TRADE RECEIVABLES</b>	<b>348</b>	<b>348</b>	<b>H. SHORT TERM DEF. INC. and EXP. ACCR.</b>	<b>33.352.472</b>	<b>7.684.416</b>
1. Deposits and Guarantees Given	348	348	<b>I. OTHER SHORT TERM LIABILITIES</b>	-	-
<b>B. OTHER RECEIVABLES</b>	-	-			
<b>C. FINANCIAL ASSETS</b>	-	<b>236.340</b>	<b>IV. LONG TERM LIABILITIES</b>	<b>15.356.202</b>	-
<b>D. TANGIBLE FIXED ASSETS</b>	<b>177.956.900</b>	<b>203.269.247</b>	<b>A. FINANCIAL DEBTS</b>	-	-
1. Buildings	176.350.675	176.343.535	<b>B. TRADE PAYABLES</b>	<b>15.356.202</b>	-
2. Vehicles	-	4.077.534	<b>C. OTHER LIABILITIES</b>	-	-
3. Fixtures	43.828.908	82.050.880	<b>D. ADVANCES RECEIVED</b>	-	-
4. Other Tangible Fixed Assets	-	67.852	<b>E. PROVISIONS FOR DEBTS AND EXPENSES</b>	-	-
5. Accumulated Depreciations (-)	42.350.641	59.270.554	<b>F. LONG TERM DEF. INC. and EXP. ACCR.</b>	-	-
6. Investments in Progress	-	-	<b>G. OTHER LONG TERM LIABILITIES</b>	-	-
7. Advances Given	127.958	-			
<b>E. INTANGIBLE FIXED ASSETS</b>	<b>69.107.331</b>	<b>73.713.407</b>	<b>V. SHAREHOLDERS EQUITY</b>	<b>297.491.568</b>	<b>329.600.188</b>
1. Rights	20.686.307	21.927.172	<b>A. PAID-IN CAPITAL</b>	<b>61.572.770</b>	<b>61.572.770</b>
2. Research and Development Expenses	79.041.637	104.921.768	<b>B. CAPITAL RESERVES</b>	<b>615.397</b>	<b>615.397</b>
3. Special Costs	395.328	395.328	<b>C. PROFIT RESERVES</b>	<b>188.522.611</b>	<b>223.600.640</b>
4. Intangible Fixed Asset Investments in Progress	6.320	16.390	<b>D. RETAINED EARNINGS</b>	<b>625.489</b>	<b>1.227.309</b>
5. Other Intangible Fixed Assets	13.636.985	16.082.623	<b>E. ACCUMULATED LOSS (-)</b>	-	-
6. Accumulated Depreciations (-)	44.674.256	69.629.875	<b>F. CURRENT PROFIT (LOSS)</b>	<b>46.155.301</b>	<b>42.584.071</b>
7. Advances Given	15.010	-	1. Current Net Profit	46.155.301	42.584.071
<b>F. ASSETS SUBJECT TO AMORTIZATION</b>	-	-			
<b>G. LONG TERM PREP. EXP. and INC. ACCR.</b>	<b>4.195.320</b>	<b>8.561.649</b>	<b>TOTAL LIABILITIES and EQUITY</b>	<b>17.875.566.772</b>	<b>62.031.546.953</b>
<b>H. OTHER FIXED ASSETS</b>	-	-			
<b>TOTAL ASSETS</b>	<b>17.875.566.772</b>	<b>62.031.546.953</b>			

In the Power and Natural Gas Markets, EXIST acts as buyers against sellers and sellers against buyers. In this context, the financial statements also include amounts arising from market transactions. The following parts of the amounts in the balance sheet account items arise from market transactions.

- Of the amount in the Liquid Assets, TRY 365.493 belonging to the Power Market Participants represents EXIST accounts at Settlement and Custody Bank (Takasbank).
- Of the amount in the Trade Receivables, TRY 12.824.878.006 represents the Power Market Transaction balance and TRY 46.339.341 represents the natural gas market transaction balance.
- Of the amount in the Inventories, TRY 48.099.982.110 represents the advances given to the Power Market Participants for orders in return for Intraday and Day-Ahead market transactions, while the other part in amount of TRY 636.878.774 constitutes the advances given to the participants as part of the Organized Wholesale Natural Gas Market transactions.
- The Trade Payables consists of the amount of TRY 12.825.228.198 which represents the power market transaction balance and the amount of TRY 46.339.001 which represents the natural gas market transaction balance.
- The Advances Received for Orders consists of TRY 48.099.986.219 indicating advances received for orders from the electricity market participants and TRY 636.878.774 indicating advances received for orders from natural gas market participants.

EXIST was established in 2015 with a capital of TRY 61.572.770 and its total shareholders' equity reached to TRY 329.600.188 by the end of 2022. The following graphic shows its shareholders' equity by years. Considering the current financial status, EXIST has not lost any capital and is not insolvent.

### SHAREHOLDERS' EQUITY OVER YEARS (TRY)





## 6.2. Income Statement (Prepared as per Turkish Tax Procedural Law)

Comparative income statements of EXIST for 2021 and 2022 including market transactions are shown below:

### COMPARATIVE INCOME STATEMENT OF EXIST (TRY)

	2021	2022
<b>A. GROSS SALES</b>	<b>167.126.287.343</b>	<b>799.761.085.874</b>
1. Domestic Sales	167.122.522.584	799.725.350.347
2. Other Income	3.764.760	35.735.527
<b>B. SALES ALLOWANCES (-)</b>	<b>-</b>	<b>95.039.649</b>
1. Sales Returns (-)	-	-
2. Sales Discounts (-)	-	-
3. Other Allowances (-)	-	95.039.649
<b>NET SALES</b>	<b>167.126.287.343</b>	<b>799.666.046.225</b>
<b>C. COST OF SALES (-)</b>	<b>166.973.415.777</b>	<b>799.457.638.718</b>
3. Cost of Services Provided (-)	166.973.415.777	799.457.638.718
4. Cost of Other Sales (-)	-	-
<b>GROSS PROFIT or LOSS</b>	<b>152.871.567</b>	<b>208.407.506</b>
<b>D. OPERATING EXPENSES (-)</b>	<b>111.097.513</b>	<b>189.629.187</b>
<b>OPERATING PROFIT/LOSS</b>	<b>41.774.054</b>	<b>18.778.320</b>
<b>E. ORDINARY INCOME and PROFIT FROM OTHER OPERATIONS</b>	<b>16.248.025</b>	<b>30.049.306</b>
<b>F. ORDINARY EXPENSE and LOSS FROM OTHER OPERATIONS (-)</b>	<b>1.226.773</b>	<b>1.939.832</b>
<b>G. FINANCIAL EXPENSES (-)</b>	<b>20.208</b>	<b>-</b>
<b>ORDINARY PROFIT or LOSS</b>	<b>56.775.097</b>	<b>46.887.794</b>
<b>H. EXTRAORDINARY INCOME and PROFIT</b>	<b>1.719.999</b>	<b>4.573.200</b>
<b>J. EXTRAORDINARY EXPENSES and LOSS (-)</b>	<b>303.393</b>	<b>347.444</b>
<b>CURRENT PROFIT or LOSS</b>	<b>58.191.703</b>	<b>51.113.551</b>
<b>K. PROV. FOR TAXES and OTHER LEGAL LIAB. FOR CURR. NET PROFIT (-)</b>	<b>12.036.403</b>	<b>8.529.479</b>
<b>NET CURRENT PROFIT/LOSS</b>	<b>46.155.301</b>	<b>42.584.071</b>

As seen in the income statement above, EXIST had pretax profit of TRY 51.113.551 in the period of 01.01.2022 – 31.12.2022 and after deduction of the provisions for taxes and other legal liabilities for the current net profit in amount of TRY 8.529.479, net profit equals to TRY 42.584.071.

## 6.3. Financial Status (Prepared as per Turkish Tax Procedural Law)

EXIST acts as purchaser against sellers and as sellers against purchasers, which make transactions in the Power and Natural Gas Markets. In this context, the financial statements also include amounts arising from market transactions. These transactions are equally recognized in the assets and liabilities sections of the balance sheet and debit and credit sections of the income statement. In order to reflect the actual financial status of EXIST, comparative summarized financial statements prepared by eliminating the amounts related to market transactions for 2021-2022 are given below.

### EXIST SUMMARIZED BALANCE-SHEET EXCLUDING MARKET TRANSACTIONS (TRY)

	2021	2022
CURRENT ASSETS	126.503.581	137.322.238
FIXED ASSETS	251.259.900	285.780.000
<b>TOTAL ASSETS</b>	<b>377.763.480</b>	<b>423.102.238</b>
SHORT TERM LIABILITIES	64.915.710	93.502.050
LONG TERM LIABILITIES	15.356.202	-
SHAREHOLDERS' EQUITY	297.491.568	329.600.188
<b>TOTAL LIABILITIES and EQUITY</b>	<b>377.763.480</b>	<b>423.102.238</b>

### EXIST SUMMARIZED INCOME STATEMENT EXCLUDING MARKET TRANSACTIONS (TRY)

	2021	2022
NET SALES	185.729.410	307.910.495
GROSS PROFIT or LOSS	152.871.567	208.407.506
OPERATING PROFIT	41.774.054	18.778.320
ORDINARY PROFIT or LOSS	56.775.097	46.887.794
CURRENT PROFIT or LOSS	58.191.703	51.113.551
LIAB. FOR TAXES and OTHER LEGAL LIAB. FOR CURRENT NET PROFIT	12.036.403	8.529.479
<b>NET CURRENT PROFIT</b>	<b>46.155.301</b>	<b>42.584.071</b>

6.4. Financial Analysis (Prepared as per Turkish Tax Procedural Law)

Comparative financial ratios of EXIST for 2021-2022 as calculated on basis of the financial statements prepared by eliminating the amounts related to market transactions are shown in the tables below.

6.4.1. Financial Structure Ratios

FINANCIAL STRUCTURE RATIOS	2021	2022
Leverage Ratio (Short and Long Term Liabilities/Total Assets)	0,21	0,22
Shareholders' Equity/Total Assets Ratio	0,79	0,78
Shareholders' Equity/Total Liabilities Ratio	3,71	3,53

**Leverage Ratio (Short and Long-Term Liabilities / Total Assets):** This ratio indicates how much of the assets are funded by liabilities. This ratio is considered reasonable if it is below 0,5. Therefore, it is seen that EXIST funded its assets through a well-balanced combination of short- and long-term liabilities and this ratio was at a good level.

**Shareholders' Equity / Total Assets Ratio:** This ratio indicates what percentage of the operating assets is provided by the shareholders of the company and it is favourable for this ratio to be higher. Evidently, EXIST has a strong capital and primarily uses shareholders' equity when financing assets.

**Shareholders' Equity / Total Liabilities Ratio:** This ratio signifies financial independence and it is desirable for this value to be higher than 1. EXIST funds its operations predominantly by shareholders' equity.

6.4.2. Profitability Ratios

PROFITABILITY RATIOS	2021	2022
Net Profit / Shareholders' Equity Ratio (Return on Equity)	0,16	0,13
Net Profit / Total Assets Ratio (Return on Assets)	0,12	0,10
Operating Profit / Net Sales Revenue Ratio	0,22	0,06

**Net Profit / Shareholders' Equity Ratio:** Indicating the relationship between the Company's shareholders' equity and net profit, this ratio signifies that EXIST's return on equity seems high and follows a steady course.

**Net Profit / Total Assets Ratio:** This indicates to which extent the company's assets are effective in the formation of profit. The higher the coefficient found by this estimation, the more successful the company's assets are in making profit.

**Operating Profit / Net Sales Revenue Ratio:** This ratio indicates the profitability of a company and it is in favour of the company to have this amount as high as possible. (calculated by taking into account the net revenues free from market transactions, but including the market operating fee).

6.4.3. Liquidity Ratios

LIQUIDITY RATIOS	2021	2022
Current Ratio (Current Assets / Short Term Liabilities)	1,95	1,47
Quick Ratio	1,95	1,47
Cash Ratio (Liquid Assets + Securities / Short Term Liabilities)	1,70	1,17

**Current Ratio (Current Assets / Short Term Liabilities):** It is ideal that the current ratio to be higher than 2, taking into consideration price increases and changes in the current assets.

**Quick Ratio:** It is calculated by subtracting inventories from the current assets and dividing the result by short term liabilities. It is favourable that this ratio is greater than 1. Due to the nature of the company, it does not have any material inventories, so the current and liquidity ratios are equal or very close to each other.

**Cash Ratio (Liquid Assets + Securities / Short Term Liabilities):** This ratio indicates ability of a company to pay its short term debts under the assumption that the inventories of the company are not sold and its receivables are not collected. The cash ratio measures to which extent the liquid assets held by the company meet its short term liabilities. It is generally accepted that this ratio should be higher than 1.



## 6.5. Financial Status Statement

### EXIST – Financial Status Statement as of December 31, 2022 (Prepared as per Turkish Accounting Standards)

Currency: Unless stated otherwise, the amounts are expressed in Turkish Lira (“TRY”).

ASSETS	December 31, 2022	December 31, 2021
<b>Current Assets</b>		
Cash and Cash Equivalents	110.292.945	110.319.265
Trade Receivables	23.352.575	16.073.426
- Trade Receivables due from Related Parties	3.269.735	2.538.940
- Trade Receivables due from Third Parties	20.082.840	13.534.486
Other Receivables	3.492.306	77.619
- Other Receivables due from Related Parties	-	-
- Other Receivables due from Third Parties	3.492.306	77.619
Prepaid Expenses	6.661.237	3.539.019
Assets Related to the Current Period Tax	-	-
Other Current Assets	-	-
<b>TOTAL CURRENT ASSETS</b>	<b>143.799.063</b>	<b>130.009.329</b>
<b>Fixed Assets</b>		
Financial Investments	236.340	-
Other Receivables	348	15.358
- Other Receivables due from Related Parties	348	348
- Other Receivables due from Third Parties	-	15.010
Investment Properties	52.980.611	54.013.669
Tangible Assets	163.353.430	130.661.602
Right of Use Assets	3.178.608	5.145.170
Intangible Assets	89.077.684	71.134.892
- Other Intangible Assets	89.077.684	71.134.892
Prepaid Expenses	2.094.639	817.705
Deferred Tax Assets	-	-
<b>TOTAL FIXED ASSETS</b>	<b>310.921.660</b>	<b>261.788.396</b>
<b>TOTAL ASSETS</b>	<b>454.720.723</b>	<b>391.797.725</b>

### EXIST – Financial Status Statement as of December 31, 2022 (Prepared as per Turkish Accounting Standards)

Currency: Unless stated otherwise, the amounts are expressed in Turkish Lira (“TRY”).

LIABILITIES and EQUITY	December 31, 2022	December 31, 2021
<b>Short Term Liabilities</b>		
Short Term Debts	-	-
Leasing Payables	1.627.672	2.335.794
Trade Payables	37.066.608	53.453.085
- Trade Payables due to Related Parties	-	-
- Trade Payables due to Third Parties	37.066.608	53.453.085
Payables pursuant to Benefits Provided to Employees	5.350.292	2.585.771
Other Payables	41.901.777	519.251
- Other Payables due to Related Parties	44.976	-
- Other Payables due to Third Parties	41.856.801	519.251
Tax Liability of Net Current Profit	-	1.848.141
Short Term Provisions	12.125.482	5.811.631
- Short Term Provisions for Employee Benefits	12.080.482	5.766.631
- Other Short Term Provisions	45.000	45.000
Other Short Term Liabilities	8.658.800	5.953.127
<b>TOTAL SHORT TERM LIABILITIES</b>	<b>106.730.631</b>	<b>72.506.800</b>
<b>Long Term Liabilities</b>		
Leasing Payables	1.181.457	2.525.671
Trade Payables	-	12.541.988
- Trade Payables due to Related Parties	-	-
- Trade Payables due to Third Parties	-	12.541.988
Long Term Provisions	6.860.221	1.980.832
- Long Term Provisions for Employee Benefits	6.860.221	1.980.832
Deferred Tax Liability	2.505.491	1.023.148
<b>TOTAL LONG TERM LIABILITIES</b>	<b>10.547.169</b>	<b>18.071.639</b>
<b>TOTAL LIABILITIES</b>	<b>117.277.800</b>	<b>90.578.439</b>
<b>SHAREHOLDERS' EQUITY</b>		
<b>Shareholders' Equity Owned by the Parent Company</b>		
Paid-in Capital	61.572.770	61.572.770
Other Accumulated Comprehensive Income (Expenses)	- 2.748.842	-
That Will Not Reclassified in the Profit or Loss		
- Gains (Losses) on Remeasurements of Defined Benefit Plans	- 2.748.842	-
Other Reserves	615.397	615.397
Restricted Reserves Allocated From Profit	16.555.549	14.920.198
Profit (Loss) from Previous Years	211.398.296	174.910.761
Net Current Profit (Loss)	50.049.753	49.200.160
<b>TOTAL SHAREHOLDERS' EQUITY</b>	<b>337.442.923</b>	<b>301.219.286</b>
<b>TOTAL LIABILITIES and EQUITY</b>	<b>454.720.723</b>	<b>391.797.725</b>

## 6.6. Profit/Loss and Other Statement Comprehensive Income

### EXIST – Profit/Loss Statement and Other Comprehensive Income Statement as of December 31,2022 (Prepared as per Turkish Accounting Standard)

Currency: Unless stated otherwise, the amounts are expressed in Turkish Lira (“TRY”)

	December 31, 2022	December 31, 2021
<b>Profit or loss</b>		
Revenues	273.016.372	181.009.150
Cost of Sales	(76.563.802)	(33.144.554)
<b>GROSS PROFIT</b>	<b>196.452.570</b>	<b>147.864.596</b>
General Administrative Expenses (-)	(127.309.218)	(67.436.179)
Research and Development Expenses (-)	(37.991.563)	(33.653.428)
Other Income from Primary Activities	39.723.656	21.055.065
Other Expenses from Primary Activities (-)	(13.374.343)	(7.219.852)
<b>OPERATING PROFIT/LOSS / (LOSS)</b>	<b>57.501.102</b>	<b>60.610.202</b>
Income from Investment Activities	4.011.843	2.673.579
Expense from Investment Activities	(429)	-
<b>OPERATING PROFIT (LOSS) BEFORE FINANCIAL EXPENSE</b>	<b>61.512.516</b>	<b>63.283.781</b>
Financial Expenses	(763.730)	(1.617.531)
Financial Income	-	-
<b>PRE-TAX PROFIT (LOSS) FROM ONGOING OPERATIONS</b>	<b>60.748.786</b>	<b>61.666.250</b>
<b>Tax Expenses for Ongoing Operations</b>	<b>(10.699.033)</b>	<b>(12.466.090)</b>
Current Tax Expense	(8.529.479)	(12.036.403)
Deferred Tax Income/(Expense)	(2.169.554)	(429.687)
<b>CURRENT PROFIT (LOSS) FOR ONGOING OPERATIONS</b>	<b>50.049.753</b>	<b>49.200.160</b>
<b>CURRENT PROFIT (LOSS) FOR DISCONTINUED OPERATIONS</b>	<b>-</b>	<b>-</b>
<b>CURRENT PROFIT / (LOSS)</b>	<b>50.049.753</b>	<b>49.200.160</b>
<b>Non-Reclassifiabiles in Profit or Loss</b>	<b>(2.748.842)</b>	<b>-</b>
Remeasurement Gains (Losses) on Defined Benefit Plan	(3.436.053)	-
Non-Reclassifiabiles in Profit or Loss	687.211	-
Taxes on Other Comprehensive Income		
- Deferred Tax (Expense) Income	687.211	-
<b>OTHER COMPREHENSIVE INCOME</b>	<b>(2.748.842)</b>	<b>-</b>
<b>TOTAL COMPREHENSIVE INCOME / (EXPENSE)</b>	<b>47.300.911</b>	<b>49.200.160</b>

Our company keeps and reports accounting records as per the Turkish Commercial Code (TCC) and the General Communique on the Implementation of the Accounting System published by the Ministry of Finance and other tax legislation. Financial Statements were prepared in compliance with the Turkish Accounting Standards and Turkish Financial Reporting Standards. Net current profit is calculated differently in both statements due to the differences between valuation provisions of the Uniform Chart of Accounts (UCA) and Turkish Accounting Standards (TAS), particularly with respect to reserved provisions, depreciation procedures and calculation differences.

EXIST acts as a seller against the buyers and as a buyer against the sellers who are trading on the power and natural gas markets. In this respect, financial statements also include the amounts associated with market transactions. These amounts are equal to each other and netted in the statement of financial position. Such netting was done due to such equality in accordance with the provision of “TAS 32 Financial Instruments and TAS 16 Tangible Assets: Presentation” standard. This netting is the most significant reason for the difference between Tax Procedural Law (TPL) and TAS.

While, in the period of 01.01.2022 – 31.12.2022, the net profit in the Profit / Loss Statement prepared as per the Turkish Accounting Standards (TAS) is TRY 47.300.911, the profit for the year 2022 is TRY 42.584.071 in the Income Statement prepared as per the Turkish Tax Procedural Law (TPL). Differences between the Income Statement prepared in accordance with TPL and the Profit/Loss Statement prepared as per the Turkish accounting Standards (TAS) arises from valuation and calculation differences with respect to:

- Exclusion of market transactions from the financial statements prepared according to TAS,
- Provision expenses for leaves,
- Provision expenses for severance pay,
- Provision expenses for lawsuits,
- Depreciation expenses,
- Adjustment to deferred taxes,
- Rediscounting of notes payables,
- Utilization right of assets,



# 7. RISKS and ASSESSMENT OF THE MANAGEMENT BODY

It is crucial that Energy Exchange Istanbul (EXIST) keeps the trust it has established with its stakeholders at the highest level and ensures the sustainability of its processes 24/7 without interruption.

The Board of Directors aims at determining the risks that may prevent EXIST from realizing its goals in advance, to take appropriate actions and determining the principles to be followed for a more proactive corporate risk management. In this context, the paragraph 3, Article 7 of EXIST Corporate Risk management Policy, which came into action in 2019, reads: *“The Committee evaluates the situation of the Company in terms of risk management, points out the dangers, if any, and develops solutions in its report to the Board of directors every two months...”* and, accordingly, 6 Risk Reports, prepared in the operating period of 2022, were included in the agenda of the Board of Directors.

Risk management activities in our company are carried out by taking into account national and international regulations and best standard practices.

# 8. OTHER CONSIDERATIONS

## 8.1. Benefit to the Top Executives

In 2022, total payments made to the Board Members and C-Level executives (8 C-Level executives in total, including CEO, Directors and Legal Counsel) is TRY 13.754.215,11 (TRY 7.643.124,30 in 2021)

## 8.2. Donations

In the accounting period of 2022, cash donations was TRY 116.000 while donation made in kind was TRY 7.278,78.

## 8.3. Distribution of Dividends

There is no privilege related to the distribution of dividends. Since 2016, dividends have been distributed as per the provisions of the Turkish Commercial Law, tax regulations and the provision that *“(a) Five percent of the net period profit is set aside as a legal reserve until a fifth of the paid-in capital is reached. (b) A first dividend is set aside at the rate of 5% (five percent) of the paid-in capital from the remaining profit. (c) The profit remaining after the said amounts are subtracted is fully or partially distributed or can be reserved as extraordinary reserve.”* in the Article 15 on distribution of dividends in our Company’s Articles of Association.

As suggested by the Resolution No. 2 of the Board Meeting No. 2022/01 dated 21.01.2022, it was resolved by the Ordinary General Assembly meeting for 2021 held on 04.03.2022 under the Resolution No. 5 that a dividend of TRY 11.077.272 to be distributed.

Based on this resolution taken by the General Assembly, it was resolved under Resolution No. 1 of Board Meeting No. 2022/03 dated 04.03.2022 that dividends to be distributed on 25.03.2022. In 2022, the dividend distribution was made as shown in the following table:

TABLE ON DISTRIBUTION OF PROFIT FROM FISCAL PERIOD 2021

SHAREHOLDERS GROUP	PERCENTAGE OF SHARES (%)	AMOUNT OF DIVIDEND (TRY)
A Group	30	3.323.181,60
B Group	30	3.323.181,60
C Group	40	4.430.908,80
TOTAL	100	11.077.272,00

## 9. INDEPENDENT AUDITOR'S REPORT



### CONVENIENCE TRANSLATION INTO ENGLISH OF INDEPENDENT AUDITOR'S REPORT ON THE BOARD OF DIRECTORS' ANNUAL REPORT ORIGINALLY ISSUED IN TURKISH

#### INDEPENDENT AUDITOR'S REPORT ON THE ANNUAL REPORT OF THE BOARD OF DIRECTORS

To the General Assembly of Enerji Piyasaları İşletme Anonim Şirketi

#### Opinion

We have audited the annual report of Enerji Piyasaları İşletme Anonim Şirketi ("the Company") for the period of 1 January 2022 – 31 December 2022.

In our opinion, the financial information provided in the annual report of the Board of Directors and the discussions made by the Board of Directors on the situation of the Company are presented fairly and consistent, in all material respects, with the audited complete set of financial statements and the information we obtained during the audit.

#### Basis for Opinion

We conducted our audit in accordance with Independent Auditing Standards ("InAS") which are part of the Turkish Auditing Standards as issued by the Public Oversight Accounting and Auditing Standards Authority of Turkey ("POA"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Annual Report* section of our report. We are independent of the Company in accordance with the Code of Ethics for Independent Auditors ("Code of Ethics") as issued by the POA, and we have fulfilled our other ethical responsibilities in accordance with the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Our Auditor's Opinion on the Complete Set of Financial Statements

We have expressed an unqualified opinion in our auditor's report dated February 14, 2023 on the complete set of financial statements of the Company for the period of 1 January – 31 December 2022.



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Gürel Yeminli Mali Müşavirlik ve Bağımsız Denetim Hizmetleri A.Ş., "Baker Tilly" isim kullanım hakkına sahiptir.



#### The Responsibility of the Board of Directors on the Annual Report

In accordance with Articles 514 and 516 of the Turkish Commercial Code 6102 ("TCC"), the management of the Company is responsible for the following items:

- Preparation of the annual report within the first three months following the balance sheet date and submission of the annual report to the general assembly.
- Preparation and fair presentation of the annual report; reflecting the operations of the Company for the year, along with its financial position in a correct, complete, straightforward, true and honest manner. In this report, the financial position is assessed according to the financial statements. The development of the Company and the potential risks to be encountered are also noted in the report. The evaluation of the board of directors is also included in this report.
- The annual report also includes the matters below:
  - Subsequent events occurred after the end of the fiscal year which have significance.
  - The research and development activities of the Company.
  - Financial benefits such as salaries and bonuses paid to the board members and to those charged governance, allowances, travel, accommodation and representation expenses, financial aids and aids in kind, insurances and similar deposits.

When preparing the annual report, the board of directors takes into account the secondary legislative arrangements published by the Ministry of Trade and related institutions.

#### Auditor's Responsibility for the Audit of the Annual Report

Our aim is to express an opinion, based on the independent audit we have performed on the annual report in accordance with provisions of the Turkish Commercial Code on whether the financial information provided in this annual report and the discussions of the Board of Directors are presented fairly and consistent with the Company's audited financial statements and to prepare a report including our opinion.

The independent audit we have performed is conducted in accordance with InAS. These standards require compliance with ethical provisions and the independent audit to be planned and performed to obtain reasonable assurance on whether the financial information provided in the annual report and the discussions of the Board of Directors are free from material misstatement and consistent with the financial statements.

The name of the engagement partner who supervised and concluded this audit is Bülent KAYIKÇI.

**GÜRELİ YEMİNLİ MALİ MÜŞAVİRLİK VE BAĞIMSIZ DENETİM HİZMETLERİ A.Ş.**  
An Independent Member of BAKER TILLY INTERNATIONAL



**Bülent KAYIKÇI**  
Responsible Auditor  
İstanbul, 14 February 2023

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Gürel Yeminli Mali Müşavirlik ve Bağımsız Denetim Hizmetleri A.Ş., "Baker Tilly" isim kullanım hakkına sahiptir.





**EXIST**



# EXIST

**Business Title :** Enerji Piyasaları İşletme Anonim Şirketi

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