BEH Group
2016 Financial Results

11th July 2017

Disclaimer

Certain statements in the following presentation regarding BEH's business operations may constitute "forward looking statements." Such forward-looking statements include, but are not limited to, those related to future earnings, growth and financial and operating performance. Forward-looking statements are not intended to be a guarantee of future results, but instead constitute BEH's current expectations based on reasonable assumptions. Forecasted financial information is based on certain material assumptions. These assumptions include, but are not limited to continued normal levels of operating performance and electricity consistent with historical levels, as well as achievements of planned productivity improvements and incremental growth from investments at investment levels and rates of return consistent with prior experience. Actual results could differ materially from those projected in our forward-looking statements due to risks, uncertainties and other factors. BEH undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

In preparation of this document we used certain publicly available data. While the sources we used are generally regarded as reliable we did not verify their content. BEH does not accept any responsibility for using any such information.

Bulgarian Energy Holding

BEH Group – Key Highlights



Group Structure

BEH was created to consolidate the State's electricity and gas pipeline assets and establish a unified and coherent management strategy across the assets.

- Ministry of Energy — Bulgarian Energy Holding
  - Electricity
    - NPP Kozloduy (NPP)
    - TPP Maritsa East 2 (TPP2)
    - Natsionalna Elektricheska Kompania (NEK)
    - Elektroenergien Sistemen Operator (ESO)
  - Natural Gas
    - Bulgargaz (BGAZ)
    - Bulgartransgaz (BTGAZ)
  - Coal Mining
    - Mini Maritsa Iztok (MMI)
  - Power Exchange
    - Independent Bulgarian Energy Exchange (IBEX)*
  - Telecom
    - Bulgartel (BTEL)

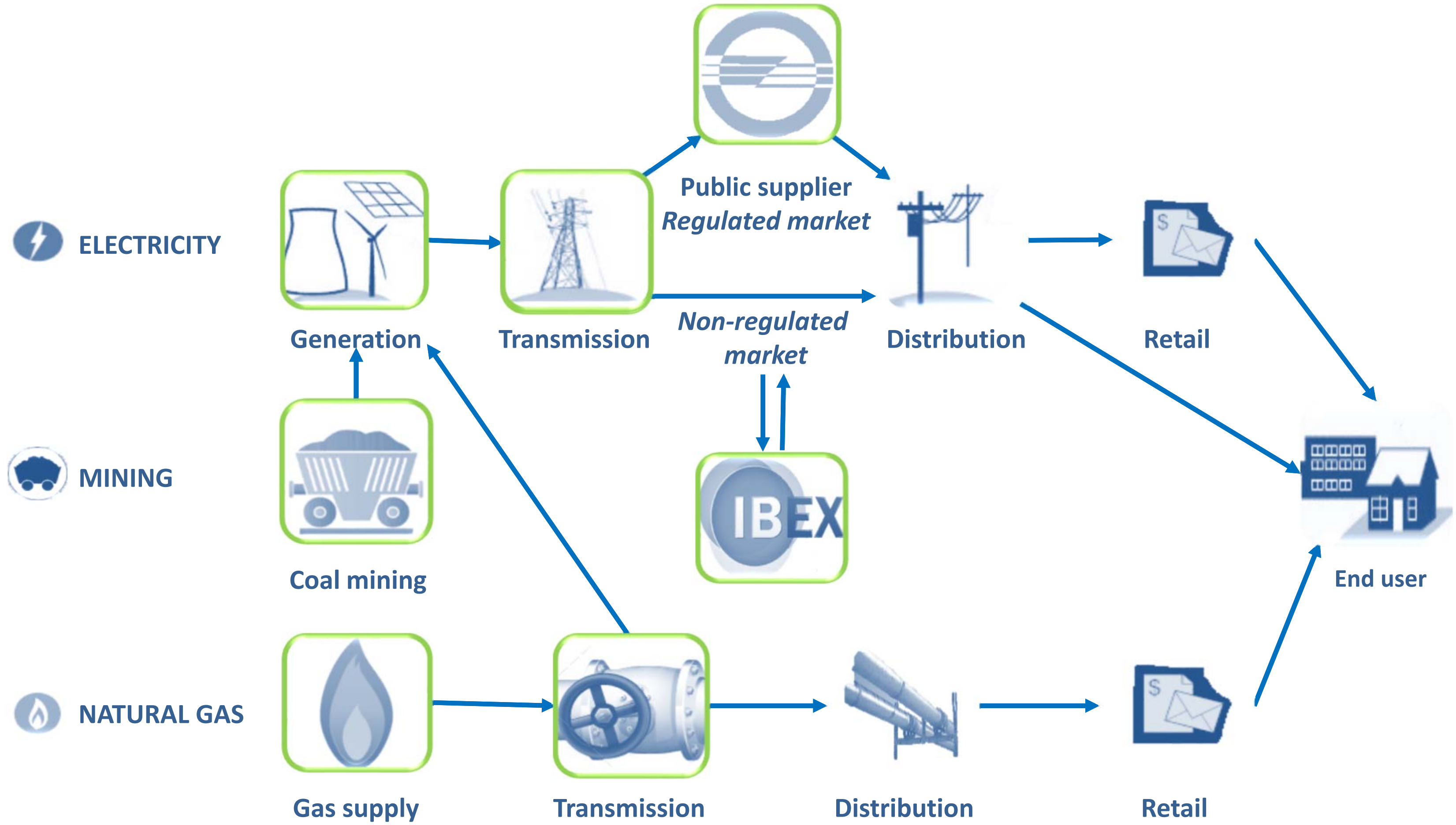
BEH is 100% owned by the State via the Ministry of Energy

BEH owns 100% of all its subsidiaries

** BEH has made a binding committed to the European Commission to divest IBEX from its holding structure in 2017*

BEH Group along the Energy Supply Chain

Electricity, natural gas and coal supply chains in Bulgaria



Activities where BEH owns assets are marked in green.

Strategic Importance of BEH Group for Bulgaria

The largest Bulgarian holding company

- Total assets of BGN 17.2 bn (EUR 8.8 bn) as of 31.12.2016
- Total revenue of BGN 6.1 bn (EUR 3.1 bn) as of 31.12.2016 - contributed 6.6% of the country’s GDP (2016)
- Employs circa 21 100 people

Strategic energy /national security infrastructure and services

- Backbone of Bulgaria’s power sector infrastructure
- Public supply of both electricity and natural gas → Critical for provision of energy services

Involvement in strategic state-supported projects

- Bulgaria’s geographic location as a strategic hub on the energy map of Europe
- 4 gas interconnectors with Greece, Romania, Serbia and Turkey being developed by BEH Group

Holds a leading market position in electricity and gas

- Owner and operator of electricity and gas transmission assets (natural monopolies)
- 6.2 GW installed electricity generation capacity → circa 60% market share of gross electricity generation in 2016

BEH has enjoyed and continues to enjoy strong support from the State

BEH is the sole government agent in the energy sector and operates as a department of the Ministry of Energy

- **100% state ownership** – The State has executed equity injections in 2008 (in-kind increase) and in 2009 (cash increase of BGN 400m)
- **Strategic State entity** – BEH subsidiaries are identified as entities of the critical energy infrastructure the impairment or destruction of which would have material consequences for vitally important public functions, the health, safety, security, economic or social welfare of the population of Bulgaria.
- **Privatization restrictions** – BEH Group is included in the "banned for privatization" list of companies that do not fall within the scope of privatization under the Privatization and Post-privatization Control Act (PPCA).
- **Legislative support** – Legislative and regulatory changes implemented in 2015 and 2016 have significantly improved NEK's and respectively BEH's financial position.
- **Strong operational linkage with the State** – BEH is the instrument Ministry of Energy for implementing policy in the energy sector. As such the company is mandated to manage all important State projects in the sector including the collaboration with the World Bank and the Bulgarian Academy of Sciences for developing policy recommendations, roadmaps and strategies for energy sector reform.
- **State-guaranteed debt** – The State is committed to supporting the sound financial position of BEH Group through granting state guarantees for BEH's borrowings. EUR 110 million state guarantee earmarked for IGB project.
- **Letter of support** – Letter of support by the Ministry of Energy stating the intention of the State to support BEH's financial stability so as to allow it to meet its obligations to bondholders
- **State loan to NEK** – EUR 601 million 7-year interest free State loan provided to NEK to cover obligations under Belene arbitration ruling

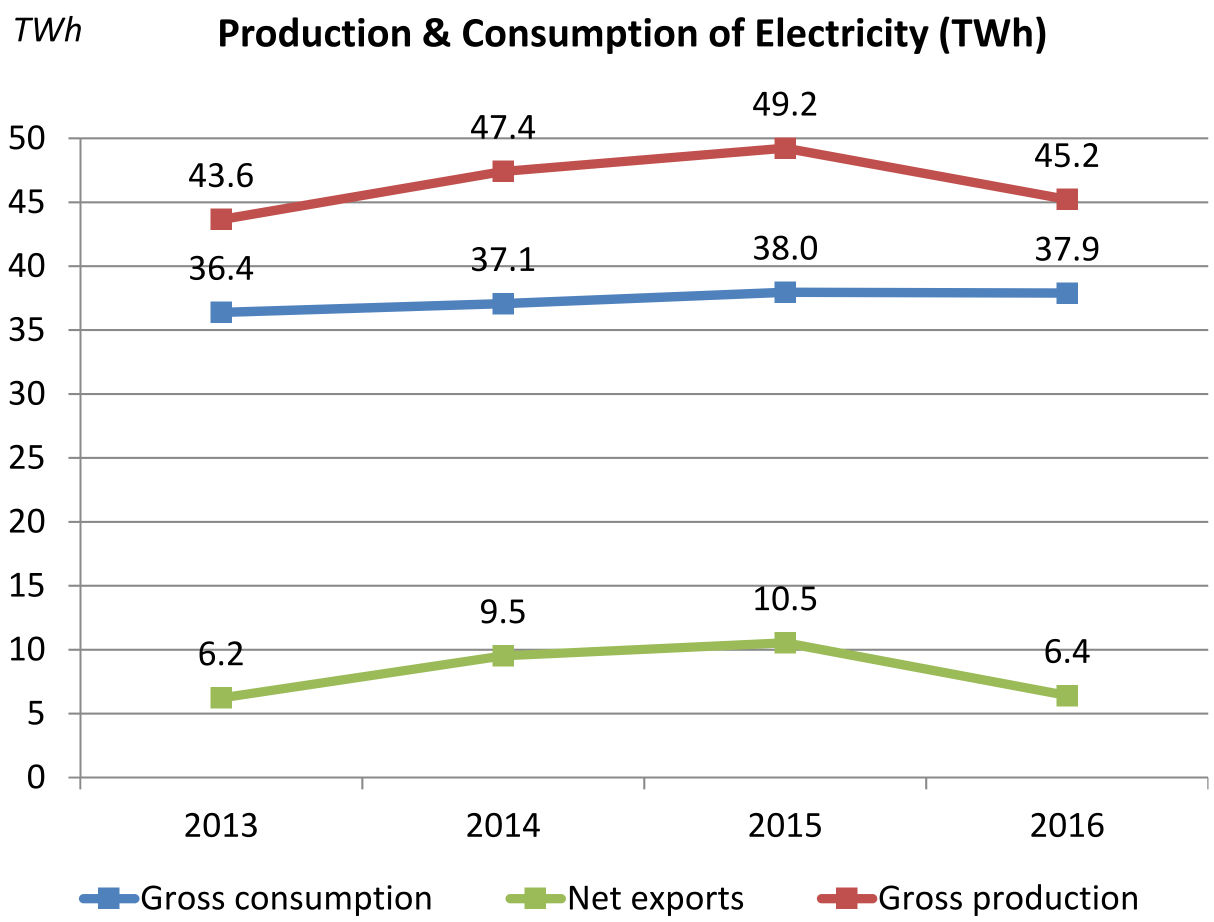
Operating Environment

Electricity Sector
Overview

Hybrid market model with regulated (46%) and nonregulated (54%) segments

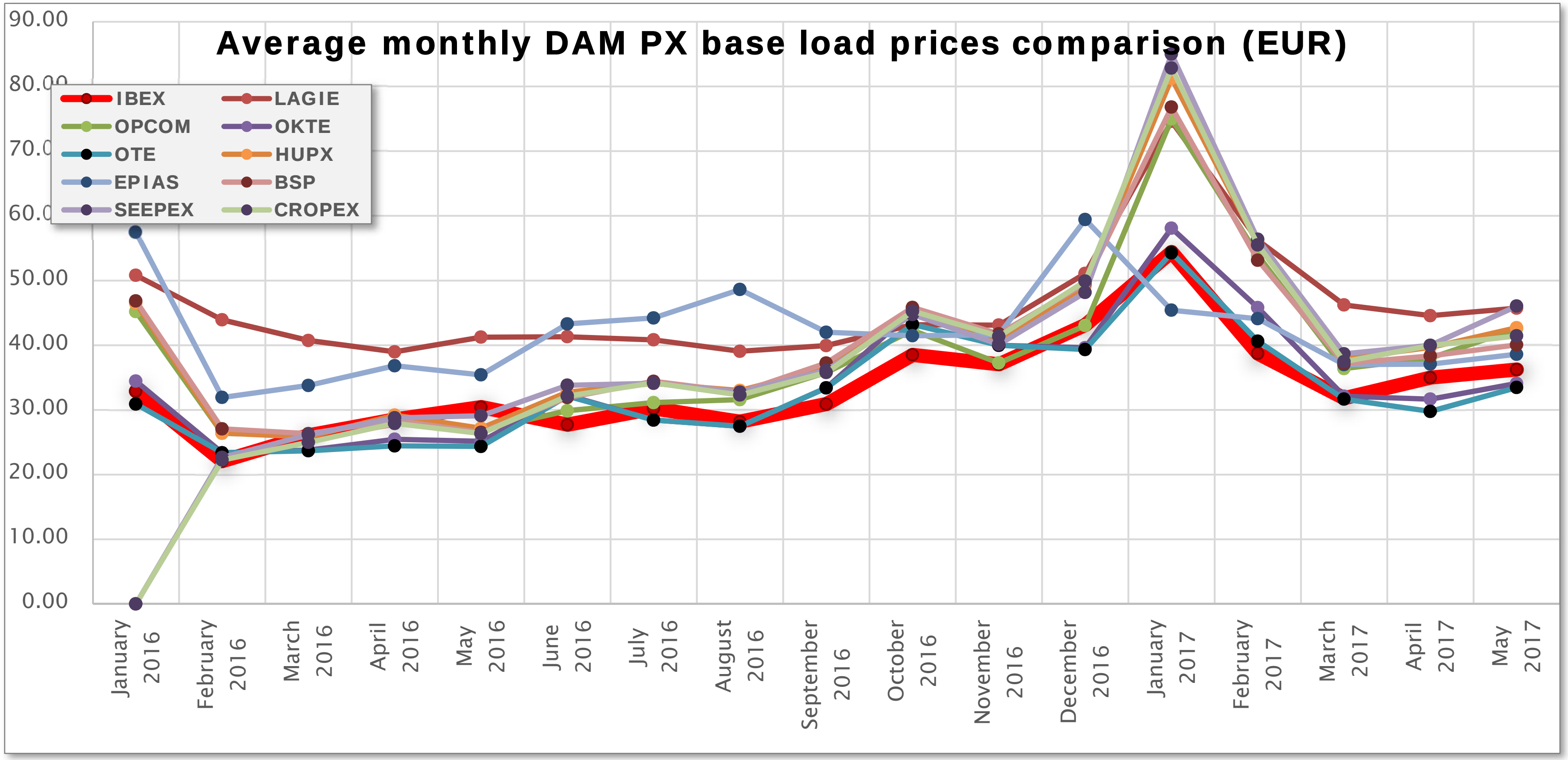
Stable domestic consumption

Fluctuations in exports due to European electricity market conditions in 2016, causing fluctuation in generation as Bulgaria is a net exporter of electricity



Source: *ESO*

Electricity Sector
Overview



Source: Power exchange websites

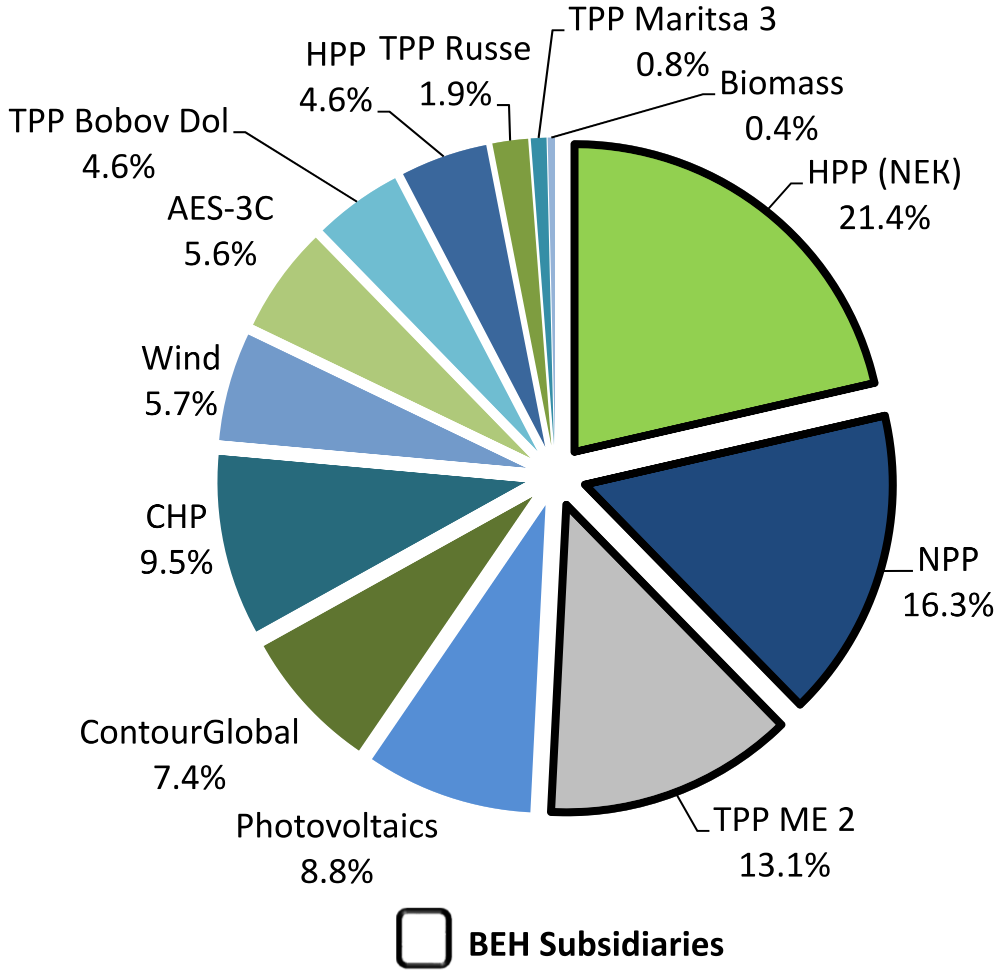
Electricity Sector
Diversified Mix of Generation Capacity

Bulgaria has a diversified generation asset mix

BEH accounts for approx. 50% of installed electricity generation capacity

BEH has a diversified generation mix with hydro, nuclear and thermal energy capacities

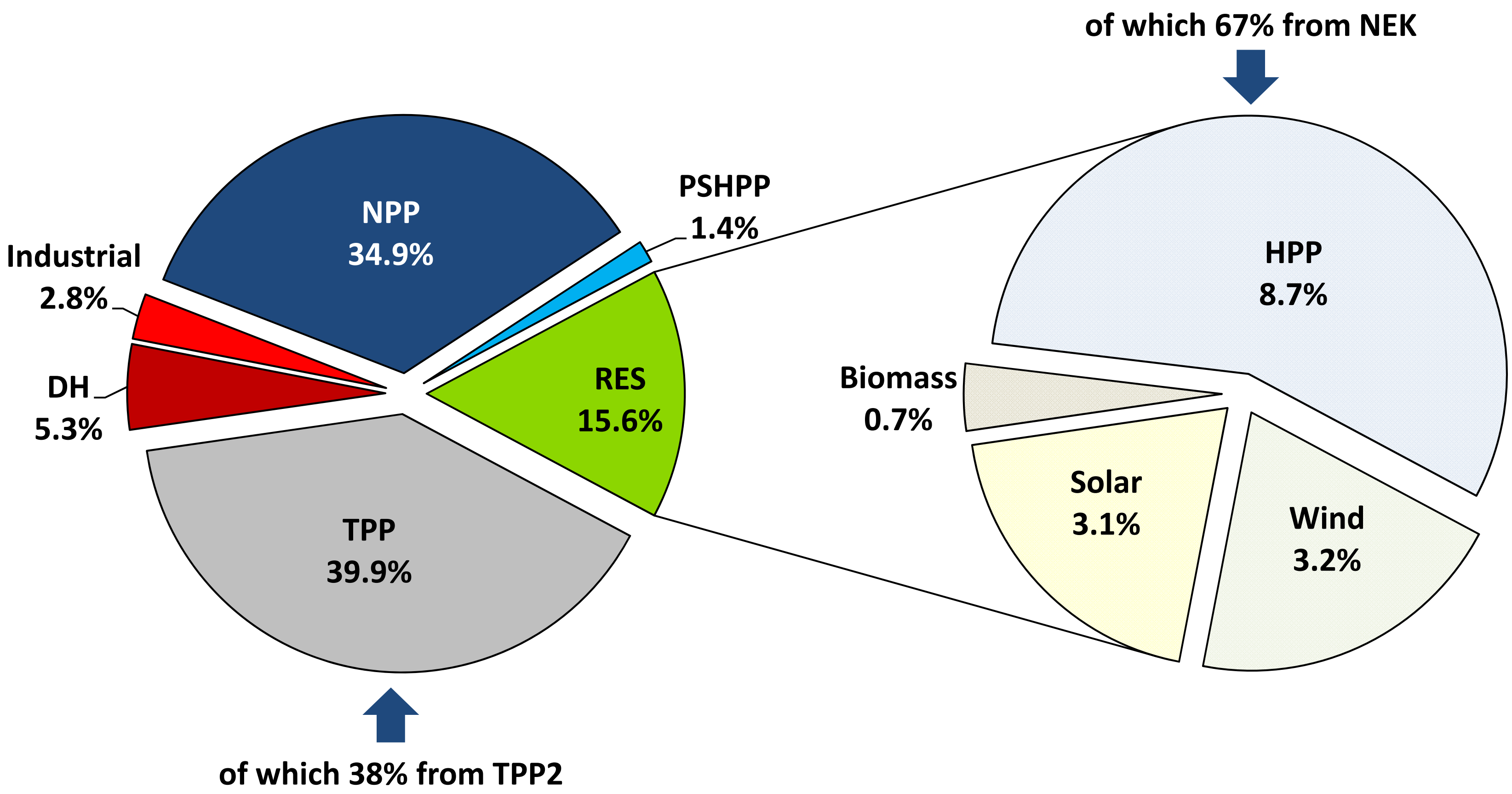
12,3 TW of installed capacity (2016)



Source: *ESO, 2016 data*

Electricity Sector

BEH accounted for circa 60% of gross generated electricity in the country in 2016



Source: *ESO, 2016 Electricity Balance*

Electricity Sector
Key Highlights

- Operations are based in a single well developed geographic region with significant exports to neighboring countries
- Diversified portfolio: electricity, gas and coal mining. Electricity generation mix is expected to remain well aligned with market average:

2016	Installed capacity			Gross generation		
	% of total market	BEH share of market	% w/i BEH	% of total market	BEH share of market	% w/i BEH
Nuclear	16%	100%	32%	35%	100%	58%
Thermal*	43%	31%	26%	48%	38%	30%
Hydro	26%	82%	42%	10%	67%	11%
Renewable	15%	0%	0%	7%	0%	0%
BEH Group TOTAL	**51%**			**60%**		

** Including district heating and industrial plants (cogeneration)*

Formation of the Historical Tariff Deficit

The combination of imposed legal obligations on NEK to purchase electricity from RES and high efficiency cogeneration at preferential prices and contractual obligations under the long-term PPAs, led to a big financial burden for NEK and an inability for the regulated revenues to cover all the costs.

Factors leading to the accumulation of a tariff deficit in NEK in past regulatory periods:

- **Boom in RES generation combined with mandatory purchase by NEK of renewable energy at preferential prices for the whole quantity fed into the electricity grid -** Regulatory decisions could not keep pace with the rapid increase in RES generation. Production forecasts submitted by RES producers to the Regulator underestimated actual production. This combination resulted in an inability to cover NEK's costs for the purchase of this expensive energy in a timely manner.
- **Mandatory purchase of highly-efficient cogeneration electricity at preferential prices without a proper mechanism for measuring compliance with high efficiency criteria –** Combination of commissioning of new capacities in existing plants and optimizations in others and inadequate mechanisms to measure cogeneration output and the high efficiency factor resulted in actual quantities purchased by NEK consistently exceeding forecasted quantities in the regulatory decisions and the cost to NEK was not fully compensated.
- **PPAs between NEK and AES and ContourGlobal** - "Take or pay" principle, whereby NEK commits to pay for almost the entire capacity of the plants, regardless of whether this capacity is dispatched or not. Historical under-compensation for these obligations in the regulatory decisions.

Measures Implemented to Address Tariff Deficit

Reduction of NEK Costs

Legislative and regulatory changes were implements in 2015 and 2016 aimed at stabilizing the sector by:

- Eliminating the formation of new tariff deficits
- Gradual recovery of the accumulated historical deficit in NEK in relation to its obligations as a Public Supplier

Combined with the Regulatory decisions the legislative changes had the following impact:

1. **Reduction of NEK's costs on the regulated segment by:**
   - **Limiting NEK's obligation to purchase electricity from RES above a set "Net specific generation" –** The Regulator limited electricity quantities for obligatory purchase by NEK to those which ensure that generated revenues by RES producers from their feed-in tariffs are commensurate with their approved rate of return.
   - **Limiting NEK's obligation to purchase electricity from cogeneration:**
     - NEK is obliged to purchase only the part of the generation which fulfils high efficiency cogeneration criteria, proven by a certificate of origin and up to the quantities of electricity set in the Regulator's decision. All cogeneration plants have been required by law to install measuring devices which allow for precise measurement of the electricity quantities which fulfill the high-efficiency criteria.
     - Cogen plants with revenues above BGN 5 million of which more than 35% comprise income from electricity sales were excluded from NEK's obligatory purchases

Bulgarian Energy Holding

Measures Implemented to Address Tariff Deficit
Increase of NEK Revenues

2. **Increase in NEK's revenues from the regulated segment by increasing existing and creating new revenue streams**

- **Security of the Electricity System Fund - NEK as Public Supplier is the sole beneficiary of SESF**

  Main sources of funds into SESF:

  - Instalments of 5% of the revenues from sales of electricity from electricity producers, of the revenues from sales of electricity of electricity traders for imported quantities and of the revenues of the electricity ands gas transmission system operators
  - Revenues from the sale of CO2 quotas

  SESF funds are transferred to NEK as compensation for its current and past obligations to purchase electricity from producers under PPAs and RES, high-efficiency cogeneration and quota producers.

- **Increase of the amount and scope of the Obligation to Society (OBS) fee:**

  - OBS fee has been applied also for quantities of electricity purchased for technological losses (~4 GWh)
  - OBS fee has almost doubled from 18.93 BGN/MWh to 37,02 BGN/MWh

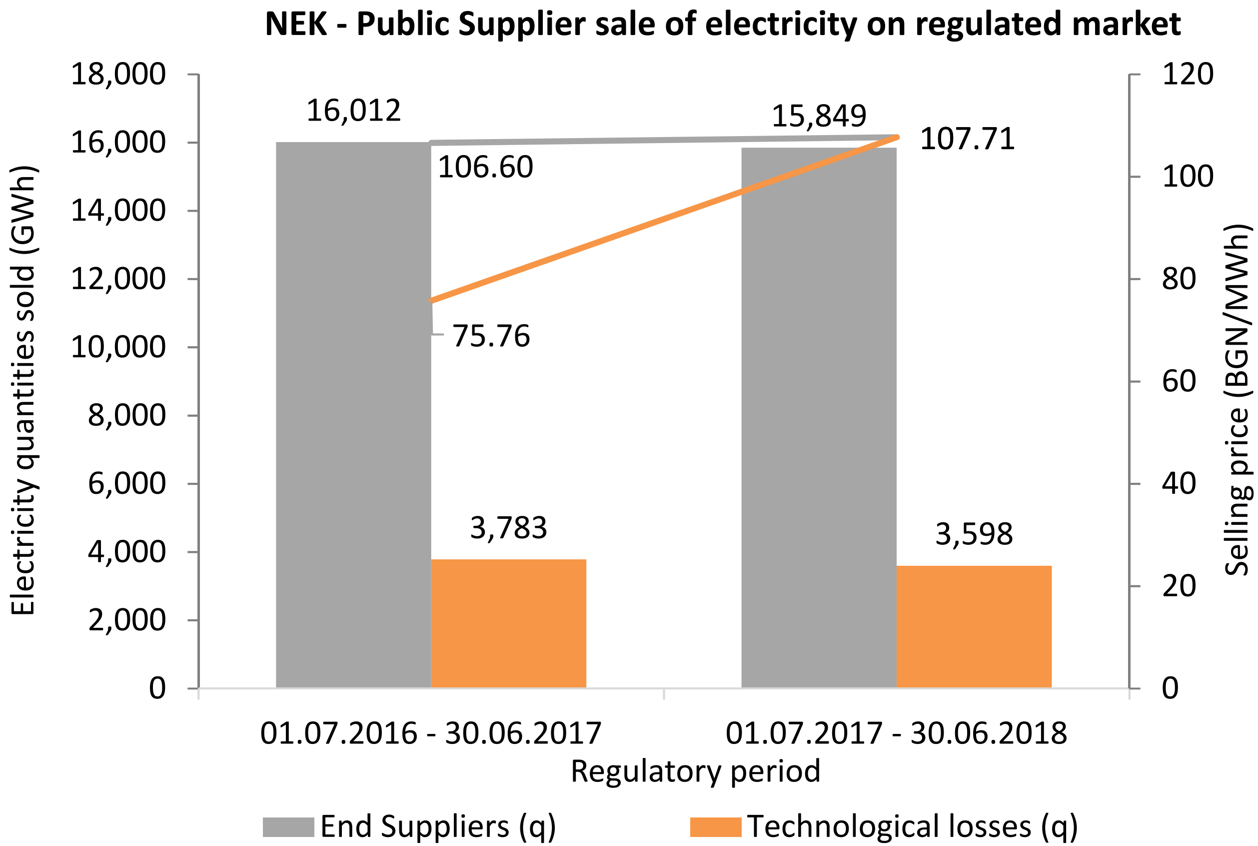
In cooperation with the World Bank the Bulgarian government is preparing further legislative changes to move the energy sector to financial sustainability and address the historical tariff deficit.

Electricity Sector
New Regulatory Decision (1/2)

The pricing model for the new regulatory period remains unchanged with the notable exception of the price of electricity sold by NEK-Public Supplier for technological losses in the grids, resulting in higher revenues for NEK.

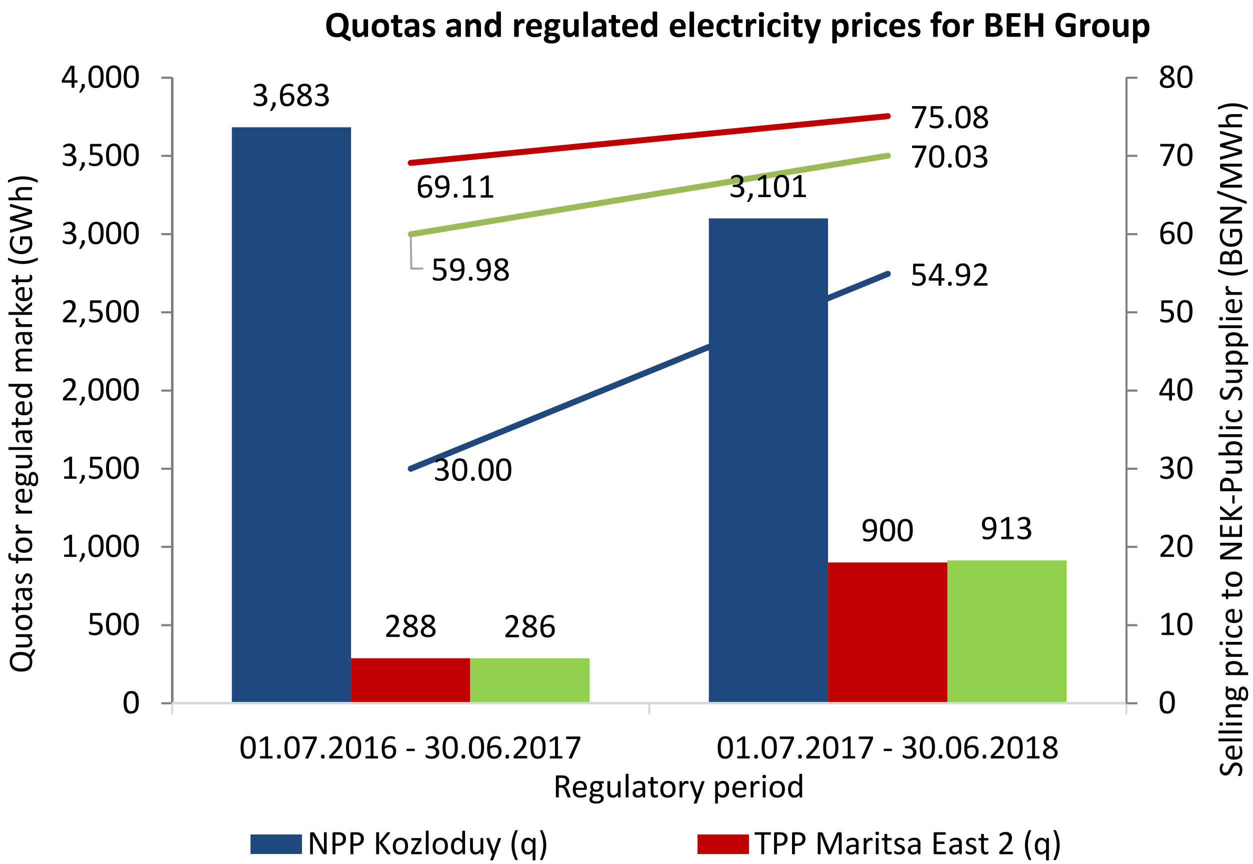
Slight decrease in expected demand on the regulated market due to continuing liberalization effort.

ESO price for access and transmission increased by 9.3% to reflect increase in price for technological losses.



Electricity Sector
New Regulatory Decision (2/2)

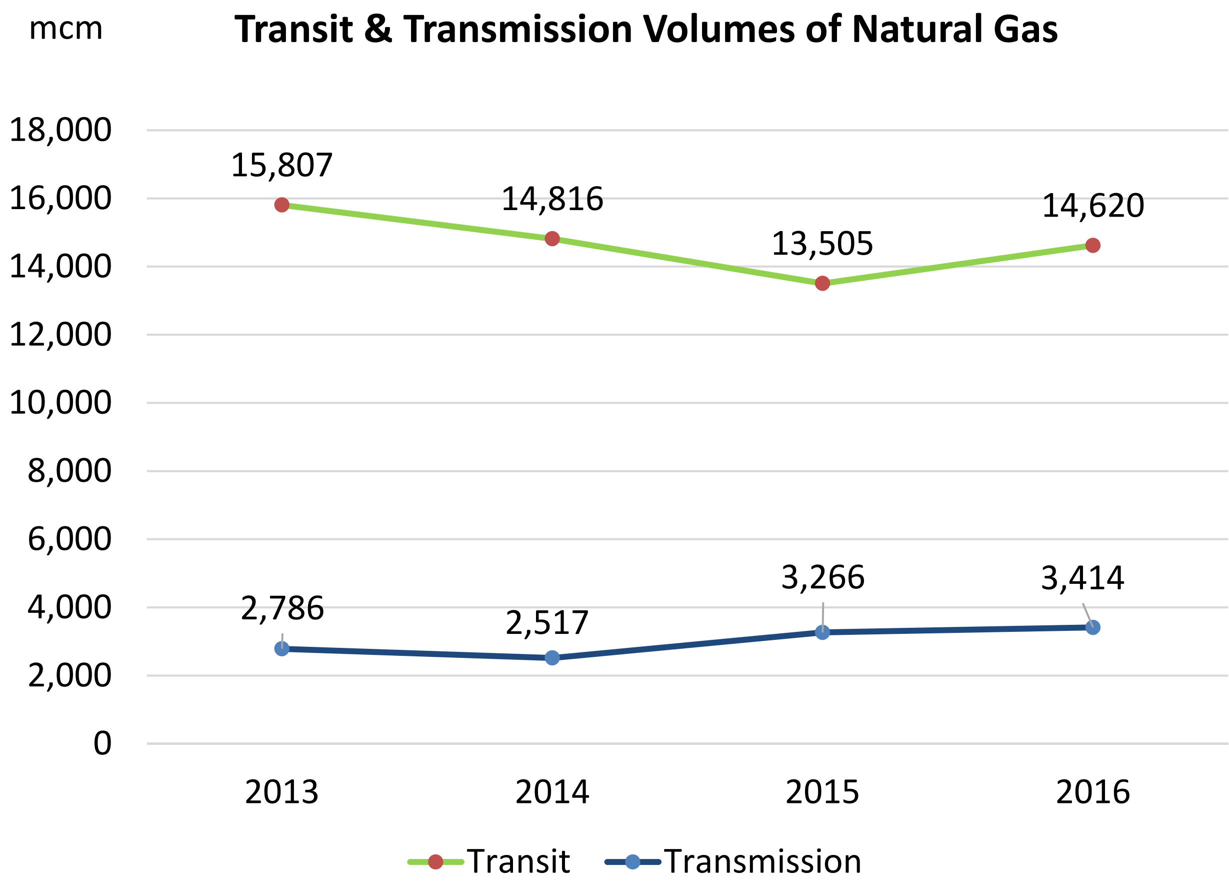
Increase in the prices of all BEH Group producers who have quotas for the regulated market as well as increase in the quantity of their overall quota, providing for higher revenue and better visibility.



Natural Gas Sector
Transmission & Transit

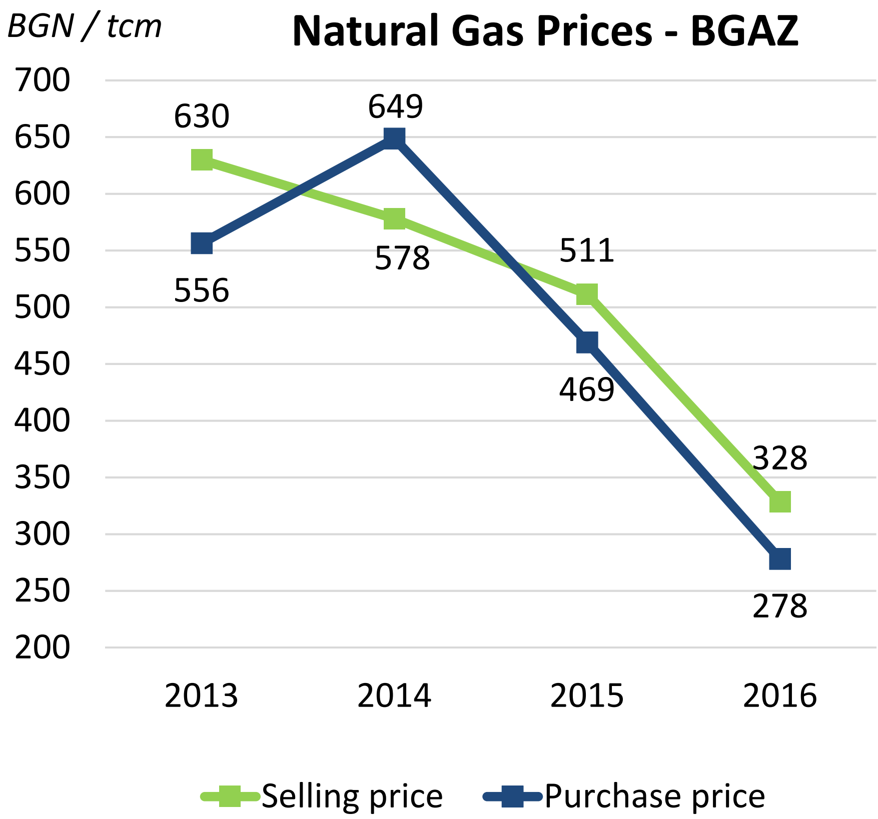
Gradual growth of domestic transmission of natural gas as a result of gasification effort and lower gas prices

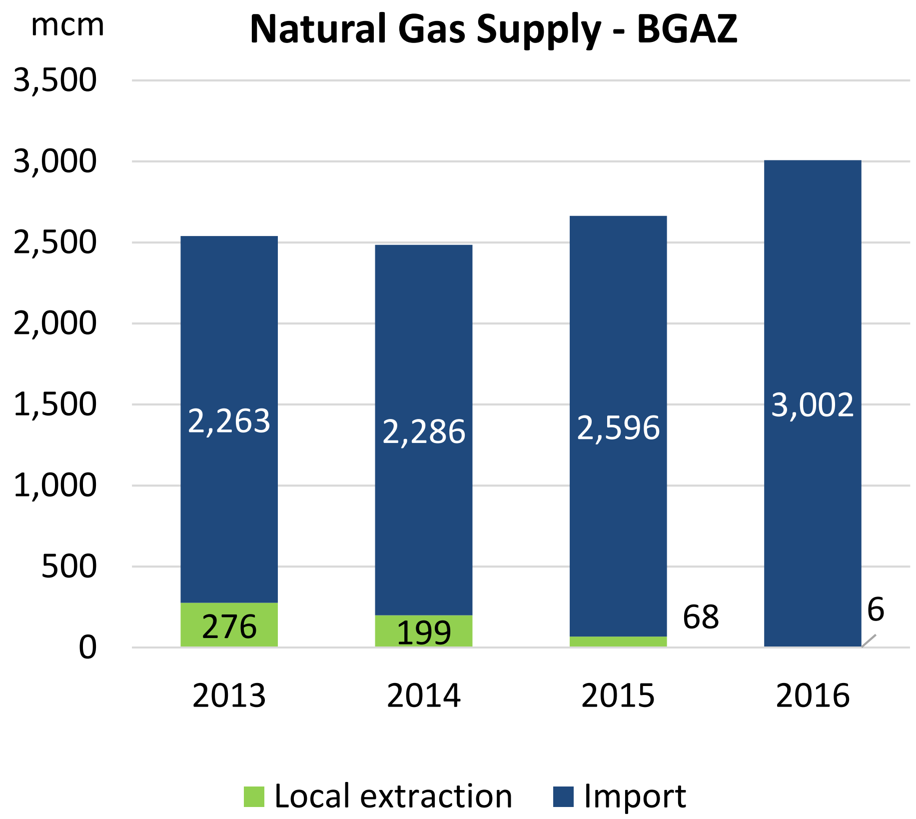
Transit capacity of the network is 18,700 bcm, contracted almost entirely to Gazprom under a long term contract (until 2030) with a 90% ship or pay clause



Source: *Company data, Bulgartransgaz*

Natural Gas Sector
Supply





Source: *Company data, Bulgargaz*

Bulgarian Energy Holding

Strategy & Development

Strategy and Mission

BEH's long-term strategy aims to guarantee security of energy supply and sustainability of the energy sector. BEH is the instrument of the State for implementing the State's energy strategy.

ELECTRICITY

- Guarantee security of electricity supply
- Rehabilitate and expand transmission network
- Extend the useful life of existing nuclear facilities
- Increase electricity generation capacity through investments in new generation facilities
- Increase exports and strengthen the position of Bulgaria as a strategic net exporter in the region
- Achieve a liberalized, transparent, integrated and competitive electricity market

NATURAL GAS

- Guarantee security of gas supply
- Modernize and expand existing gas network and storage facility
- Diversify supply sources and routes through construction of gas interconnectors with neighboring countries
- Solidify position as strategic regional gas player (Balkan Gas Hub Project)
- Construction of a new gas storage facility

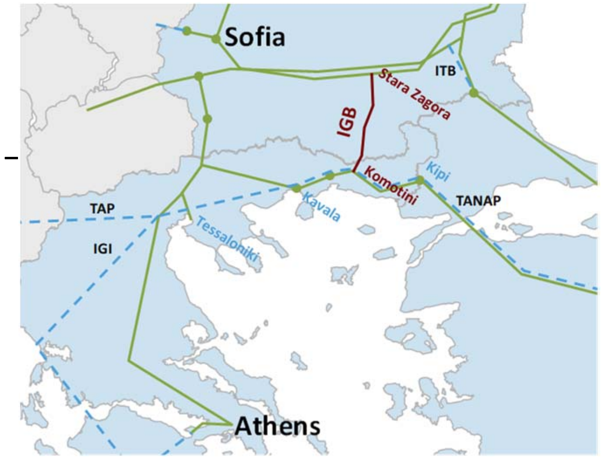
MINING

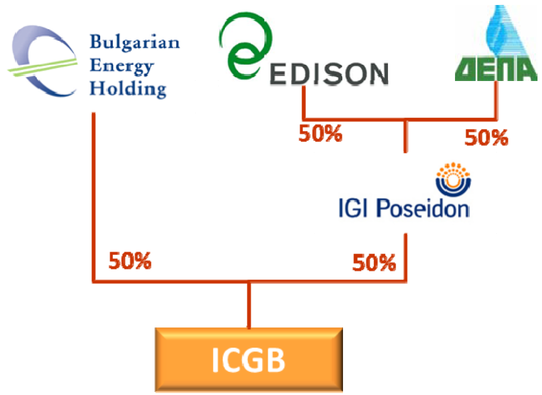
- Guarantee security of coal supply
- Increase production capacity of MMI
- Improve efficiency of open pit mining
- Invest in new heavy mining equipment
- Satisfy requirements of the thermal power plants in the Maritsa East Basin (including potential new capacities)

Interconnector Greece-Bulgaria
Overview

IGB is a 182km cross-country high pressure gas pipeline between Komotini (Greece) and Stara Zagora (Bulgaria): approx. 31 km of the route is in Greece, 151km in Bulgaria.

Capacity	**Up to 3 bcm/y,** with the possibility for future increase up to 5 bcm/y
Capex	BEH's share of construction CAPEX expected to be approx. **€97.5-100mm** (for capacity up to 3 bcm/y)
EU Support	Included in the EU list for Projects of Common Interest and beneficiary of **a €45mm grant**
National Status	Project of national importance - only energy project with a committed state guarantee **of up to €110mm**
Strategic rationale	Connection of Southeastern Europe with natural gas supply sources from the Caspian region, Middle East, East Mediterranean and LNG Imported gas through IGB can be transited to neighboring countries and beyond via other interconnectors such as IBR (BG-RO), IBS (BG-SER) Pivotal in North - South interconnection promoted by the EU

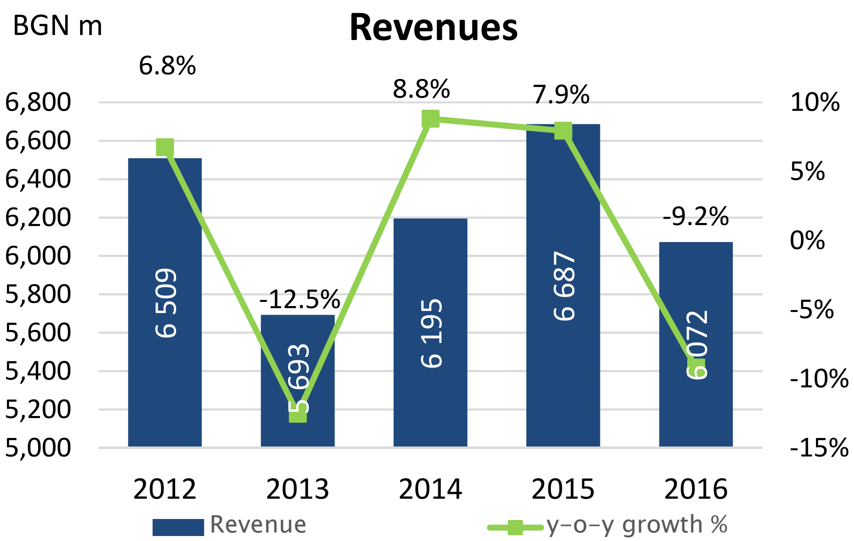


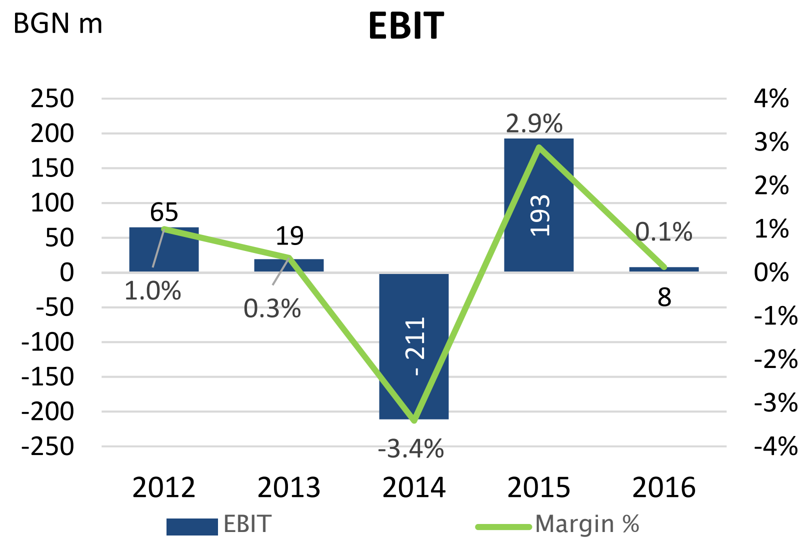


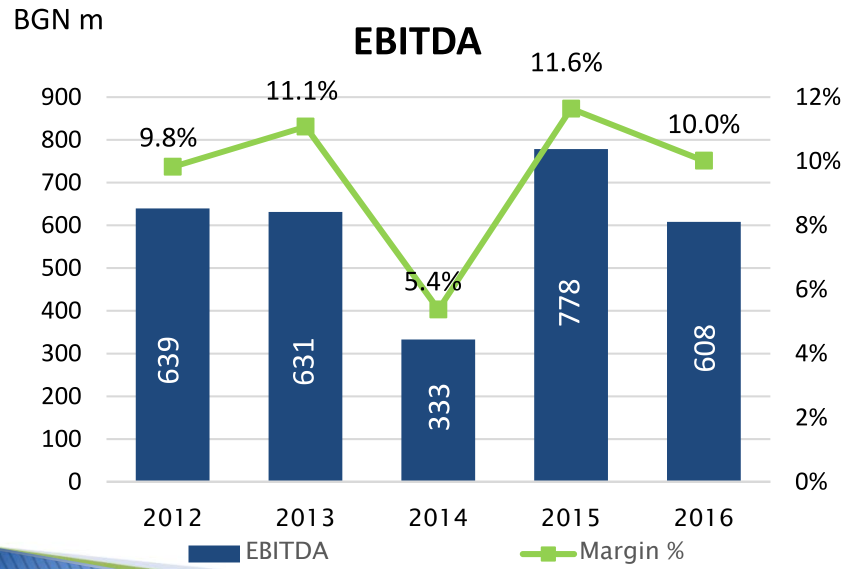
Bulgarian Energy Holding

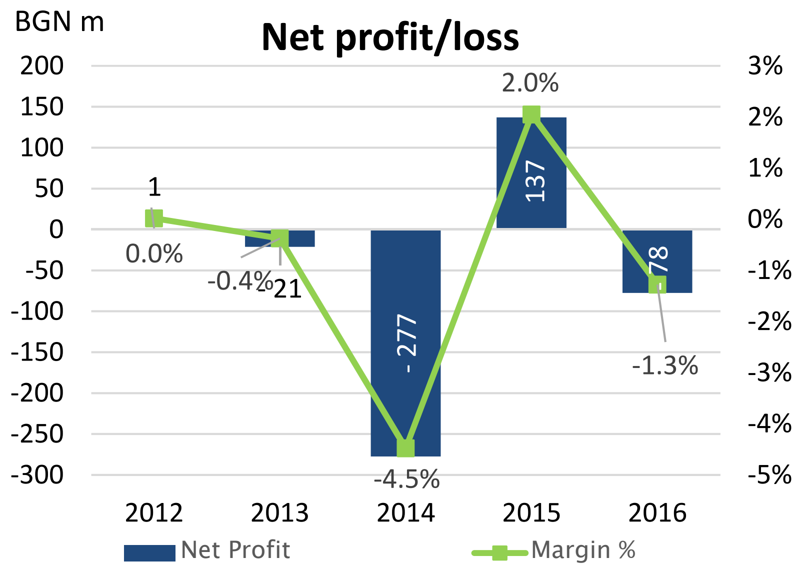
Financial Results

Key Financial Data
P&L Overview FY 2012 – FY 2016









Electricity Sector
Financial Results 2014-2016

Revenue in 2016 decreased slightly y-o-y due to lower exports caused by decrease in electricity prices in Europe by 15-20% driven by:

- **large quantities of cheap electricity traded out of Norway and Sweden**
- **low gas prices → activation of gas fired power plants across Europe**
- **devaluation of Turkish currency (key export destination for Bulgarian electricity)**

while domestic consumption remained stable

On-going implementation of cost optimization policy supporting OPEX decrease

Operating profit negative due to one-offs (Belene arbitration costs, impairments of receivables from CCB in liquidation)

	2014	2015	2016	*Change 2016/2015*	
	BGN '000	*BGN '000*	*BGN '000*	*BGN '000*	*(%)*
Sales revenue from:					
- external customers	4 222 388	4 760 584	4 584 085	*(176 499)*	*(3.71%)*
- other segments	724 612	557 285	511 038	*(46 247)*	*(8.30%)*
Segment revenues	**4 947 000**	**5 317 869**	**5 095 123**	***(222 746)***	***(4.19%)***
Changes in finished goods and work in progress	(10 430)	9 229	(10 016)	*(19 245)*	*(208.53%)*
Work performed by the entity and capitalized	9 868	9 710	17 088	*7 378*	*75.98%*
Cost of natural gas, electricity and other current assets sold	(3 510 995)	(3 212 349)	(2 973 494)	*238 855*	*7.44%*
Cost of materials	(461 543)	(492 031)	(512 271)	*(20 240)*	*(4.11%)*
Hired services expenses	(212 957)	(232 438)	(289 845)	*(57 407)*	*(24.70%)*
Depreciation and amortization	(411 753)	(423 386)	(442 972)	*(19 586)*	*(4.63%)*
Employee benefits expenses	(490 402)	(478 375)	(478 640)	*(265)*	*(0.06%)*
Net impairment of trade receivables	(4 794)	(8 769)	(22 033)	*(13 264)*	*(151.26%)*
Net impairment of property, plant and equipment	0	(1 012)	0	*1 012*	*100.00%*
Other operating expenses	(182 944)	(252 795)	(448 101)	*(195 306)*	*(77.26%)*
Expenses for provisions	(110 995)	(167 359)	(8 192)	*159 167*	*95.11%*
Segment operating profit from continuing operations	**(439 945)**	**68 294**	**(73 353)**	***(141 647)***	***(207.41%)***
Segment operating profit from discontinued operations	(58 532)	(30 171)	801	*30 972*	*102.65%*

Natural Gas Sector

Financial Results 2014-2016

Lower market prices of oil and oil derivative in 2016 versus 2015 led to:

- **Decrease in sales revenue by 23.7%**
- **Decrease in cost of natural gas sold by 30.3%**

Operating profit decreased slightly by 3.4% mainly due higher depreciation & one-offs such as impairment of receivables

	2014	2015	2016	*Change 2016/2015*	
	BGN '000	*BGN '000*	*BGN '000*	*BGN '000*	*(%)*
Sales revenue from:					
- external customers	1 723 325	1 610 736	1 221 587	*(389 149)*	*(24.16%)*
- other segments	179 477	152 439	123 330	*(29 109)*	*(19.10%)*
Segment revenues	**1 902 802**	**1 763 175**	**1 344 917**	***(418 258)***	***(23.72%)***
Changes in finished goods and work in progress	444	448	315	*(133)*	*(29.69%)*
Cost of natural gas, electricity and other current assets sold	(1 509 417)	(1 340 667)	(934 133)	*406 534*	*30.32%*
Cost of materials	(7 420)	(6 923)	(5 987)	*936*	*13.52%*
Hired services expenses	(16 120)	(21 302)	(17 620)	*3 682*	*17.28%*
Depreciation and amortization	(70 086)	(72 319)	(85 615)	*(13 296)*	*(18.39%)*
Employee benefits expenses	(49 610)	(56 111)	(59 964)	*(3 853)*	*(6.87%)*
Net impairment of trade receivables	(12 895)	(5 932)	(45 996)	*(40 064)*	*(675.39%)*
Net impairment of property, plant and equipment	0	(1 279)	0	*1 279*	*100.00%*
Other operating expenses	(169 296)	(31 883)	(18 783)	*13 100*	*41.09%*
Technological losses of natural gas	0	(106 867)	(60 954)	*45 913*	*42.96%*
Segment operating profit	**68 402**	**120 340**	**116 180**	***(4 160)***	***(3.46%)***

Coal Mining Sector
Financial Results 2014-2016

Mining subsidiary is implementing 5-year overburden removal program to ensure long-term sustainability of mine

Revenue decrease by 12.9% in 2016 y-o-y as a result of lower volume of lignite excavation due to technological constraints

OPEX cost remained relatively stable

Operating profits decreased by 55% in 2016 y-o-y mainly due to lower revenues

	2014	2015	2016	*Change 2016/2015*	
	BGN '000	*BGN '000*	*BGN '000*	*BGN '000*	*(%)*
Sales revenue from:					
- external customers	245 740	312 192	263 481	*(48 711)*	*(15.60%)*
- other segments	248 250	270 468	244 286	*(26 182)*	*(9.68%)*
Segment revenues	**493 990**	**582 660**	**507 767**	***(74 893)***	***(12.85%)***
Changes in finished goods and work in progress	13 585	14 597	25 770	*11 173*	*76.54%*
Work performed by the entity and capitalised	5 221	4 066	5 744	*1 678*	*41.27%*
Cost of natural gas, electricity and other current assets sold	(133 965)		(176)		
Cost of materials	(45 265)	(145 416)	(144 978)	*438*	*(0.30%)*
Hired services expenses	(61 770)	(51 252)	(51 421)	*(169)*	*0.33%*
Depreciation and amortization	(236 048)	(89 143)	(70 987)	*18 156*	*(20.37%)*
Employee benefits expenses	0	(244 253)	(235 762)	*8 491*	*(3.48%)*
Net impairment of trade receivables	0	(4 199)	(12 523)	*(8 324)*	*(100.00%)*
Net impairment of property, plant and equipment	(17 989)	(3 140)	0	*3 140*	*(100.00%)*
Other operating expenses	(8 806)	(29 298)	(21 075)	*8 223*	*(28.07%)*
Expenses for provisions		(17 460)	5 320	*22 780*	*(130.47%)*
Segment operating profit	**8 953**	**17 162**	**7 679**	***(9 483)***	***(55.26%)***

Bulgarian Energy Holding

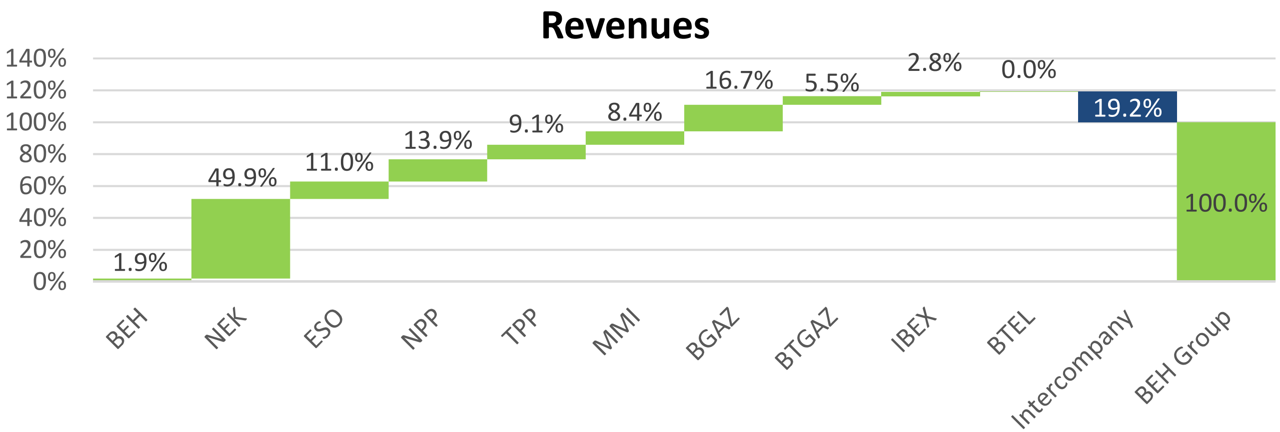
Key Financial Data

BEH Group Revenue and Cost Structure FY 2016

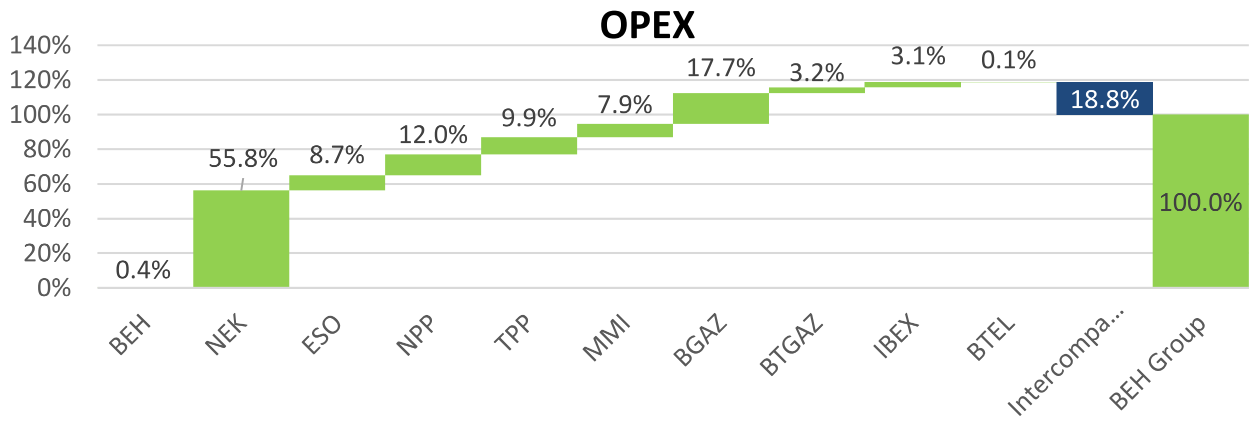
The biggest contributors to BEH Group revenues are NEK, NPP & BGAZ

In terms of allocation of operating costs there are no significant discrepancies to the revenue pattern

Related party transactions are balanced between the Group subsidiaries comprising circa 19% of the total revenues/costs.



BGN m	117.1	3 028.8	667.4	843.5	555.2	507.8	1 013.4	331.5	171.2	3.0	-1 166.9	**6 071.9**



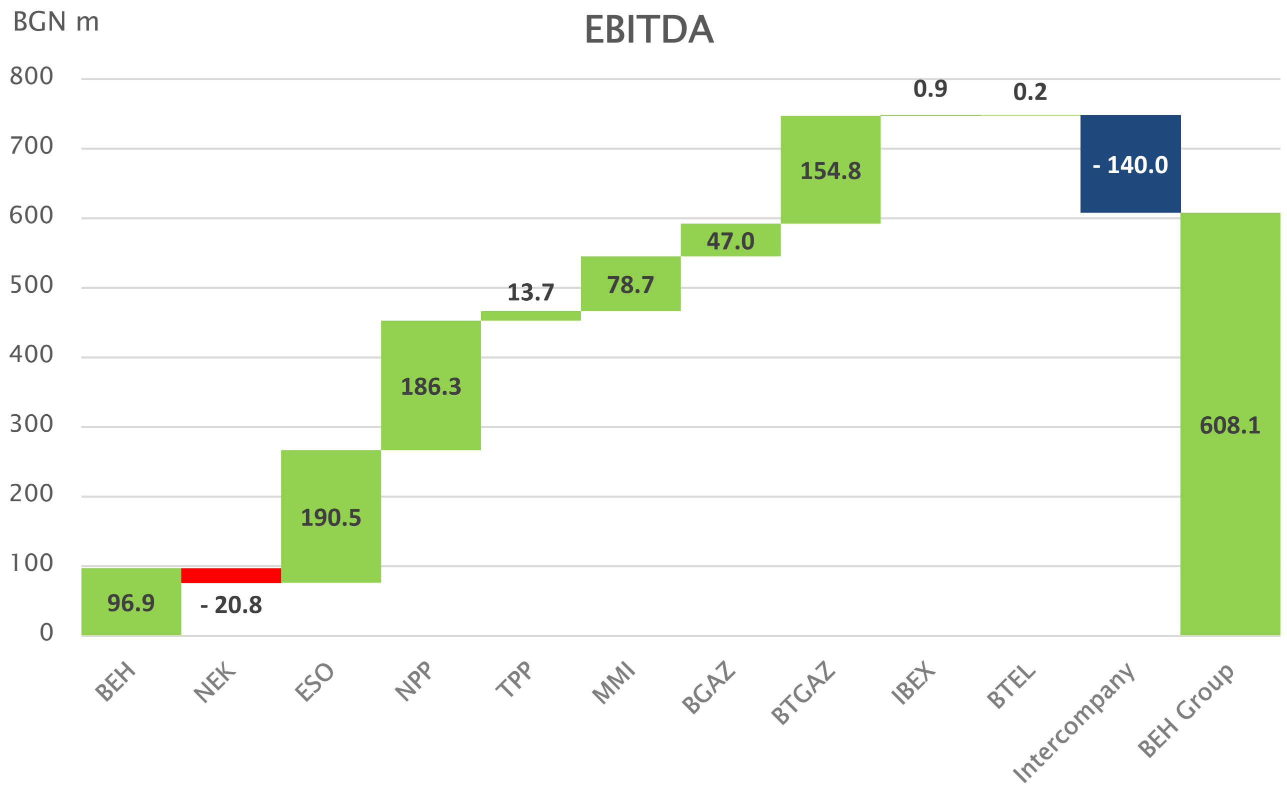
BGN m	-20.1	-3 049.6	-477.0	-657.2	-541.5	-429.1	-966.4	-176.7	-170.3	-2.8	1 026.9	**-5 463.8**

Key Financial Data

BEH Group Profit Structure FY 2016

The biggest contributors to BEH Group EBITDA profitability are the two transmission system operators (ESO & BTGAZ) and NPP

In 2016 NEK is the only entity with negative EBITDA, however its profitability improves significantly by 83% from BGN -125m in 2015 to BGB -21m in 2016



BGN m												
EBITDA	96.9	-20.8	190.5	186.3	13.7	78.7	47.0	154.8	0.9	0.2	-140.0	608.1
EBIT	96.7	-78.7	79.0	6.5	-80.2	7.7	46.9	69.3	0.8	-0.7	-139.6	7.7
Net Profit	124.6	-128.7	73.8	2.7	-98.5	1.5	36.7	66.3	0.7	-0.8	-155.8	-56.3

Key Financial Data

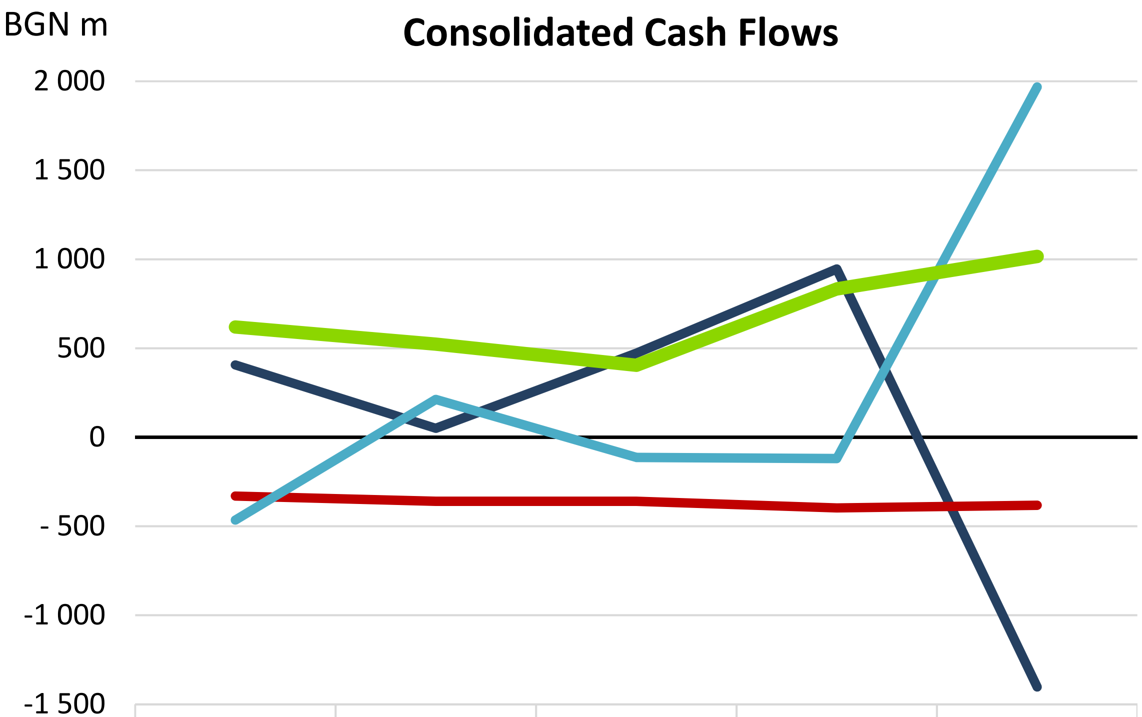
Cash Flows FY 2012 – FY 2015

Growing trend in CFO was reversed in 2016 as a result of BGN 1 177 m payment to AO Atomstroyexport (ASE) in relation to arbitration decision and payments to IPPs with PPAs for settlement of payables

CFI remained stable and on par with previous years‘ level as result of steady capital expenditures

CFF rose sharply in 2016 due to:

- **Proceeds from EUR 550 m Eurobond issuance and settlement of NEK payables to IPPs with PPAs**
- **Proceeds from interest free government loan to NEK for settlement of arbitration award to ASE**



	2 012	2 013	2 014	2 015	2 016
CFO	406	51	472	945	-1 403
CFI	- 330	- 360	- 360	- 397	- 382
CFF	- 465	212	- 114	- 120	1 968
Cash at End	620	523	404	833	1 016

Key Financial Data
Debt

External Debt:

85% of external Group debt is held by BEH

11% of external Group debt is state-guaranteed

Intragroup Debt:

Strategy is to consolidate debt at the holding company level and provide financial support to Group companies through intercompany loans

89% of intragroup loans are to NEK for covering historical tariff deficit

Outstanding amount *(BGN '000)*	31.12.2014	31.12.2015	31.12.2016
External debt	**1,570,931**	**1,556,867**	**2,429,177**
BEH	979,039	980,256	2,057,229
NPP	238,529	193,846	149,272
TPP	87,312	155,599	85,908
NEK	230,874	180,369	134,488
MMI	35,177	46,797	2,280
State guaranteed debt	**656,715**	**529,813**	**275,238**
NPP	238,529	193,846	149,272
TPP	187,312	155,598	79,370
NEK	230,874	180,369	46,596
Intragroup debt	**1,478,000**	**1,514,000**	**2,586,450**
NEK	1,223,000	1,192,000	2,289,055
TPP	125,000	154,000	246,065
MMI	81,000	136,000	48,425
BGAZ	47,000	30,000	-
BTEL	2,000	2,000	2,905
State loan	**-**	**-**	**804,866**
NEK	-	-	804,866

Key financial data
CAPEX FY 2016

As at 31.12.2016, the Group's total capital expenditures amounted to circa **BGN 429m.**

The main investment projects were:

Electricity

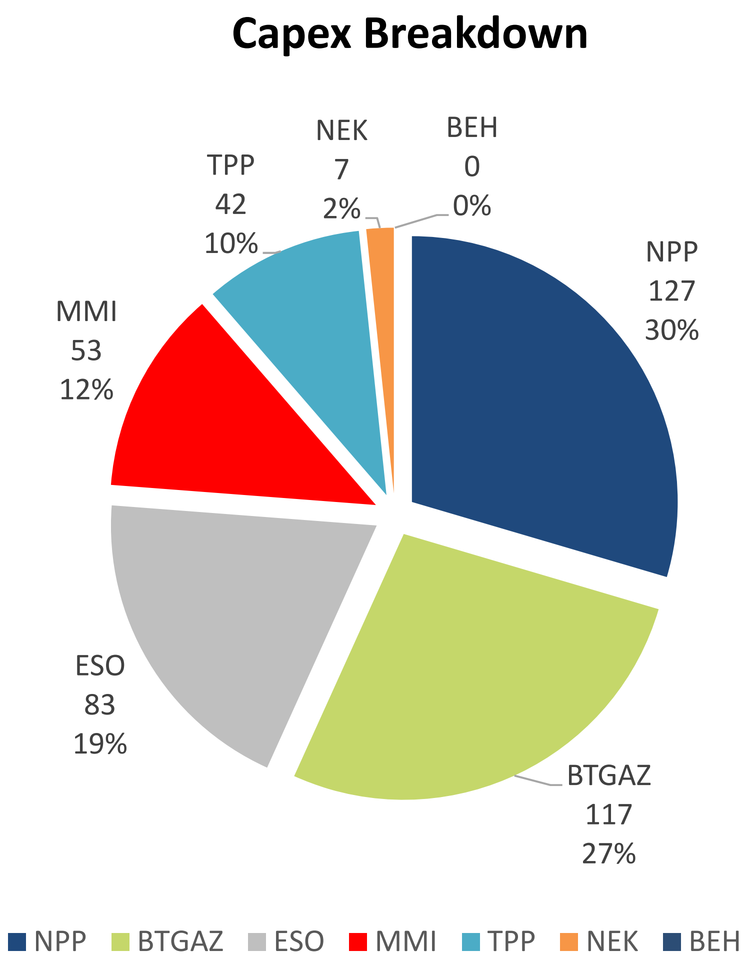
- NPP - Extending the useful life of units 5 & 6
- NPP - Increase the heat generation capacity of reactors units 5 and 6
- NEK - Yadenitsa HPP Project (PCI)
- ESO - Rehabilitation and expansion of the electricity transmission network (PCI)

Gas

- BEH - ICGB interconnector with Greece (PCI)
- BTGAZ - Chiren UGS expansion (PCI)
- BTGAZ - ITB Interconnector with Turkey

Mining

- Rehabilitation and purchase of new mining equipment



Bulgarian
Energy
Holding

Thank you!