



# **GPW Group's Financial Results Q2 2019**

1 August 2019

## **Summary of the GPW Group's Activity in Q2 2019**

Financial Results of the GPW Group in Q2 2019

## On track towards more diversification

Growth of net profit

+74% QoQ  
+0.9% YoY  
- net of one-offs

Dividend payment

PLN 3.18 per share  
77.1% dividend  
payout ratio

Growth of revenue  
from commodity  
market

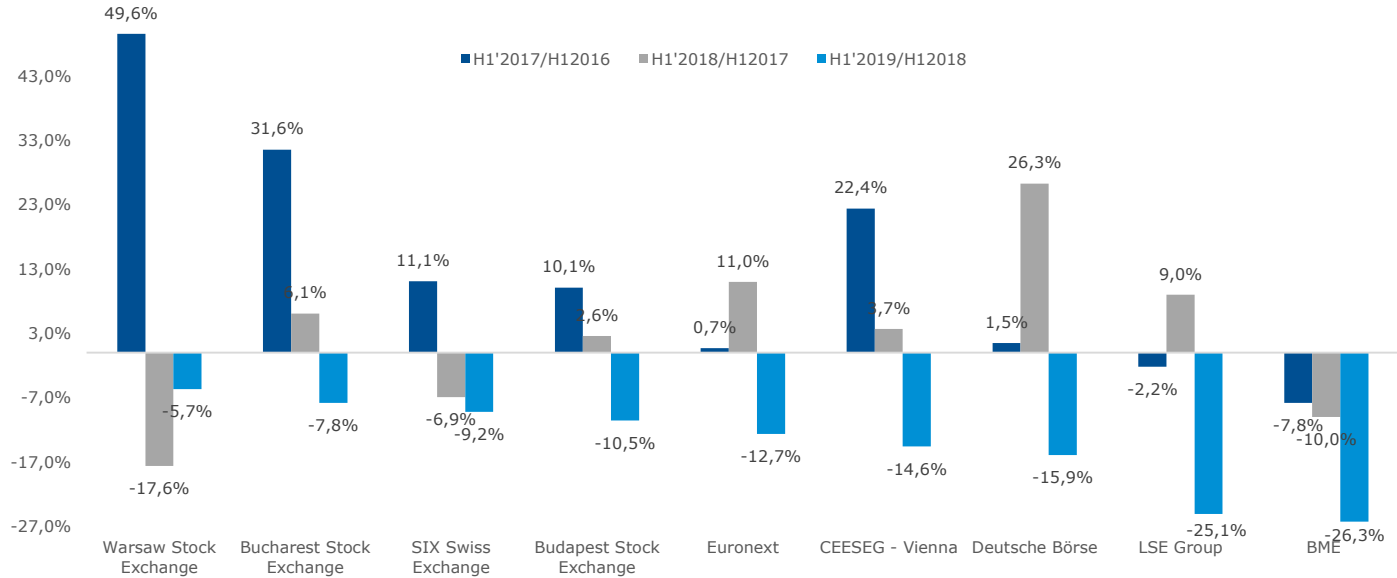
+25.7% QoQ  
+8.9% YoY

Lunch of  
GPW Growth  
Program

Research Coverage  
Support Program  
12 members  
40 issuers

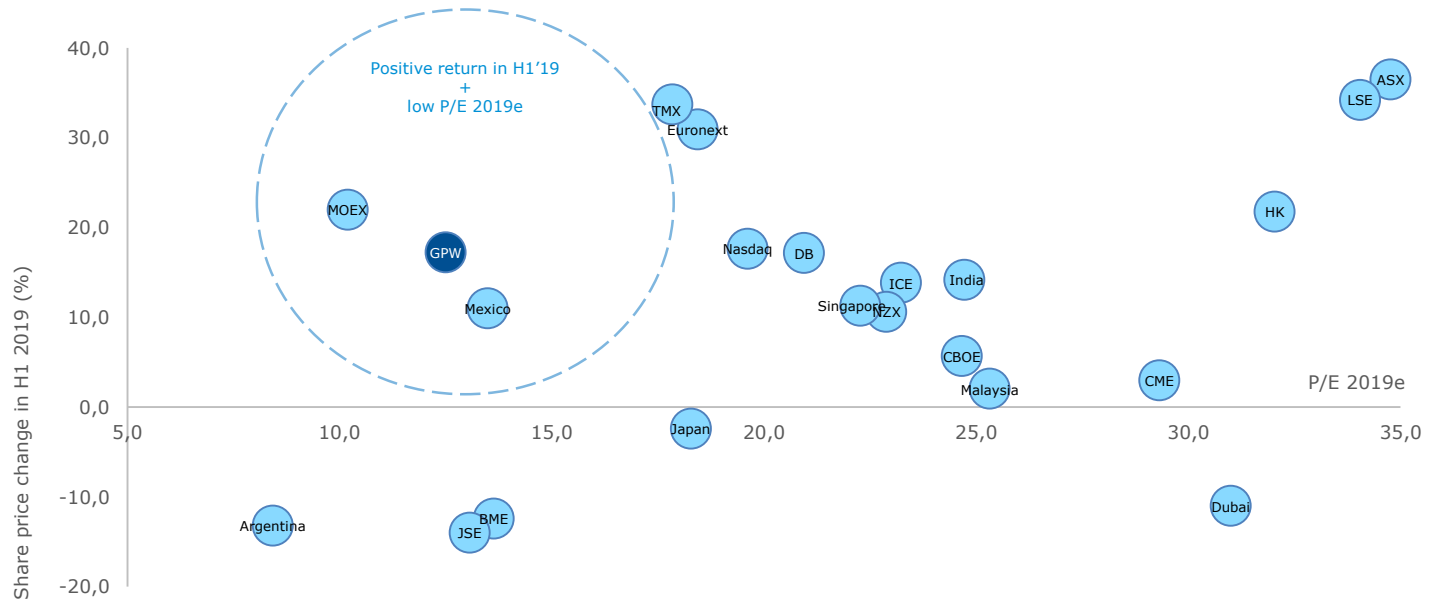
Launch of R&D work  
to develop  
a proprietary Trading  
Platform with  
co-financing from NCBR  
grants

## Electronic Order Book (EOB) trading in shares



- ◆ In H1'19 EOB trading in shares on GPW declined by 5.7% YoY.
- ◆ In the same period, EOB trading in shares in the analyzed stock markets decreased by 14.2% on average.

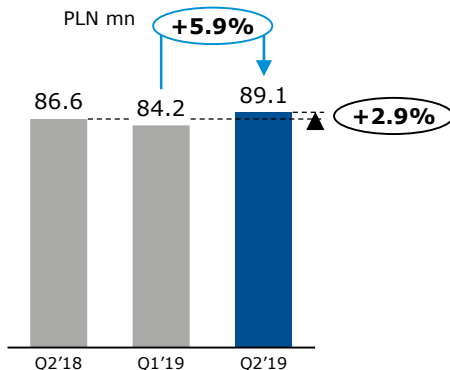
## P/E 2019e vs. share price change in H1'19



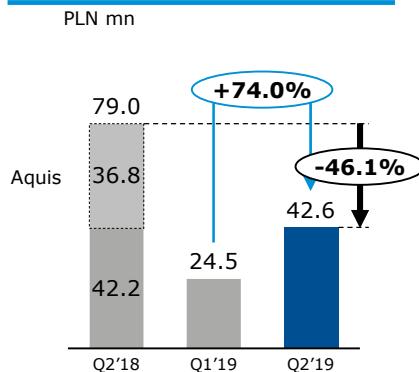
- ◆ In H1'19 GPW share price increased by 17.2%
- ◆ Average growth of share price of 24 global exchanges amounted to +13.4% in H1'19

# Very good financial results in Q2 2019

## Sales revenue



## Net profit



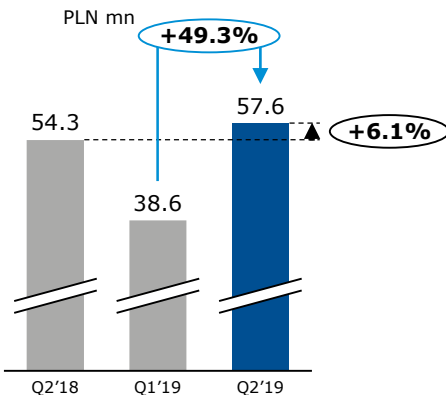
### ◆ Sales revenue

Sales revenue up by 5.9% QoQ and 2.9% YoY in Q2'19.

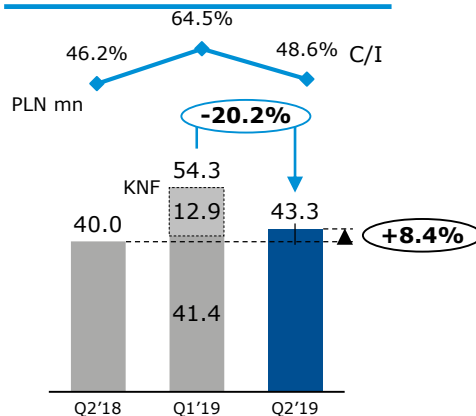
### ◆ Net profit

Net profit up by 74% QoQ and down by 46.1% YoY in Q2'19 (Q2'18 included sale of Aquis at net gains of PLN 36.8 mn. Net of one-offs, net profit up by 0.9% YoY).

## EBITDA



## Operating expenses



### ◆ EBITDA

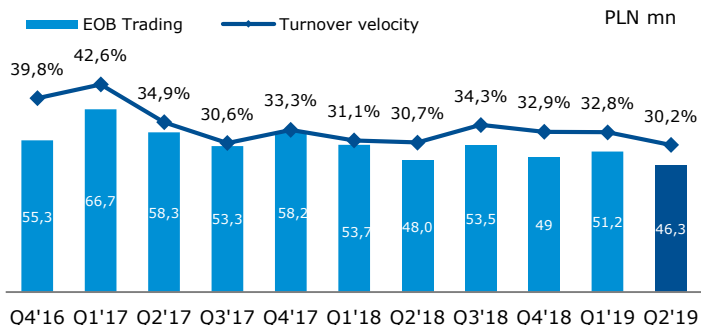
EBITDA up by 49.3% QoQ and 6.1% YoY to PLN 57.6 mn in Q2'19.

### ◆ Operating expenses

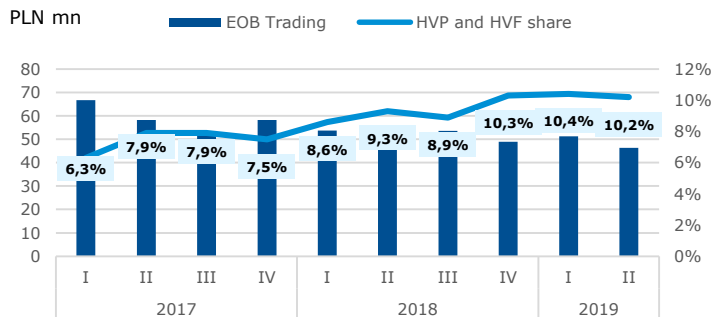
Operating expenses down by 20.2% QoQ (Q1'19 included PFSA fee provisions booked at PLN 12.9 mn) and up by 8.4% YoY. YoY increase mainly driven by additional headcount.

# Weak investor activity in Q2'19

## Value of EOB trading on the Main Market

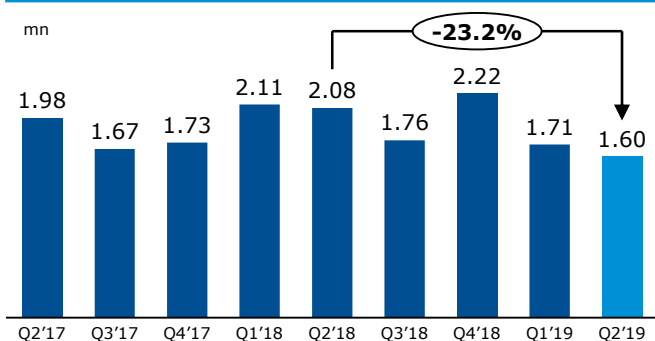


## Activity of HVP and HVF clients vs. market turnover

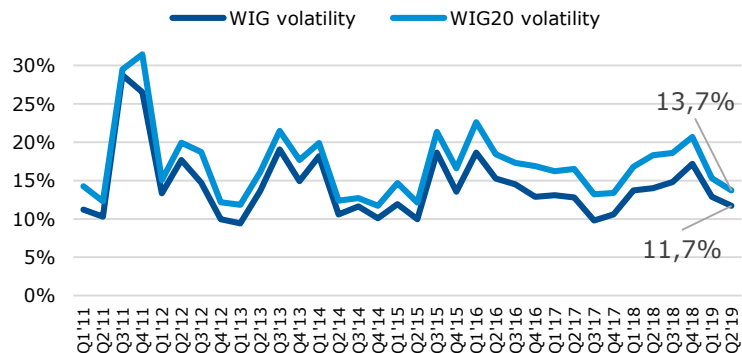


- ◆ Velocity ratio at 30.2% in Q2'19 vs. 30.7% in Q2'18 and 32.8% in Q1'19.
- ◆ WIG20 in Q2'19 gained 0.7% QoQ and 9.0% YoY, index WIG gained 0.9% QoQ and 7.6% YoY.
- ◆ Value of EOB trading in shares at PLN 46.3 bn in Q2'19 vs. PLN 48.0 bn in Q2'18.
- ◆ Share of HVP and HVF participants in trading in shares at 10.2% in Q2'19 vs. 9.3% in Q2'18 and 10.4% in Q1'19.
- ◆ Launch of the Exchange's Research Coverage Support Program.
- ◆ Contract with a new telco provider Colt.
- ◆ Introduction of structured certificates based on the WIG.GAMES index.
- ◆ Start of publication of the WIGtech index which includes high-tech companies listed on the Main Market in biotechnology, games, IT, telecom and high-tech segments.

## Volume of trading in derivatives



## Quarterly volatility of WIG and WIG20

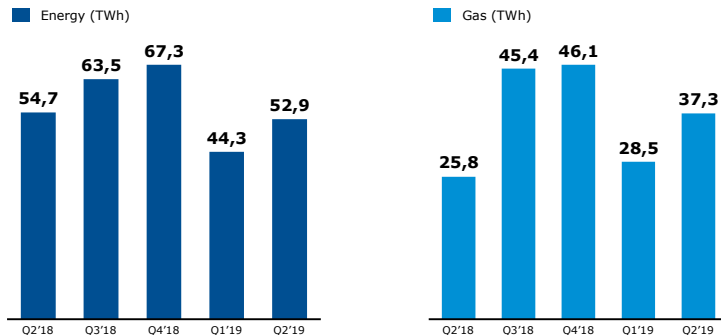


- ◆ Total volume of trading in derivatives at 1.60 mn in Q2'19 vs. 2.08 mn in Q2'18, down by 23.2% YoY.
- ◆ Volume of trading in WIG20 futures at 0.89 mn in Q2'19 vs. 1.10 mn in Q2'18, down by 23.2% YoY.
- ◆ Volume of trading in currency futures at 0.28 mn in Q2'19 vs. 0.60 mn in Q2'18, down by 115.0% YoY.
- ◆ WIG20 volatility at 13.7% in Q2'19 (vs. 15.4% in Q1'19), WIG volatility at 11.7% (vs. 13.0% in Q1'19).
- ◆ Share of proprietary traders in futures trading at 9.9% in Q2'19 vs. 10.4% in Q1'19.

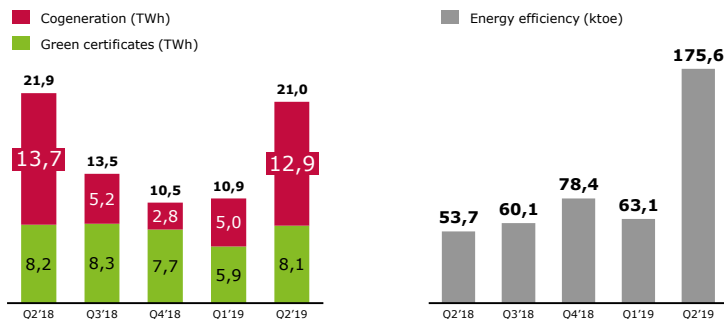


# Strong commodity market in Q2'19

## Volume of spot and forward trading in electricity and gas



## Volume of trading in property rights



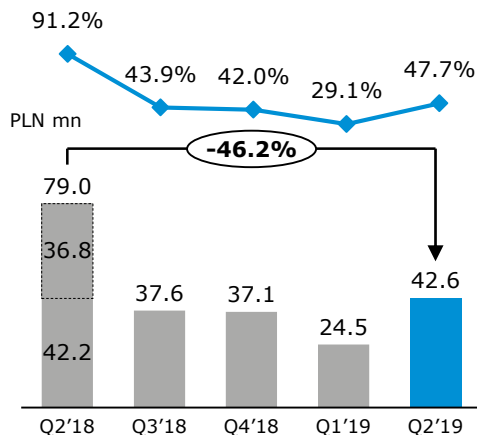
- ♦ **Electricity market:** Total volume of trading in electricity at **52.9 TWh** in Q2'19 (-3.3% YoY, +19.5% QoQ). The volume of spot transactions at 8.4 TWh (+30.1% YoY, -1.5% QoQ). The volume of forward transactions at 44.5 TWh (-7.8% YoY, +24.5% QoQ).
- ♦ **Gas market:** Total volume of trading on the gas markets at **37.3 TWh** in Q2'19 (+10.4% YoY, +30.7% QoQ). The volume of spot transactions in gas at 4.6 TWh (+26.6% YoY, -32.8% QoQ). The volume of forward transactions at 32.7 TWh (+47.2% YoY, +50.9% QoQ).
- ♦ **Property rights market:**
  - ✓ Volume of trading in property rights from cogeneration at **12.9 TWh** in Q2'19 (-5.3% YoY, +156.7% QoQ).
  - ✓ Volume of trading in RES property rights at **8.1 TWh** in Q2'19 (-1.0% YoY, +37.5% QoQ).
  - ✓ Volume of trading in property rights in energy efficiency at **175.6 ktoe** in Q2'19 (+227.0% YoY, +178.3% QoQ).
- ♦ **Maker-Taker:** On 1 January 2019, TGE opened a Maker-Taker pilot liquidity support programme to minimise operating expenses of market participants by narrowing the spread between bids and asks. After six months, TGE reviewed the programme performance and decided to continue the programme from 1 August to 31 December 2019.
- ♦ **CO2 emission allowances:** On 18 July 2019, TGE reopened the Financial Instruments Market which lists CO2 emission allowances; under MiFID2, allowances are a financial instrument.
- ♦ **White certificates:** The Act amending the Excise Tax Act and certain other Acts of 29 June 2019 extended the support scheme for energy efficiency certificates to the end of June 2021.

Summary of the GPW Group's Activity in Q2 2019

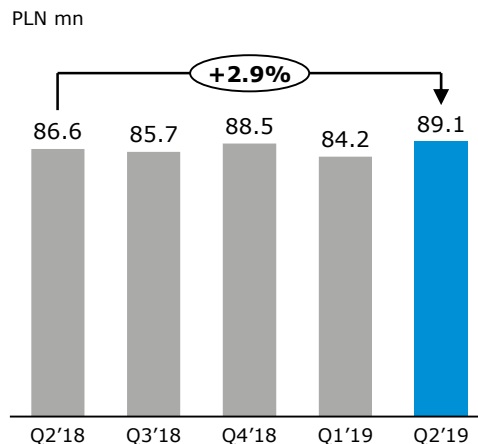
## **Financial Results of the GPW Group in Q2 2019**

# Increase of revenue and EBITDA margin

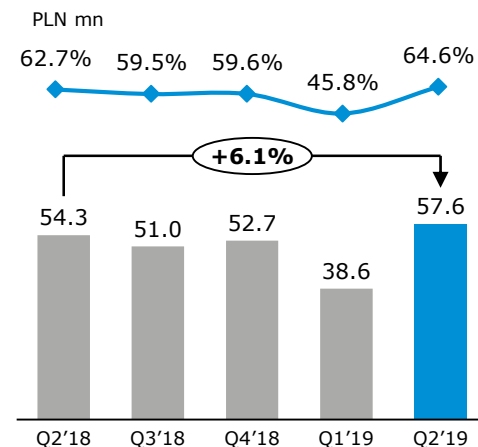
## Net profit and net profit margin



## Revenue



## EBITDA and EBITDA margin



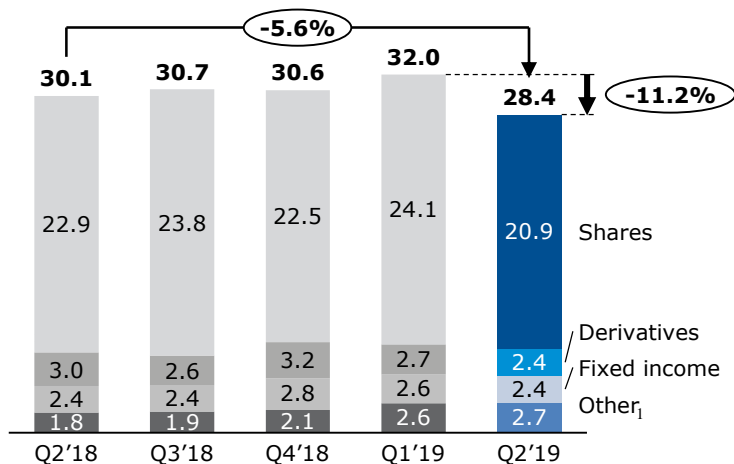
- ◆ GPW Group's net profit at PLN 42.6 mn in Q2'19 (-46.2% YoY and +74.0% QoQ). YoY decrease driven by a high reference base including gains on the sale of Aquis.
- ◆ Consolidated revenue at PLN 89.1 mn in Q2'19 (+2.9% YoY, +5.9% QoQ). YoY and QoQ increase mainly driven by higher revenues from the commodity market.
- ◆ GPW Group's EBITDA at PLN 57.6 mn in Q2'19 (+6.1% YoY and +49.3% QoQ).

# Trading revenue on the financial market

## Trading revenue – financial market

PLN mn

Q2'19: 31,9%



- Trading revenue on the financial market at PLN 28.4 mn in Q2'19 (-5.6% YoY and -11.2% QoQ) – mainly due to a lower value of trading in equities.
- Average EOB turnover in shares per session at PLN 784.3 mn in Q2'19 (vs. PLN 834.6 mn in Q1'19 and PLN 815.2 mn in Q2'18).
- Average fee on the stock market at 2.22 bps in Q2'19 and in Q1'19. Average fee at 2.21 bps in 2018 vs. 2.18 bps in 2017.

## Investor activity on GPW markets

Q2'18	Q3'18	Q4'18	Q1'19	Q2'19
Shares – value of trading (EOB, PLN bn)				
48,0	53,5	49,0	51,2	46,3
Futures and options – volume of trading (mn contracts)				
2,1	1,8	2,2	1,7	1,6
Treasury bonds – TBSP, cash transactions (PLN bn)				
29,4	28,3	46,6	36,4	17,8
Treasury bonds – TBSP, conditional transactions (PLN bn)				
58,0	68,8	75,4	57,9	70,5

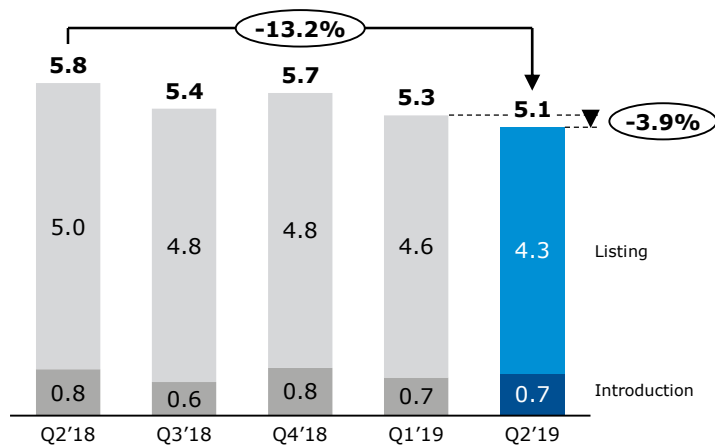
<sup>1</sup> Other cash market instruments, other fees paid by market participants

# Listing revenue

## Listing revenue

PLN mn

Q2'19: 5,7%



- ◆ One debut on the Main Market (BoomBit) and one transfer from NewConnect to the Main Market (Pharmena) in Q2'19.
- ◆ Five IPOs on NewConnect in Q2'19.
- ◆ Total trading revenue at PLN 5.1 mn vs. PLN 5.3 mn in Q1'19 and PLN 5.8 mn in Q2'18.
- ◆ Free float on the Main Market at 52% in Q2'19 and Q1'19 vs. 50.0% in Q2'18.

## Issuer activity

Q2'18	Q3'18	Q4'18	Q1'19	Q2'19
Number of IPOs on the Main Market				
3	2	0	2	2

## Capitalisation of domestic companies (PLN bn)

569,3	587,3	578,9	597,7	594,4
				+4,4% YoY
				-0,6% QoQ

## Value of IPOs (PLN mn)

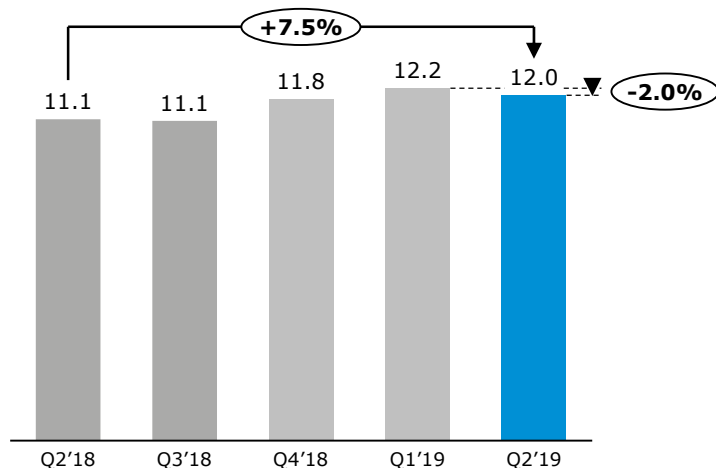
187	22	0	10	40
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# Revenue from information services – financial market

## Revenue from information services

PLN mn

Q2'19: 13,4%



- ♦ New clients of GPW and WIBOR data in different market segments attracted in Q2'19:

- ✓ 2 data vendors
- ✓ 2 non-display clients
- ✓ 1 client using GPW data in proprietary indices
- ✓ Licence fees were introduced on 1 January 2019
- ✓ 1 client using data in financial instruments
- ✓ 2 issuers of products based on GPW data

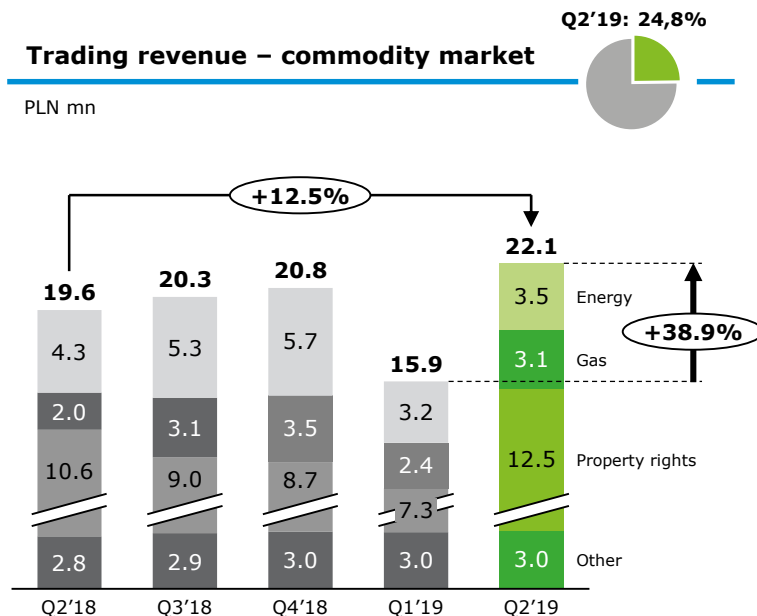
## Data vendors, subscribers and non-display clients

Q2'18	Q3'18	Q4'18	Q1'19	Q2'19
Number of subscribers (thou.)				
245.1	246.3	248.0	253.9	250.1
				+2,0% YoY -1,5% QoQ
Number of vendors				
73	74	78	80	82
				+12,3% YoY +2,5% QoQ
Non-display				
56	58	65	84	86
				+53,6% YoY +2,4% QoQ

# Rising volumes on the electricity and gas market

## Trading revenue – commodity market

PLN mn



<sup>1</sup> including revenue from TGE, IRGIT and InfoEngine

- Revenue from trading in electricity up by 7.9% QoQ to PLN 3.5 mn in Q2'19 and down by PLN 0.8 mn YoY (mainly due to a lower turnover on the forward market, down by 7.9% YoY).
- Revenue from trading in gas up by 58.5% YoY and up by 30.2% QoQ to PLN 3.1 mn due to an increase in volumes of spot transactions by 26.6% YoY and forward transactions by 47.2% YoY.
- Revenue from trading in property rights up by 17.8% YoY and up by 70.7% QoQ to PLN 12.5 mn due to an increase in the volume of trading in white certificates.

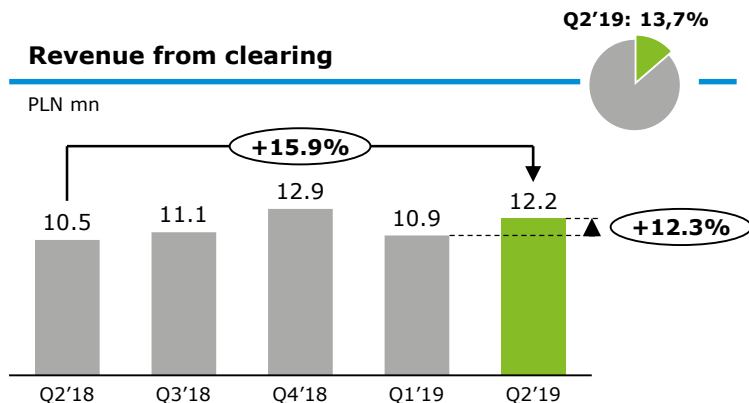
## Investor activity on the commodity market

	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19
Electricity – volume of trading (TWh)	54,7	63,5	67,3	44,3	52,9
					-3,3% YoY +19,5% QoQ
Natural gas – volume of trading (TWh)	25,8	45,4	46,1	28,5	37,3
					+44,3% YoY +30,7% QoQ
Property rights – volume of trading (TWh)	21,9	13,5	10,5	10,9	21,1
					-3,7% YoY +92,3% QoQ

# Revenue from clearing

## Revenue from clearing

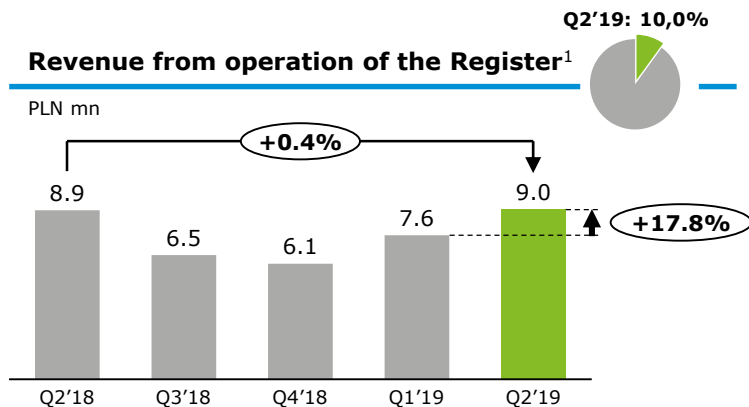
PLN mn



- Revenue from clearing up by 15.9% YoY and 12.3% QoQ in Q2'19 mainly driven by an increase in volumes of trading in property rights and in gas.
- Revenue from the operation of the Register of Certificates of Origin up by 0.4% YoY and 17.8% QoQ due to more cancellations of certificates of origin of cogeneration and energy efficiency.
- The volume of transactions in the Register of Guarantees of Origin was 4,101,817 MWh in Q2'19 versus 6,018,824 MWh in Q1'19, and 2,195,151 MWh in Q2'18).

## Revenue from operation of the Register<sup>1</sup>

PLN mn



## Activity of participants of the Register of Certificates of Origin

Q2'18	Q3'18	Q4'18	Q1'19	Q2'19
Volume of issued property rights (TWh)				
13,7	7,2	7,2	18	8,4
				-38,6% YoY
				-53,4% QoQ
Volume of cancelled certificates of origin (TWh)				
14,8	22,9	6,8	7,2	20,1
				+35,4% YoY
				+179,5% QoQ
Register of Guarantees of Origin – trading volume (TWh)				
2,2	3,7	9,8	6	4,1
				+86,9% YoY
				-31,9% QoQ

<sup>1</sup> including revenue from the Register of Guarantees of Origin

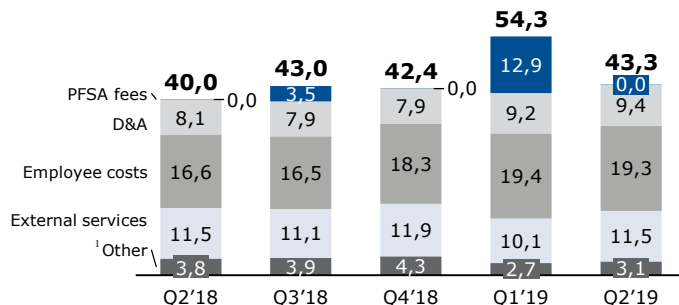


# Operating expenses impacted by GPW Group growth



## Operating expenses: +8.4% YoY and -20.2% QoQ

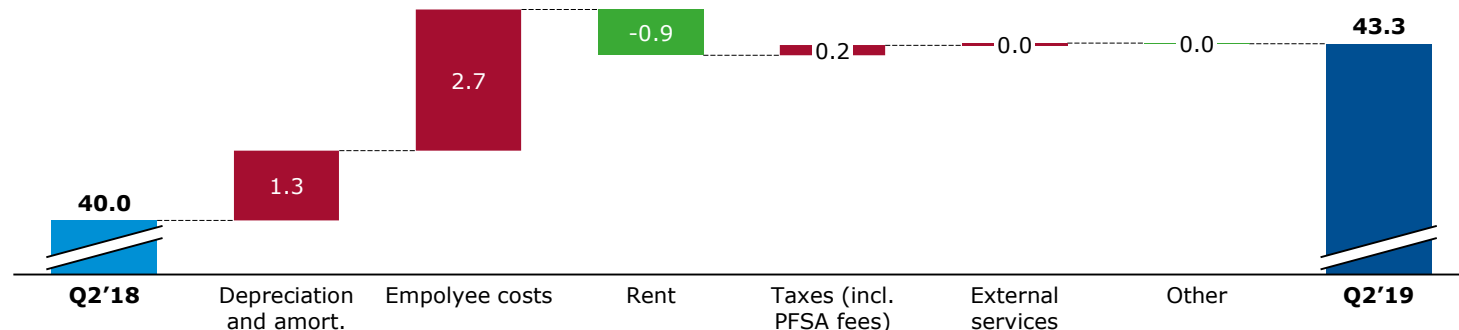
PLN mn



- ♦ The Group's operating expenses at PLN 43.3 mn in Q2'19 (+8.4% YoY and -20.2% QoQ)
- ♦ Cost/income ratio(C/I)<sup>2</sup> at 48.6% in Q2'19 vs. 64.5% in Q1'19 and 46.2% in Q2'18
- ♦ Depreciation and amortisation at PLN 9.4 mn in Q2'19 (+16.3% YoY and +2.5% QoQ). YoY increase in depreciation/amortisation driven by the implementation of IFRS 16 Leases in all Group companies. The change reduced the cost of rent by 44.4% YoY and increased it by 4.6% QoQ
- ♦ Total salaries down to PLN 19.3 mn (+16.0% YoY and -0.5% QoQ). YoY increase driven among others by a higher headcount.
- ♦ External service charges at PLN 11.5 mn in Q2'19 (+0.3% YoY and +14.0% QoQ) mainly due to an increase of IT costs and introduction of Research Coverage Support Programme.

## Change in operating expenses

PLN mn

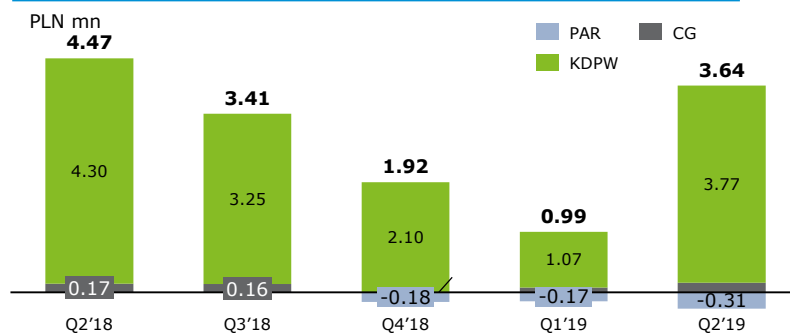


<sup>1</sup> Other includes rent, fees and charges (net of the PFSA fees), and other operating expenses

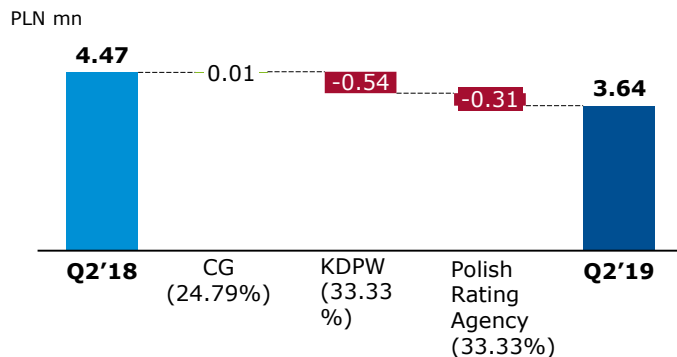
<sup>2</sup> C/I based on reported data

# Share of the results of entities measured by the equity method

## Share of the results of entities measured by the equity method



## Change of share of the results of entities measured by the equity method



- ◆ Group's share of the results of entities measured by the equity method at PLN 3.6 mn in Q2'19 (-18.6% YoY and +267.9% QoQ).
- ◆ KDPW:
  - ✓ The Group's share of the net profit of KDPW Group (GPW holds 33.33% of shares) at PLN 3.77 mn in Q2'19 vs. PLN 4.3 mn in Q2'18 and PLN 1.07 mn in Q1'19. YoY decrease mainly driven by a reduction of settlement fees.
- ◆ The Group's share of the loss of PAR at PLN 0.31 mn in Q2'19 .
- ◆ The share of profit of Centrum Giełdowe at PLN 0.18 mn in Q2'19.

# GPW Group's consolidated statement of financial position



PLN mn	30.06.2018	31.03.2019	31.06.2019
<b>Non-current assets</b> , including among others	<b>578,6</b>	<b>597,8</b>	<b>585,9</b>
Property, plant and equipment	108,2	104,5	100,6
Intangible assets	258,3	250,1	246,8
Share of profit of associates	199,9	207,9	204,8
<b>Current assets</b> , including among others	<b>693,4</b>	<b>733,2</b>	<b>771,9</b>
Trade and other receivables	68,5	66,5	73,2
Financial assets measured at amortised cost	381,0	361,7	0,0
Cash and cash equivalents	241,8	302,6	478,1
<b>Total assets</b>	<b>1 272,0</b>	<b>1 331,0</b>	<b>1 357,8</b>

PLN mn	30.06.2018	31.03.2019	31.06.2019
Equity	815,8	914,6	823,9
<b>Non-current liabilities</b>	<b>266,0</b>	<b>281,0</b>	<b>281,3</b>
Liability under the bond issue	243,8	244,1	244,2
<b>Current liabilities</b> , including among others	<b>190,2</b>	<b>135,3</b>	<b>252,6</b>
Trade payables	18,8	19,9	31,9
Employee benefits payable	10,5	13,0	13,6
Income tax payable	8,7	7,2	5,4
Contract liabilities	22,4	32,7	22,2
Accruals and deferred income	0,6	0,6	0,0
Other current liabilities	127,3	54,6	171,9
<b>Total equity and liabilities</b>	<b>1 272,0</b>	<b>1 331,0</b>	<b>1 357,8</b>

- ◆ Increase of total assets YTD as at 30 June 2019 mainly driven by an increase of cash and cash equivalents.
- ◆ Decrease of financial assets measured at amortised cost by PLN 159.8 mn YTD as at 30 June 2019 mainly due to a decrease in held corporate bonds and certificates of deposit.
- ◆ Increase of current liabilities YTD as at 30 June 2019 mainly driven by an increase of other current liabilities (current VAT payable in TGE, dividend payable in GPW).

## **Annex – Back-up Slides**

# GPW Group's consolidated statement of comprehensive income



PLN mn	Q2'18	Q1'19	Q2'19
<b>Revenue</b>	<b>86,6</b>	<b>84,2</b>	<b>89,1</b>
Financial market	47,1	49,5	45,4
Trading	30,1	32,0	28,4
Listing	5,8	5,3	5,1
Information services	11,1	12,2	12,0
Commodity market	39,2	34,6	43,4
Trading	19,6	15,9	22,1
Register of Certificates of Origin	8,9	7,6	9,0
Clearing	10,5	10,9	12,2
Information services	0,1	0,2	0,2
Other operating income	0,4	0,1	0,3
<b>Operating expenses</b>	<b>40,0</b>	<b>54,3</b>	<b>43,3</b>
Other income	0,3	1,3	1,9
Impairment gains/(losses) on receivables	-0,4	-1,1	1,4
Other expenses	0,4	0,7	0,9
<b>Operating profit</b>	<b>46,2</b>	<b>29,4</b>	<b>48,2</b>
Financial income	48,2	2,1	2,4
Financial expenses	2,1	2,1	2,3
Share of profit of associates	4,5	1,0	3,6
<b>Profit before income tax</b>	<b>96,7</b>	<b>30,3</b>	<b>51,9</b>
Income tax	17,7	5,9	9,4
<b>Net profit</b>	<b>79,0</b>	<b>24,5</b>	<b>42,6</b>
<b>EBITDA</b>	<b>54,3</b>	<b>38,6</b>	<b>57,6</b>

- ◆ YoY increase of revenue in Q2'19 mainly driven by an increase of revenue on the commodity market.
- ◆ Operating expenses increased by PLN 3.3 mn YoY in Q2'19 mainly due to an increase of salaries and other employee costs (up by PLN 2.7 mn mainly due to an increase of the headcount).
- ◆ Financial income at PLN 2.4 mn in Q2'19, down by PLN 45.8 mn mainly due to gains on the sale of Aquis Exchange in Q2'18.

# GPW Group's consolidated statement of cash flows

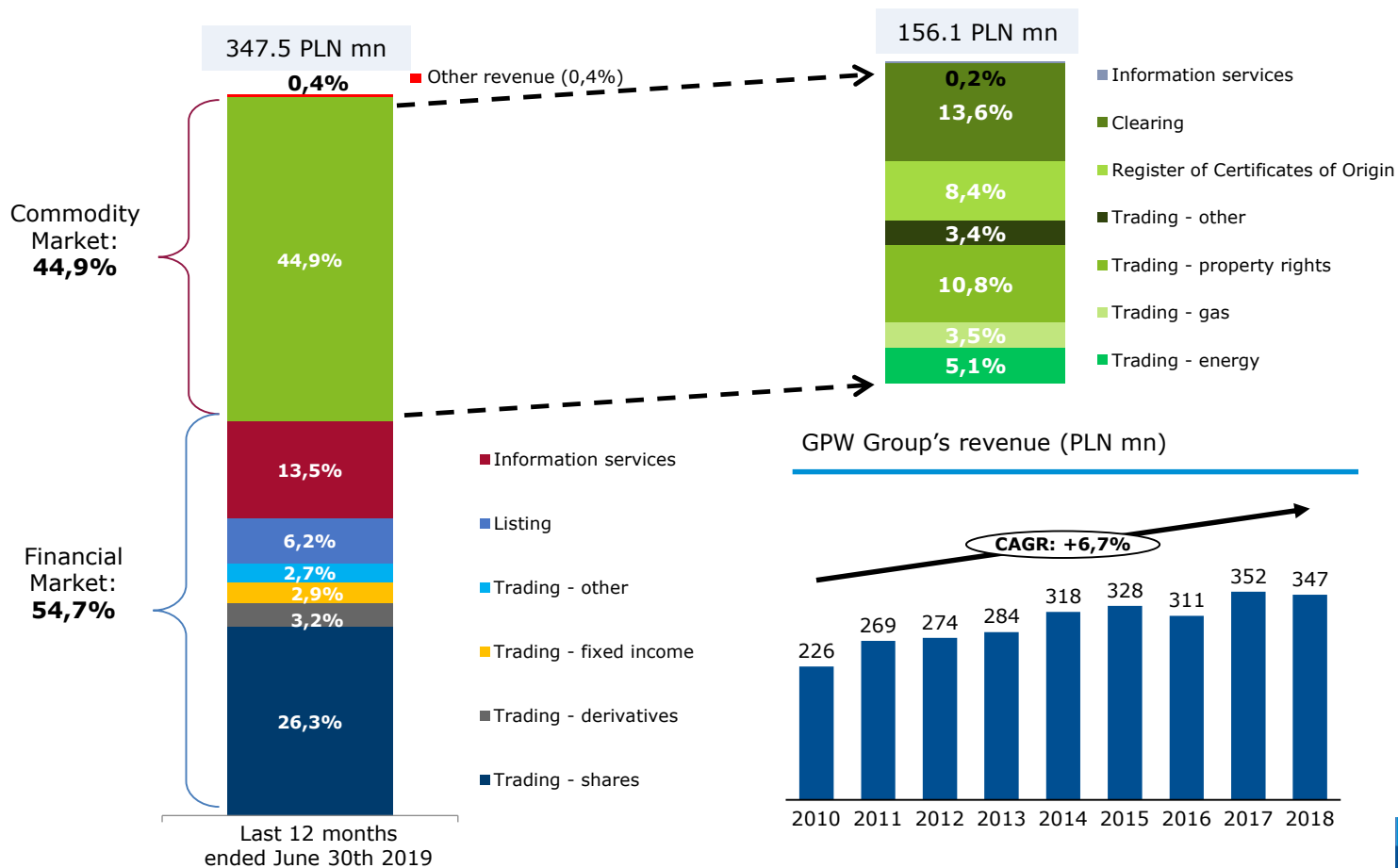


quarter ended 30 June of

PLN mn	2019	2018
<b>Cash flows from operating activities, including among others:</b>	<b>137,7</b>	<b>88,8</b>
Cash flows from operating activities	156,4	111,6
Net profit of the period	67,0	108,9
Adjustments:	89,4	2,7
Income tax	15,2	24,4
Depreciation and amortization	18,6	15,9
Interest (income) on deposits, certificates of deposits and corporate bonds	-2,6	-2,1
Interest on issued bonds	3,6	3,8
Financial cost of the bond issue	0,2	0,0
Share of profit of associates	-4,6	-5,2
Change of assets and liabilities, including among others:	58,5	10,7
(Increase)/Decrease of trade and other receivables	-1,3	-1,9
(Increase)/Decrease of other liabilities (excluding investment and dividend)	14,7	7,1
Interest on tax liabilities paid/refunded	0,0	-0,1
Income tax paid/(refund)	-18,6	-22,8
<b>Cash flows from investing activities, including among others:</b>	<b>158,3</b>	<b>-78,9</b>
Purchase of property, plant and equipment	-1,9	-4,1
Purchase of intangible assets	-4,0	-4,5
Interest received on financial assets measured at amortised cost	3,3	1,4
Purchase of financial assets measured at amortised cost	-343,6	-440,7
Sale of financial assets measured at amortised cost	502,6	311,0
Sublease payments made (interest, IFRS 16)	0,0	0,0
Sublease payments made (principal, IFRS 16)	0,1	0,0
<b>Cash flows from financing activities, including among others:</b>	<b>-6,7</b>	<b>-3,7</b>
Interest paid on bonds issued	-3,6	-3,7
Lease payments made (interest, IFRS 16)	-0,4	0,0
Lease payments made (principal, IFRS 16)	-2,6	0,0
<b>Increase/decrease of net cash and cash equivalents</b>	<b>289,4</b>	<b>6,2</b>
Cash and cash equivalents - opening balance	188,7	235,9
Cash and cash equivalents - closing balance	478,1	241,8

- Positive cash flows from operating activities in H1 2019 increased by PLN 48.9 mn YoY mainly due to higher trade payables (up by PLN 23.3 mn in H1 2019, down by PLN 2.5 mn in H1 2018) combined with an increase of other payables (up by PLN 14.7 mn in H1 2019, up by PLN 7.1 mn in H1 2018).
- Positive cash flows from investing activities in H1 2019 increased by PLN 237.2 mn YoY mainly due to transactions in assets measured at amortised cost (higher gains on investments in H1 2018).
- Cash flows from financing activities in H1 2019 were negative at PLN 6.7 mn, down by PLN 3 mn YoY mainly due to lease payments.

# GPW Group's revenue structure



# Financial market: Trading in equities

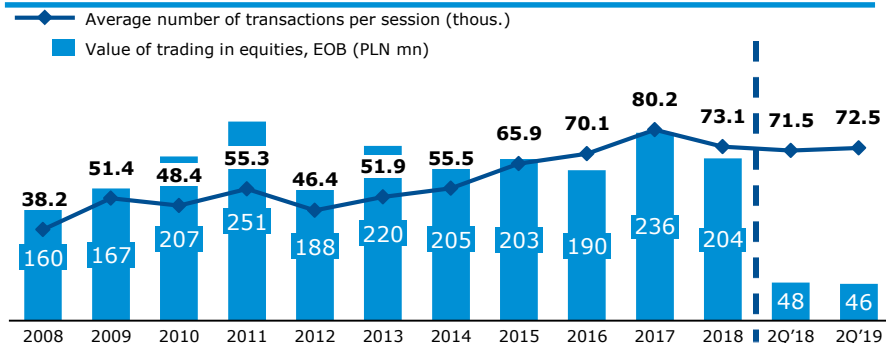


23.4%<sup>1</sup>

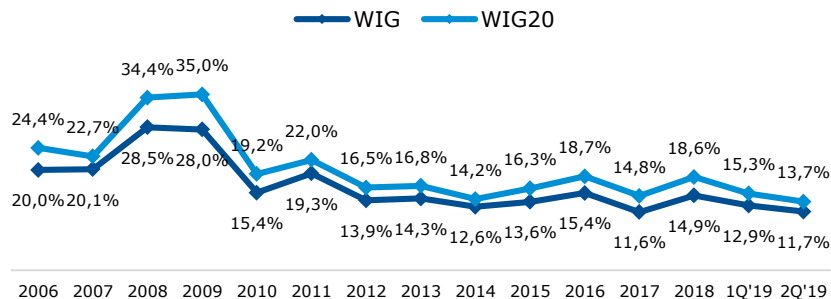
## ◆ Revenue drivers:

- ✓ Value of trading in equities
- ✓ Structure of orders (small, large, mid-sized)

### Value of trading in equities and number of transactions



### Volatility – WIG and WIG20



<sup>1</sup> Share in GPW Group's revenue in Q2 2019



# Financial market: Trading in derivatives

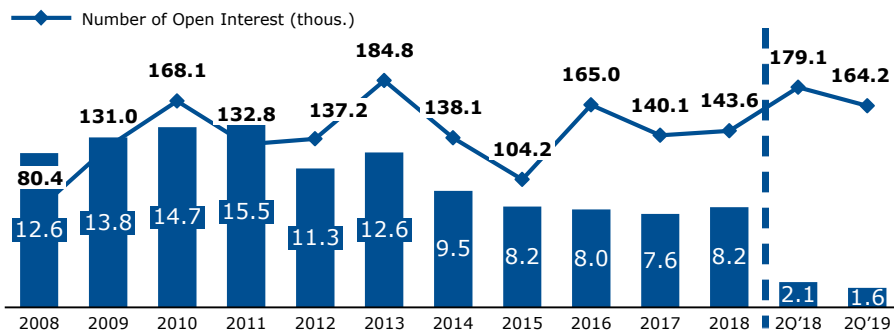


**2.7%<sup>2</sup>**

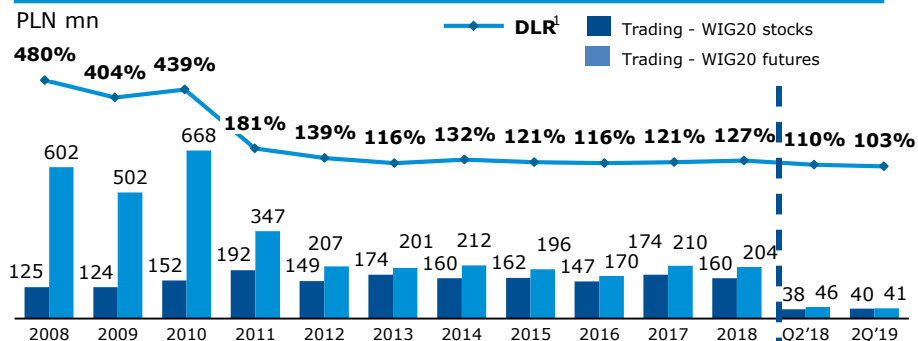
## ◆ Revenue drivers:

- ✓ Volume of trading in futures
- ✓ Number of open interest
- ✓ Volatility

## Volume of trading in derivatives



## Volume of trading in WIG20 stocks and WIG20 futures



<sup>1</sup> Velocity ratio (value of trading in WIG20 futures to value of trading in WIG20 stocks)

<sup>2</sup> Share in GPW Group's revenue in Q2 2019

# Financial market: Other instruments and fees paid by participants



**2.7%<sup>1</sup>**

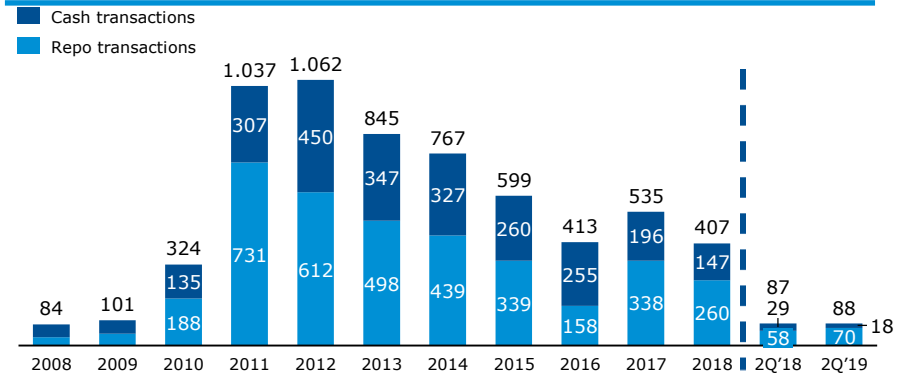


**2.9%<sup>2</sup>**

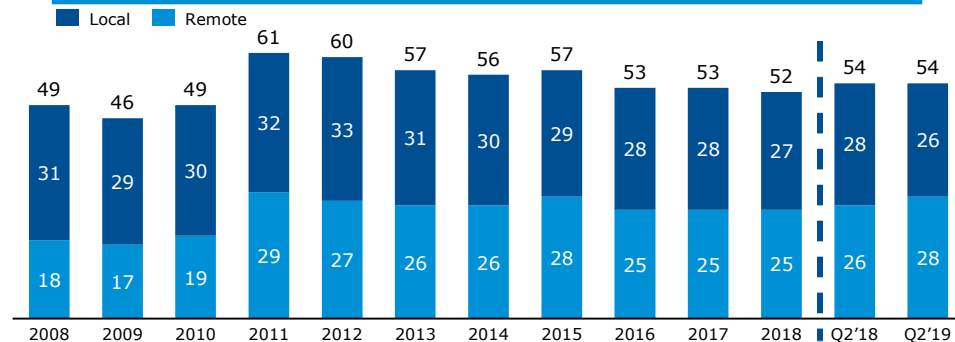
## ◆ Revenue drivers:

- ✓ Value of trading in Treasury bonds
- ✓ Number of exchange members

Value of trading on Treasury BondSpot Poland, PLN bn



Number of exchange members



<sup>1</sup> Share in GPW Group's revenue in Q2 2019, trading in debt instruments

<sup>2</sup> Share in GPW Group's revenue in Q2 2019, other trading fees paid by market participants

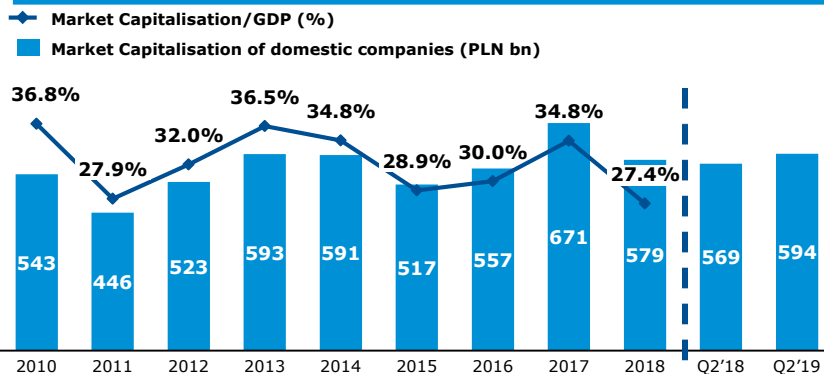
# Financial market: Listing

 **5.7%<sup>1</sup>**

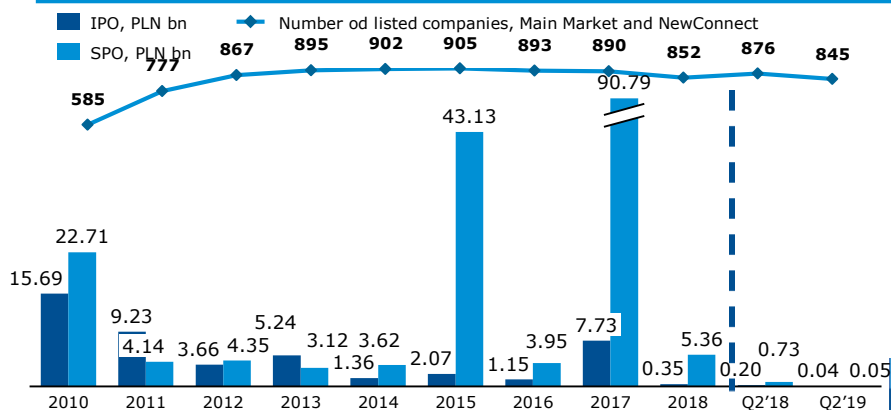
◆ Revenue drivers:

- ✓ Capitalisation at YE
- ✓ Value of new issue shares and bonds
- ✓ Number of issuers

## Capitalisation of domestic companies



## IPO/SPO value and number of companies



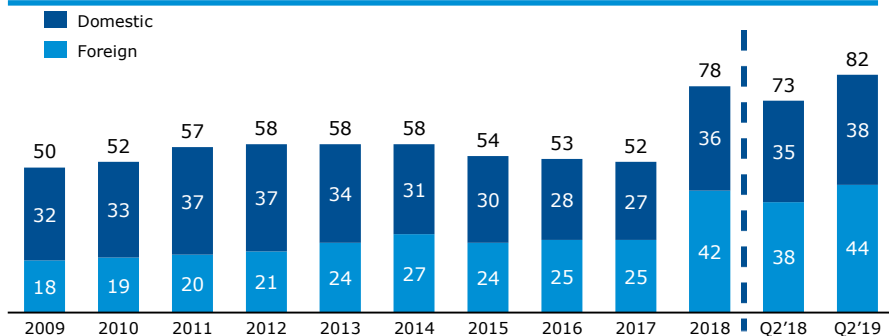
<sup>1</sup> Share in GPW Group's revenue in Q2 2019



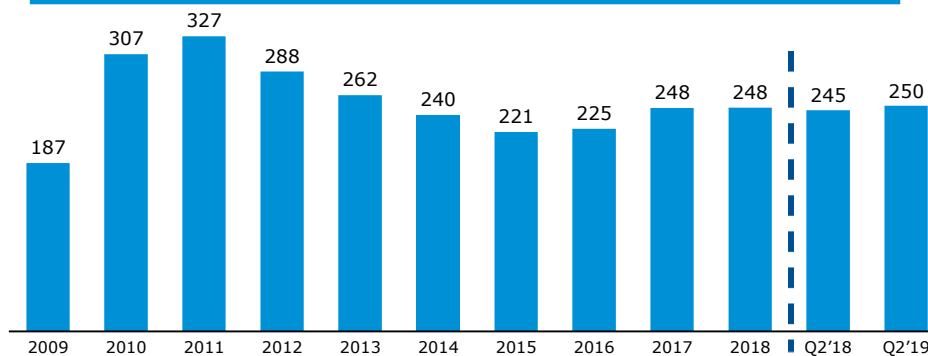
**13.4%<sup>1</sup>**

- ◆ Revenue drivers:
  - ✓ Number of data vendors
  - ✓ Number of subscribers

Number of data vendors



Number of subscribers (thou.)



<sup>1</sup> Share in GPW Group's revenue in Q2 2019

# Commodity market: Trading in electricity and gas

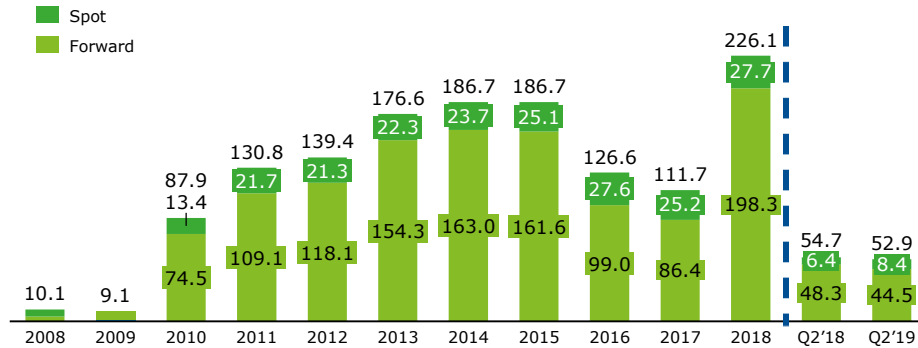


7.4%<sup>2</sup>

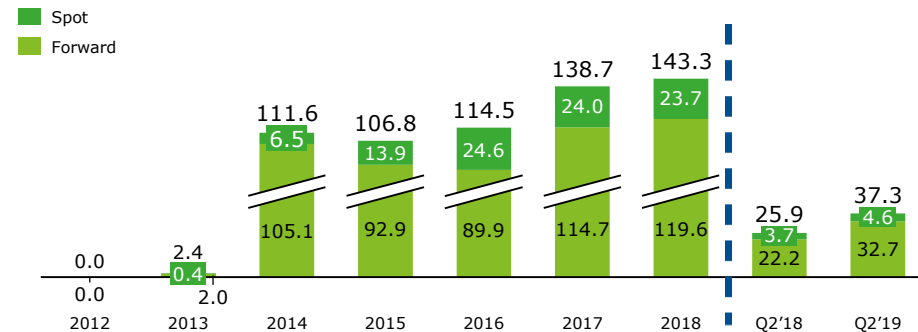
## ◆ Revenue drivers:

- ✓ Volume of trading in electricity
- ✓ Volume of trading in gas
- ✓ Share of spot and forward trading

Volume of trading in electricity (TWh)<sup>1</sup>



Volume of trading in gas (TWh)



<sup>1</sup> Data for 2006-2013 include trading on the GPW Energy Market poee

<sup>2</sup> Share in GPW Group's revenue in Q2 2019

# Commodity market: Trading in property rights

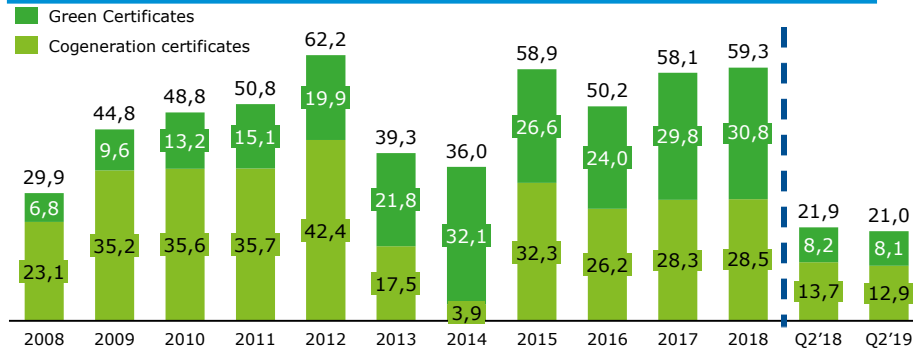


14.0%<sup>1</sup>

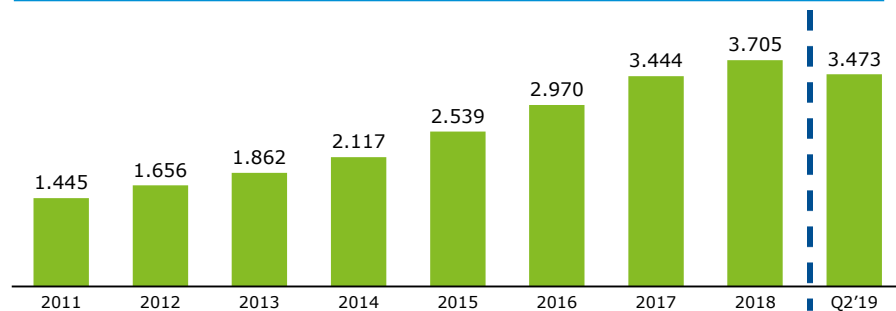
## ◆ Revenue drivers:

- ✓ Volume of trading in property rights
- ✓ Share of certificate categories in trading
- ✓ Number of register participants

## Spot trading in property rights (TWh)



## Number of participants of the Register of Certificates of Origin



<sup>1</sup> Share in GPW Group's revenue in Q2 2019

# Commodity market: Register of Certificates of Origin

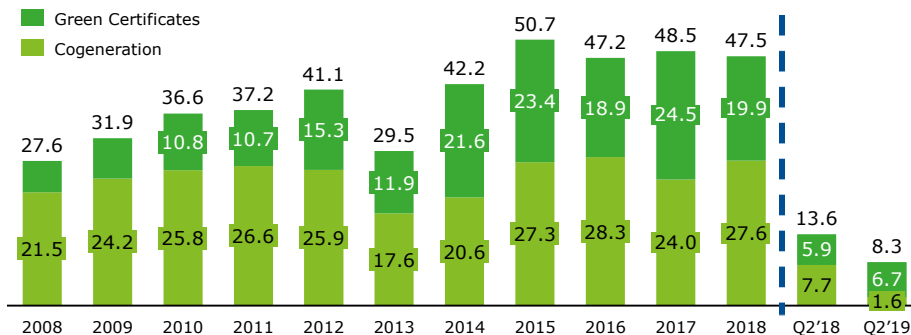


10.0%<sup>1</sup>

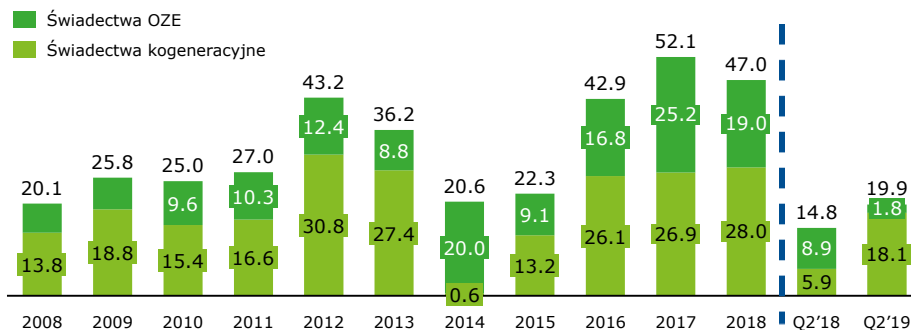
## Revenue drivers:

- ✓ Volume of issued property rights
- ✓ Volume of cancelled property rights

### Volume of issued certificates of origin (TWh)



### Volume of cancelled certificates of origin (TWh)



<sup>1</sup> Share in GPW Group's revenue in Q2 2019

## IR events

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### ♦ 31 July 2019

Publication of GPW Group's consolidated interim report for H1 2019

### ♦ 30 October 2019

Publication of GPW Group's consolidated interim report for Q3 2019

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