

# **IENE Company Profile**



## **Overview**

Located in the centre of the Balkans, NIS is today Serbia's biggest company and one of the largest vertically integrated energy groups in Southeast Europe. Its principal activities include exploration, production and refining, sales and distribution of a broad range of petroleum products, as well as the implementation of energy projects not only in Serbia but increasingly so in the whole Balkans area. The Group's head office is in Novi Sad, and its main production capacities are located all over the Republic of Serbia, which by virtue of geography is considered as the center of trade and investments in the Balkans.

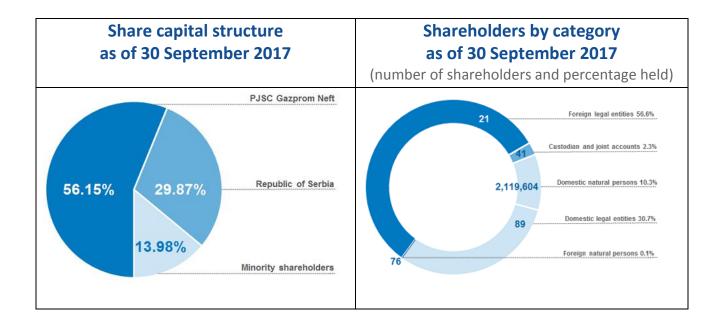
In Serbia, NIS owns a refining compound with two units, one in Pančevo and the other in Novi Sad, which produce a wide range of petroleum products – from motor fuel and diesel fuel, through aviation fuel, to industrial lubricants and feedstock for petrochemical industry. In 2012, NIS completed the first stage of the modernization of Pančevo Oil Refinery (RNP), enabling the transition to the production according to the European standards for fuel quality. The sales structure consists of export and domestic wholesale deliveries of crude, gas and petroleum products, as well as retail sales of finished petroleum products, liquefied petroleum gas and a series of related products. NIS owns the largest retail network in Serbia, which has been expanding across the region since 2012. NIS is represented in the market by two retail brands – NIS Petrol and Gazprom.

The "IENE Company Profile" is an occasional communication published by the Institute of Energy for SE Europe in its effort to broaden the dialogue on current energy issues of regional and global interest. A Company Profile, as the name implies, focuses on a particular company engaged in one or more areas of activity in the broad energy field. The scope of the "Company Profile" is to focus on the achievements and plans of prominent energy companies and organizations which through their work paradigm could provide inspiration for leadership, strategy and innovation. Material used for a Company Profile may come from published sources but also from original input contributed by IENE's staff and research associates.



In accordance with its long-term Strategy providing for the expansion of business outside Serbia, NIS has expanded its business operations to regional markets including Bosnia and Herzegovina, Hungary, Romania and Bulgaria. In 2012, NIS began expanding its operations in the fields of electricity generation, including renewable energy sources such as wind generation, and geothermal energy with the view of becoming a fully integrated energy company with activities in the whole energy spectrum.

NIS's ownership structure is mixed reflecting the diverse government corporate interests at play. Gazprom Neft owns 56.15 % of the share capital of NIS, while 29.87 % of NIS shares are held by the Republic of Serbia. The remaining portion belongs to private investors, employees, former employees and other minor shareholders, and are listed on the Belgrade Stock Exchange. (ticker NIIS)



### **Business activities**

The NIS Group has operations in 10 countries around the globe and hires an international team of experts. NIS Group delivers its main business activities through five Blocks: Exploration and Production, Services, Refining, Sales and Distribution, and Energy.



## **NIS in SE Europe**



The Exploration and Production block covers exploration, production, infrastructure and operational support to production, management of oil and gas reserves, oil and gas reservoir engineering, and major exploration and production projects. The majority of NIS' oil deposits are in Serbia, but NIS has also expanded into the region, conducting exploration activities in Bosnia and Herzegovina, Hungary and Romania. NIS has been operating in Angola since 1980 and launched oil exploitation in that country in 1985. This Block operates an Elemir-based plant for processing of natural gas, production of LPG and natural gasoline and CO2 capture, which has a design capacity of 65,000 tons of LPG and natural gasoline per year. In 2016 a new Amine Plant was added to the complex, which enhanced gas quality and output and had positive environmental impact reflected in the prevention of carbon dioxide emissions into the air. Through its subsidiary NTC NIS Naftagas d.o.o. Novi Sad, NIS provides scientific and technical support to the main activities of the parent company and brings development and innovation into its operations.

The **Services** block covers in oil and gas exploration and production through geophysical surveying, well construction, completion and workover, and performance of special operations and measurement on wells. The Block also delivers equipment maintenance services and the construction and maintenance of oil and gas systems and facilities. Apart from carriage of goods and truck services, it also provides passenger transportation and vehicle rental services. NIS has its own servicing capacities, which are able to fully meet Group's demand and to provide services to third parties. All this is delivered through subsidiaries Naftagas – Naftni servisi d.o.o. Novi Sad, Naftagas – Tehnički servisi d.o.o. Zrenjanin and Naftagas –



Transport d.o.o. Novi Sad. Services have expanded the business into foreign markets: Bosnia and Herzegovina, Romania and Russia. Business activities NIS Group is one of the largest vertically-integrated energy systems in South East Europe.

The **Refining** block is responsible for refining crude oil and other raw materials and for producing petroleum products. It produces a broad range of petroleum products: from motor and energy fuels to feedstock for the petrochemicals industry, and other petroleum products. Block's refining complex includes a production plant in Pančevo. Maximum designed capacity of the refining plants in Pančevo equals 4.8 million tons per year. Following the construction of the Mild Hydrocracking and Hydrotreating Unit (MHC/DHT) in 2012, NIS now produces fuel that meets EU quality standards and plans to continue modernizing its refining assets and to construct a delayed coking unit.

The **Sales and Distribution** block deals with foreign and domestic trading and the wholesale and retail of petroleum and non-fuel products. NIS operates the largest retail network in Serbia and develops the sales and distribution business in regional countries also - Bosnia and Herzegovina, Bulgaria and Romania. In the markets of Serbia and the region, NIS operates two brands: NIS Petrol and GAZPROM. As separate businesses, NIS develops aviation fuel supply, bunkering, lubricants and bitumen sale and distribution. All fuel types are subject to regular, rigorous laboratory testing and comply with national and international standards. The introduction of state-of-the-art technologies has increased the network's operational efficiency.

The **Energy** block is responsible for power generation and thermal energy production from renewable sources, markets gas and electricity, sets up and carries out strategic energy projects, and develops and implements projects that aim to improve energy efficiency. This Block develops and implements energy projects within the NIS Group, performs analysis and evaluation of investment projects in the energy sector of Serbia under strategic partnership projects. The implementation of the project for construction of CHP "Pančevo" and building of "Plandište" wind farm in joint venture with partners are in progress. On its oil and gas fields, NIS has 14 small power plants with the total power of 13.8 MW. Most of the small power plants also generate thermal energy, meeting the consumption requirements of its own facilities. The electricity output is marketed as well, and NIS became the only producer supplying electricity to the free market along with Electric Power Industry of Serbia ("EPS"). In addition to small power plants, NIS produces electrical and thermal energy at the Energy Plant Pančevo having a generator power of 10.7 MWe. Electrical and thermal energy at the Energy Plant are fully used at the Pančevo Oil Refinery.

## **NIS Worldwide**

A little-known fact is that NIS has been operating outside Serbia for more than 35 years having first set foot in Angola in 1980 where it is still involved in oil and gas



production. More recently in 2010 and 2011, NIS started expanding its core activity outside Serbia with subsidiaries in corporate in Bosnia and Herzegovina, Bulgaria, Hungary and Romania, with a Representative Office established in Brussels in support of Serbia's European integration. NIS also has representative offices in Russia, Croatia, and Angola. The Group is currently operating in 10 countries around the globe and hires an international team of experts.

At the moment, NIS is operating in two production blocks in **Angola** in a consortium with several international companies, including the Angolan national oil company Sonangol. In late 2010, NIS participated in the incorporation of Jadran-Naftagas, a company engaged in the exploration of hydrocarbons in **Republika Srpska**.

NIS carries out its sales and retail network development operations in Bosnia and Herzegovina via NIS Petrol d.o.o. Banja Luka and G Petrol Sarajevo. In 2012, the first petrol stations were put into operation in the Republika Srpska and a year later, NIS took over OMV petrol stations in the Federation of Bosnia and Herzegovina, one of the most robust networks in the market. The retail network of 37 petrol stations in total operates under two NIS brands: GAZPROM - the premium brand and NIS Petrol - the mass market brand.

NIS is also operating in **Bulgaria** where it has registered a subsidiary, NIS Petrol EOOD. In mid-2013, the first petrol station under the GAZPROM brand was opened in Bulgaria and now there are 35 retail sites in the retail network in this country. NIS Petrol has bought a storage facility in Kostinbrod near Sofia, thus paving the way for the development of the distribution of fuel from Serbia to its own retail sites, as well as for the commencement of wholesale operations.

NIS Petrol SRL, a subsidiary of NIS in **Romania**, is involved in exploration and production, and retail network development across the country. In addition, NIS Petrol is registered for trading in electricity, which allows NIS to trade in electricity on the EU market. In Romania, which is part of the Pannonian Basin in geological terms, NIS and its partners have engaged in geological exploration in six blocks located in the highly productive region in the west of the country. NIS cooperates with four companies in Romania – Canadian East West Petroleum, Irish Moesia Oil and Gas, English Zeta Petroleum, and Romanian Armax Gaz. The GAZPROM petrol station network in Romania comprises 18 sites.

## **A New Corporate Strategy**

Before the end of 2017 NIS j.s.c. Novi Sad Board of Directors adopted a new Integrated Strategy for the company's development over the next eight-year period until 2025. This new strategy paves the way for continuous development in the challenging macroeconomic environment and is aimed at increasing the company



value both for its staffers and shareholders as well as the communities in which NIS operates.

This New Development Strategy will enable NIS to maintain its status as a major employer in the next period, and at the same time continue to significantly contribute to Serbia's budget in the forms of tax deductions and dividends. In the period to 2025, an average annual 4 per cent EBITDA indicator growth is forecast. Other than that, a vast investment programme to the tune of 2.2 billion dollars is envisaged until 2025, ensuring that NIS remains one of the largest local investors in Serbia.

According to the New Strategy NIS will focus on a numbers of priority projects: increased depth and efficiency of refining at the Pančevo Oil Refinery, steady oil and gas production indicators and hydrocarbon reserves growth. This will be followed by the formatting and revamp of the retail network. Furthermore, the strategic objectives also imply further expansion of business by investing into power generation, as well as keeping the position of the region's efficiency leader, along with complete optimization of operating performance.

In the Exploration and Production Block a further research base development programme is envisaged based on extensive of drilling and geological and technical measures. Refining Block's principal development strategic objectives focus on improved energy efficiency and a steady refining efficiency growth. A revamp of Refinery plants, is envisaged based on a project for increasing the bottom of the barrel processing in Pančevo Oil Refinery. The completion of this 300+ million euros worth revamping project will further diversify the product range with increased-yield products, along with ensuring high quality fuel supply to the market, consequently bolstering Serbia's energy stability. Q3 2019 shall see the start of commercial operation of the bottom of the barrel plant based on delayed coking technology.

Sales and Distribution Block will continue its investments into modernisation, development and upgrade of retail network efficiency, as well as into the increased market share in the region. Refueling stations within the NIS Petrol mass brand and GAZPROM premium brand will expand its offer to consumers in its loyalty programmes and making a single sales offer. In the next period, NIS will also make effort to further develop the business lines for specialised products – jet fuel, lubricants and bunker fuel, which will be achieved by streamlining dedicated logistics and improved quality of products and related services.

In terms of the Energy Block, NIS will seek to further diversify its operations by investing into power generation. Key projects of this business segment will be the construction of a new combined-cycle power plant (CCPP) Pančevo, further growth of power generation based on cogeneration and development of wind-generation. The mainstay focus is also the streamlining of energy efficiency based on a prudent use of available resources.



Upon the adoption of the new corporate strategy the chairman of the Board of Directors of NIS, and first deputy CEO of Gazprom Neft Vadim Yakovlev stated: "At the moment NIS is Serbia's largest and most influential company, one of the key players of the power market of the Balkan region. I am convinced that NIS long-term development strategy shaping business development vectors in Serbia and abroad will be instrumental in building up company's competitive edge throughout East-European markets, and implementation of its strategic projects will propel the shareholder return".

Speaking about the new Integrated Corporate Development Strategy, Kirill Turdenev, the CEO of NIS, said:

"We are sure that the Strategy we had adopted with the major shareholders consent will prove in the years to come a driving force behind the successful development of NIS, as we seek to accomplish our long-term vision — NIS emerging as the leading power generating company in the South East European region. Moreover, this Strategy is the testament to the right choice we made concerning the way we forge ahead, it is our demonstration of an unchanged focus on our strategic priorities aimed at ensuring the continuation of a successful business, having a resolve to keep close to heart the demands of our consumers and an ever-changing market environment".

## NIS and EU

The standards and policies, directives, and laws on the basis of which the EU creates the single market and lays the foundations of the European Energy Union are the *spiritus movens* behind the construction and development of the business environment within which NIS will continue to strengthen its leadership position in the Serbian regional market. In this context NIS is active in:

- Monitoring the accession negotiations between the Republic of Serbia and the European Union offering technical support for this process and formulating company views on chapters affecting company business operations directly or indirectly.
- Monitoring the development of the EU energy and climate policy so that NIS, is in step with new circumstances and challenges, which could affect its business strategy, and its investment outlook.
- Organizing specialist workshops offering its employees and the public at large the possibility to learn more about current issues and also provide a public debate in developing energy policies and the regulatory environment, which are important for regional business.

The EU's good understanding of Serbia is just as important to NIS and this is why the company:



- (i). <u>Supports the participation of Serbian experts</u> in debates in Brussels related to economic issues.
- (ii). <u>Promote in EU's seat the culture</u> and values of the countries in which NIS conducts business.

## **A Variety of Products**

Taking advantage of its excellent strategic location in the Balkans energy market NIS is producing and marketing a full range of petroleum products ranging from motor fuel, diesel and fuel oil to marine oil and aviation fuel.

The quality of motor fuels is crucial to an engine's performance and its life expectancy, as well as exhaust gas emission and, by implication, the quality of the air we breathe. Therefore, all types of motor fuel undergo strict and regular laboratory control, and are compliant with the Regulations on Technical and Other Requirements for Liquefied Fuel Originating from Crude Oil. In addition, Euro Premium BMB95, G-Drive 100, Ultra D and Euro Diesel comply with European quality standards. In response to customer needs, NIS petrol stations offer the following types of fuel: G-Drive 100, Euro BMB 98, EURO PREMIUM BMB 95, EURO DIESEL, Autogas TNG, METAN CNG.

Fuel oils, which are widely used for power generation in remote areas and also in industry, are another main type of fuel that NIS is producing. There are three types of fuels oils that NIS is focusing on: Low-sulphur fuel oil (NSG-S), Medium fuel oil (S), Extra light fuel oil (EURO EL).

A highly beneficial business activity for NIS is the supply of aircraft with aviation fuel, which is produced at the Pančevo Oil Refinery. Jet fuel produced by NIS is compliant with the relevant international and domestic standards. The certified laboratory integrated into the Aero Services facilities exclusively conducts aviation analyses. Using state-of-the-art equipment, the laboratory monitors all activities – from fuel reception and storage to fuel dispatch to tank trucks which refuel the aircrafts. NIS owns a state-of-the-art facility for storage and distribution of aviation fuel at Belgrade Airport, which is the best equipped facility of its kind in the region. NIS Aero Services meets strict supply standards regarding reliability and speed. This has been verified by high marks from the IATA international association, which controls all operational segments of air traffic.

NIS offers the following two types of jet fuel:

- Jet fuel Jet A-1 compliant with the Defence Standard 91-91/issue no. 7, produced at the Pančevo refinery
- Aircraft fuel (Avgas 100LL) compliant with the Defence Standard 91-90/issue no. 3, supplied to various airlines aircrafts.



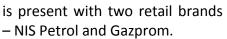
Another important activity for Serbia's leading industrial group is the supply of river vessels with top quality Euro diesel at its bunkering stations found along river routes in Serbia. The high quality of the EURO DIESEL NIS provides ensures maximum performance, proper starting, and flawless engine operation. Produced in line with the strictest specifications, the quality of EURO DIESEL is fully compliant with the European standard EN 590.

Currently, NIS supplies fuel to vessels in five bunkering stations on the river Danube – in Novi Sad, Prahovo, Smederevo and Belgrade. The modern bunker station Smederevo is intended solely for supplying local vessels operating on inland navigable waterways of the Republic of Serbia with motor fuel. A significant capacity of the bunker stations ensures a great stability in supply, guaranteeing an exceptionally high level of reserves and the possibility of providing services without any delays.

In order to protect the environment, modern equipment — floating membranes and skimmers for the removal of fuel from water — is used both at the installations and bunker station. NIS' goal for the upcoming period is to maintain the leadership position in the bunkering market on the Middle Danube and potentially to expand the bunker station network, both in Serbia and the regional countries.

#### **Petrol Stations**

Petrol stations form the backbone of NIS's commercial operation. With more than 400 NIS-owned and operated stations in Serbia, Bosnia and Herzegovina, Romania and Bulgaria, the company is a regional leader in petrol servicing. In the market, NIS





NIS Petrol mass consumption offers brand consumers reliability, availability, modern service standards and guaranteed petroleum product quality. NIS Petrol is the largest network in Serbia also operating in the Republika Srpska. Aiming to increase efficiency and the retail market share in Serbia and the region, in late 2012 NIS launched a premium petrol station brand -Gazprom. Gazprom

facilities offer European-standard petrol, high-quality oils and lubricants and other products, as well as Wi-Fi internet and a rich restaurant menu including regional



cuisine. Today the Gazprom brand network has 16 petrol stations in Serbia, 18 in Romania, 35 in Bulgaria, and 27 in Bosnia and Herzegovina.

All new and reconstructed petrol stations have modern multifunctional petrol pumps which offer NIS consumers European-quality petroleum products — Euro Premium BMB95, BMB98, Euro Diesel, Premium Diesel Ultra D, Premium petrol G-drive 100 and LPG. The petrol stations are open 24 hours a day, they have shops with a wide range of products, cafes and restaurants with internet access, spacious parking lots, playgrounds, and wheelchair access.

## **Consistent Results**

In releasing its consolidated Operating Results for the first nine months of 2017, prepared in accordance with the International Financial Reporting Standards, NIS's management underlined the high return of it investments so far.

In this reporting period, NIS's net profit rose 2.6 times compared to the same period last year and amounts to RSD 20.1 billion. EBITDA (Earnings before Interest, Taxes, Depreciation and Amortisation) is RSD 34.3 billion or 53 percent more that year on year. The trend of increase in NIS Group tax and other public revenue liabilities also continues, as they amount to RSD 126 billion for the first three quarters of 2017, a 7-percent increase compared to the same period in 2016. The effects of the operational efficiency improvement measures on EBITDA were RSD 5.1 billion.

The output of oil and gas in the first 9 months was 1.04 million toe. Compared to the same period in 2016, there is a 10-percent increase in the processing volume, which amounts to 2.6 million tons. During the first nine months of 2017, NIS Group achieved the total sales of petroleum products of 2.5 million tons, 4 percent more than year on year. The electricity output in the first three quarters of this year was 117,967 MWh, the result beating last year's by 13 percent.

Upon releasing of NIS financial 9 months results NIS CEO Kirill Tyurdenev stated, "The positive operating results of NIS prove that the company has chosen the optimal business model in current market conditions. We invested RSD 16.6 billion in the development of NIS during this reporting period and we continued working towards increasing the company's operational efficiency. This year, NIS is focused on implementing the largest project in Serbia's energy sector — construction of the Bottom of the Barrel complex at Pančevo Oil Refinery. In addition, we continue to modernise and develop our retail network, invest in geological exploration and production of oil and gas, as well as in energy-related projects."



## **Key Indicators of NIS Group**

Q3 2017	Q3 2016	Δ	Key indicators	Unit of measurement	9M 2017	9M 2016	Δ
51.4	44.1	+16%	Urals	\$/bbl	50.8	40.1	+27%
60.4	52.7	+15%	Sales Revenues	bn RSD	167.8	134.1	+25%
7.7	4.5	+70%	Net profit	bn RSD	20.1	7.7	+2,6x
11.7	9.3	+26%	EBITDA	bn RSD	34.3	22.5	+53%
20.0		+109%		bn RSD	38.9	18.2	+114%
45.8	41.2	+11%	Calculated obligations on the basis of public revenues	bn RSD	126.0	117.5	+7%
352	365	-4%	Production of oil and gas	thous t.o.e	1,044	1,108	-6%
968	626	+55%	Refining of crude oil and semi-products	thous tons	2,613	2,376	+10%
962	861	+12%	Total sales volume of petroleum products	thous tons	2,514	2,414	+4%
6.7	5.3	+25%	CAPEX	bn RSD	16.6	14,4	+15%
671	708	-5%	Total indebtedness to banks (Total debt to banks+ LCs)	mn USD	671	708	-5%

**Net profit** for the first nine months of 2017 was many times higher than the net profit generated in the same period last year and amounted to 20.1 billion dinars, compared to 7.7 billion dinars in the first nine months of 2016.

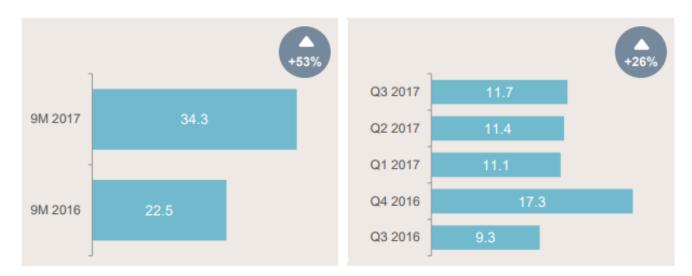
Net Profit of NIS Group, bn RSD



**EBITDA** for the first nine months of 2017 was 53% higher than in the first nine months of 2016 and amounted to 34.3 billion dinars.



## EBITDA of NIS Group, bn RSD



In the first nine months of 2017, **operating cash flow** amounted to 38.9 billion dinars and was greater than the one in the same period of 2016 by 114%.

Operating Cash Flow of NIS Group, bn RSD

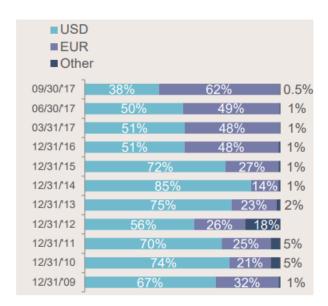


In the first nine months of 2017, the **debt towards banks** slightly grew, up to the level of USD 668.9 million with the increase of the share of credit in EUR compared to the situation as of 31 December 2016. Furthermore, the debt towards the parent company PJSC Gazprom Neft has also been reduced amounting presently to EUR 267 million.

Long-term funding sources have been ensured enabling credit portfolio restructuring in the first nine months, in terms of maturity date extension and reduction of the price of financing. Negotiations with banks and other financial institutions are continuously under way to find additional long-term funding sources, especially in the circumstances of EU imposed restrictions on long-term financing, in order for the



process of portfolio restructuring in terms of maturity, currency and price, to continue in 2018 and 2019, within the limits of allowable debt/EBITDA ratio.



Total Bank Debt Structure, by Currencies, in %

The following Table shows **ratio indicators** of NIS Group that are calculated from financial statements prepared in Accordance with the Law on Accounting of the Republic of Serbia and regulations issued by Ministry of Finance of the Republic of Serbia. These financial statements are disclosed on forms stipulated by the Securities Exchange Commission of the Republic of Serbia on corporate website in Download section of part for Investors (<a href="http://ir.nis.eu/en/download-center/">http://ir.nis.eu/en/download-center/</a>).

Ratio Indicators of NIS Group

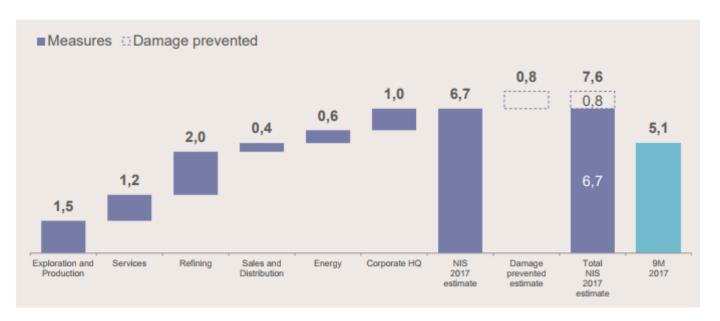
	9M 2017	9M 2016
Return on total capital		
(Gross profit/total capital)	12%	5%
Net return on equity		
(Net profit/shareholders equity)	25%	9%
Operating net profit		
(operating profit/net sales income <sup>64</sup> )	15%	9%
	9M 2017	FY 2016
Degree of leverage		
(short term and long term liabilities/equity)	71%	86%
Degree of leverage		
(short term and long term liabilities/shareholders equity)	190%	212%
1st degree liquidity		
(cash and cash equivalents/short term liabilities)	43%	33%
2 <sup>nd</sup> degree liquidity		
((current assets - inventories)/short term liabilities)	122%	98%
Net working fund ratio		
((current assets - current liabilities)/total assets)	11%	7%

The estimated effect of measures to increase the **operational efficiency on EBITDA ratio** in 2017 is 6.7 billion RSD. In addition, the expected effect from the prevented



damage is 0.8 billion RSD. The effect of measures for operational efficiency improvement amounted to 5.1 billion RSD in first nine months of 2017.

Effect of operational efficiency improvement measures on the EBITDA indicator



Finally, the following Table shows selected financial indicators of NIS Group, indicating their trends over 2009-2016. Net profit remained stable at 16.1 billion RSD in 2016, compared to 2015 levels, as well as the total amount of dividend at 4 billion RSD and payment ratio at 25%. Earnings per share and gross dividend per share

			2011				2015	2016
Net profit (loss), bn RSD <sup>67</sup>	(4.4)	16.5 <sup>68</sup>	40.6	49.5	52.3	30.6	16.1	16.1
Total amount of dividend, bn RSD	0.00	0.00	0.00	12.4	13.1	7.6	4.0	4.0
Payment ratio	-	-	-	25%	25%	25%	25%	25%
Earnings per share 70, RSD	-	101.1	249.0	303.3	320.9	187.4	98.8	98.6
Dividend per share, gross, RSD	0.00	0.00	0.00	75.83	80.22	46.85	24.69	24.66
Share price as at December 31st, RSD	-	475	605	736	927	775	600	740
Shareholders' dividend yield, in % <sup>71</sup>	-	-	-	10.3	8.7	6.0	4.1	3.3

decreased slightly to 98.6 RSD and to 24.66 RSD, respectively.

<u>Notes:</u> <sup>67</sup>Net profit of NIS j.s.c. Novi Sad, <sup>68</sup>Net profit used for covering accumulated losses, <sup>69</sup>Net profit used for covering accumulated losses, <sup>70</sup>For NIS j.s.c. Novi Sad, <sup>71</sup>Calculated as the ratio of gross dividend and year-end share price.



## **Innovation**

Innovation is encouraged at all levels of operation within NIS. Some notable examples of innovative approach in the manufacturing process include the development of a pilot Carbon Capture and Storage (CCS) unit which collects CO<sub>2</sub> from the Oil and Gas Preparation and Transport Unit at the Elemir plant and then injects the CO<sub>2</sub> into geological formations. Another pioneering project involves the construction of small fit to measure plants in remote oil and gas fields. These plants have installed capacities running from 350Kw up to 1.100Kw and provide electricity through the year for the needs of the production facilities and their housing compounds.

At NIS there are several applications of improved energy efficiency systems and processes in various manufacturing plants. These include the replacement old type heat exchangers with more efficient ones, the installation of frequency regulation on the electric motors of air coolers, automation of existing boiler systems, space heating and cooling management by means of automatic switches, daily checks and adjustments of furnaces, electric motors, drainage lines, etc.

The Bottom of the Barrel project is one more innovative approach to be implemented within the construction of a delayed coking unit at the Pančevo refinery.

## Objective

The purpose of the project is to expand the product line and the production of the petroleum products that generate the biggest revenues. The project is aimed at helping NIS to achieve the targets of the Refining Block and NIS overall.

Finding ways to sell high-sulphur fuel oil given the low price on the market, and the expected legal limitations on the production and sale of this type of fuel oil starting 2018.

Fuel oil will partially be replaced with coke. Coke is in demand on the local market, while now 100% of domestic coke demand is met through import. It will help increase the production of light petroleum products including diesel (a 30% rise) without the need to buy additional feedstock, which, in turn, will make the NIS's refining business more efficient.

Increasing the refining depth to 99.2%, with a maximum utilization of the existing refining capacities and infrastructure.

Continuing the refurbishment of NIS refining capacities with the aim of maximizing the NIS' EBITDA, taking into consideration market demand and constraints.

Consolidating NIS positions in the refining business across the Balkan region.



## Key petroleum product production figures

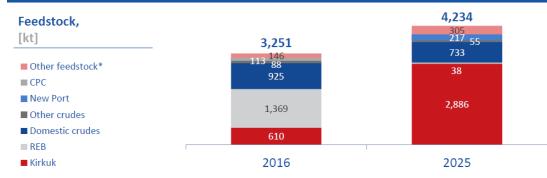
### New unit product breakdown



#### **Project benefits:**

- Increased production of Euro diesel, autogas and jet fuel
- Maximum reduction in or discontinuation of fuel oil production; increased refining depth at Pančevo Refinery from 85.5% to 99.2 % following the startup of the DCU.
- Qualitative improvement of EBITDA.

# Pančevo Refinery upgrade opens more opportunities for optimizing the crude basket



The delayed coking unit (DCU), by refining the vacuum residue, will allow to discontinue the production of fuel oil, increase the refining depth and economic efficiency of the Refinery; it will also open up new opportunities for refining new types of crude, including heavy crude.

## **Environmental Awareness**

Over the years NIS has developed a strong and consistent sustainable environmental management. This comprises specialised equipment for revamping projects such as those aimed at reducing air pollution but also soil, water and ground water, pollution reclamation and re-cultivation of polluted areas (historical pollution), environmental monitoring, boosting energy efficiency and increased use of renewable sources of energy and many others.

<sup>\*</sup>VGP, isobutane, MTBE, pyrolysis gasoline, polymer for bitumen, hydrogen





#### Air

As a socially responsible company, NIS monitors its emissions of pollutants in line with the requirements of legislation and internal normative and methodological documents. For this purpose, it conducts continuous monitoring throughout the year of the emission of air pollutants, with a series of measures aimed at reducing these emissions are applied in accordance with results and set objectives. As process furnaces in plants and boilers use combustion of fossil fuels -heating oils and natural gas, basic pollutants, monitoring is organised throughout the year.

In the context of corporate social responsibility, the Company has introduced a number of measures for reducing CO2 emissions focusing in the construction and management of cogeneration power plants. These use associated gas, which is previously burned in flares, and then is used for the production of heat and electricity.

Another environmental management project involves an amine plant located within the production complex of the Oil and Gas Preparation and Transport Unit in Elemir was completed. The project helps reduce CO2 quantities in gas produced in NIS to a level of 3 percent, corresponding to the technical requirements for its use in the national gas distribution network of Serbia. Operation of the new plant in Elemir enables harmonisation of gas quality for delivery to the transmission system, increases gas production and levels of efficiency of Company's oil and gas deposits by maintaining deposit pressure and, additionally, protecting the environment.

In 2016, an increased amount of CO2 was separated in the amine plant in the Oil and Gas Preparation and Transport Unit in Elemir, which was then transported and



injected into the Rusanda deposit (injected 50,563,620 m3 of CO2) for the purpose of maintaining deposit pressure and increasing production. This pioneering Carbon Capture and Storage (CCS) plant not only epitomises NIS's long term commitment to CO2 reduction but also paves the may for the development of much bigger project which could be used in large lignite burning power generation plants.

In order to reduce environmental impact, NIS produces and sells AdBlue, a 32.5 percent aqueous urea solution used as an agent for reducing certain vehicle exhaust gases, notably nitrogen oxide, by converting it into the harmless gas nitrogen. Nitrogen oxides are hazardous both for the environment and human health. AdBlue is stored in a special vehicle tank, from which it is injected into the exhaust gas treatment device, the so-called SCR (Selective Catalytic Reduction) system.

#### **Water and Waste Water Management**

The optimum use of water resources within the various production processes in all NIS plants is of vital importance and forms an integral part of the Company's sustainable management policy. Water resource management at NIS aims at reduction of water used while maintaining high quality which is attained through continuous monitoring and chemical analysis. Likewise every effort is made to manage recycle waste water, something which is achieved by more than 300 dedicated waste water treatment facilities located in various NIS plants.

## **Waste Management**

A strict waste management control system is in operation throughout the company whereby waste is delivered only to operators with waste management licenses obtained from the competent authorities of the Republic of Serbia. In 2016, 12 audits of operators were conducted to ensure that waste was disposed of in compliance with the law and in accordance with the conditions defined in operators' licenses.

Quantities of waste generated are regularly recorded in Daily Waste Records kept by waste generators – DWR 1 Form, while total quantities of generated and disposed-of waste are reported to the Environmental Protection Agency through their information system.

The waste management process was significantly improved by the introduction of a new concept of contracting waste disposal involving signing umbrella agreements for the disposal of specific types of waste. Such a method of contracting considerably accelerated the waste management process, ensuring shorter procurement times for waste disposal services, reduced costs, and faster and more efficient removal of waste from sites.



#### **Clean Fuels**

In the wake of the completion of the first stage of revamping, the Pančevo Refinery has completely switched to the production of Euro-5 standard fuel. Currently, NIS' revamped processing complex produces top quality fuel and continuously expands its product range. Today, NIS supplies to the market with motor gasoline with of the best characteristics, with 95, 98 and 100 octanes and Diesel-fuel of premium quality. The improved efficiency of the fuel production process is accompanied by a rigorous environmental safety control.

#### **REACH and SDS**

As a socially responsible company, NIS has proactively responded to the introduction of the REACH legislation and pre-registration procedure, and has consistently introduced and has been implementing all the measures prescribed by the EU and ECHA in order to protect human health and the environment from the hazards which may result from the use of chemical products.



REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) is the EU regulation (EC 1907/2006) enacted in June 2007 which regulates the registration, evaluation, assessment, authorization and restriction of chemicals. This regulation replaced numerous rulebooks which related to the existing substances and also regulated the method of registration of new substances and prescribed the restriction of substances which pose risk or high risk to people, wildlife and/or the environment.



REACHLaw Ltd. Helsinki, Finland has been appointed as the Only Representative of NIS j.s.c. in the European Union, all in accordance with Article 8 of the REACH Regulation.

All substances produced or imported to the European Union in quantities exceeding one ton per year must be registered with the <u>European Chemicals Agency</u> (<u>ECHA</u>) within a certain deadline, depending on the quantity of chemicals.

Communication from suppliers to consumers requires that manufacturers and importers should provide information on the use of their products in a manner which is safe for human health and the environment, and the main instrument of this communication is the Safety Data Sheet – SDS.

The initial responsibility for the preparation and contents of the Safety Data Sheet lies with a manufacturer or importer, who first markets the product. Suppliers are obliged to provide a Safety Data Sheet in Serbian, free of charge, either in paper or electronic form, to another distributor or user in the supply chain. For the purposes of export, suppliers are obliged to submit SDS in English or in the language of the buyer's country. The supplier is a legal person or entrepreneur who is a manufacturer, importer, distributor or further user, and who markets the chemicals.

NIS is pleased to inform its customers and suppliers that all REACH obligations have been fulfilled within the set deadlines and that the European Chemical Agency has adopted a positive decision on the registration of substances produced by NIS. This allows further undisturbed marketing and sale of the company products to the European Union market.

#### **Social Responsibility**

Over the years NIS has developed a strong Social Responsibility programme responding to local community needs and an advancing education programme for school leavers and young professionals. With a deep sense of its role and mission as Serbia's leading corporation NIS has focused on helping and promoting young talented students but also providing a helping hand to local communities across Serbia with the "Together for the Community Programme" being a prime example.

Another example is the "Future at Work" initiative whereby NIS strives to support and encourage talented individuals and groups of all generations through five corporate programmes (Energy of Sports, Culture without Borders, Energy of Knowledge, Philanthropy and Voluntarism and Together for the Community), firstly to enable rapid progress, but also, in the long-term perspective, to encourage new generations that will bring a better future to the entire community.



#### **Energy of Knowledge**

In 2016, Naftna Industrija Srbije became the first company to win the prestigious St. Sava Award for its contribution to education in Serbia. The award is given by the Ministry of Education, Science and Technological Development of the Government of the Republic of Serbia. NIS is recognised as a company that has helped improve the conditions of education in scientific institutions across Serbia through its investments made as part of the Energy of Knowledge corporate programme.

Partnership with educational and scientific institutions in Serbia and abroad is at the heart of this project so as to create highly qualified professionals trained to fit the requirements of NIS. The cooperation entails award of scholarships to top students, a programme of internship with the company, having professors recommend top students, potential employees/trainees; having NIS' experts give presentations on the company and guest lectures; further professional training for company staff, knowledge broadening and implementation of joint science and research projects.

The Energy of Knowledge also involves programmes of support to secondary school students in the form of organising and sponsoring competitions at all levels (school, municipality, region and country) and Mathematics, Physics, Chemistry and Russian Language Olympiads.

## **IENE Company Profile**

Compliled and edited by Costis Stambolis, Executive Director, IENE and Dimitrios Mezartasoglou, Head of Research, IENE

ISSN: 179-9163. Issue No 4 January 2018

ICP is published by the INSTITUTE OF ENERGY FOR SOUTH-EAST EUROPE (IENE)

3, Alex. Soutsou st. 106 71 Athens, Greece

tel: (0030)-210-3628457, 3640278, fax: (0030)-210-3646144, e-mail: marketing@iene.gr, site:

www.iene.eu

© 2015 Institute of Energy for South East Europe All rights reserved. No part of this publication may be reproduced, scanned into an

electronic retrieval system, or transmitted in any form or by any means, including photocopying and recording, without the written permission of the publishers.