

CREDIT OPINION

2 December 2019

Update

✓ Rate this Research

RATINGS

NET4GAS, s.r.o

Domicile	Czech Republic
Long Term Rating	Baa2
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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NET4GAS, s.r.o

Regular annual update to credit analysis

Summary

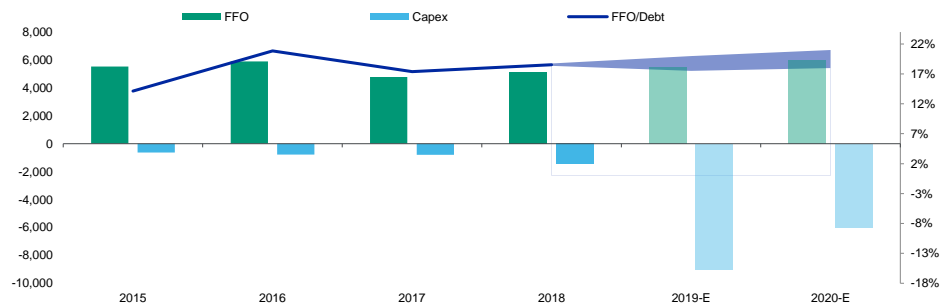
The credit quality of [NET4GAS, s.r.o.](#) (N4G, Baa2 stable) is underpinned by (1) the company's position as the monopoly provider of gas transmission and transit services in the Czech Republic; (2) its strategic location along the preferred route for shipping Russian gas to Western Europe; and (3) stable and predictable cash flows generated from the long-term capacity ship-or-pay contracts, which underpin around 75-80% of revenues, as well as regulated tariffs for domestic transmission activities, which account for the remaining 20-25% of revenues.

N4G's credit quality is constrained by (1) materially higher leverage than exhibited by other European gas transit peers, in particular Slovak pipeline owner, [eustream, a.s.](#) (funded through [SPP Infrastructure Financing B.V.](#), rated Baa2 stable); (2) significant customer concentration and associated geopolitical risks; and (3) large capital investment projects to extend N4G's transit capacity, scheduled over the next five years. However, we note positively the shareholder commitment to provide equity support for the two main capital expenditure projects, which will reduce funding risk and support maintenance of current credit quality.

Exhibit 1

Stable credit metrics despite significant capex programme, supported by shareholders' equity commitment

FFO and capex in CZK millions (left hand scale); FFO/Debt (right hand scale)



Forecast reflects Moody's estimates and not the view of the issuer.
Source: N4G's annual financial statements; Moody's Investors Service

Credit strengths

- » Monopoly provider of gas transmission and transit services in the Czech Republic, with strategic location along the preferred route for shipping Russian gas to Western Europe
- » Stable and predictable cash flow generation under long term capacity ship-or-pay arrangements as well as regulated tariffs for domestic transmission activities

Credit challenges

- » Relatively high leverage compared with other European gas transit peers
- » Significant customer concentration and associated geopolitical risks
- » Large capital investment projects to extend N4G's transit capacity, scheduled over the next five years, albeit equity funding provided by the shareholders

Rating outlook

The stable outlook reflects our expectation that N4G's business and financial profile will evolve in a relatively predictable fashion due to the stability of cash flows generated under very long-term ship-or-pay capacity contracts as well as from monopoly-regulated domestic transmission network operations. It also takes account of the supportive approach that shareholders are taking in the context of material upcoming investment requirements.

Factors that could lead to an upgrade

N4G's Baa2 ratings could be considered for an upgrade, if (1) the company's financial profile improved, with funds from operations (FFO)/Debt in the mid-twenties in percentage terms, while maintaining a business risk profile underpinned by stable and predictable cash flows; or (2) the company were able to diversify its revenue base across a portfolio of strong counterparties.

Factors that could lead to a downgrade

Downward pressure could develop, if (1) N4G's credit metrics deteriorated below our expectations, in particular FFO/Debt below the mid-teens in percentage terms; (2) geopolitical tensions affect the key counterparty's ability or willingness to comply with its ship-or-pay obligations; (3) shareholders do not honour their contractually agreed equity support for the investment in the Capacity4Gas project to provide a connection to EUGAL in Germany for gas flows towards Slovakia; or (4) there was a general shift towards a more aggressive financial policy.

Key indicators

Exhibit 2

N4G exhibits stable and predictable metrics, underpinned by long-term ship-or-pay contracts

	Dec-15	Dec-16	Dec-17	Dec-18	12-18 months forward view
(FFO + Interest Expense) / Interest Expense	5.0x	6.8x	8.6x	8.9x	8x-9x
FFO / Net Debt	14.8%	21.2%	18.0%	19.3%	19%-22%
FFO / Debt	14.1%	20.8%	17.4%	18.4%	18%-21%
RCF / Net Debt	2.9%	9.7%	8.1%	18.1%	0%-5%
RCF / Debt	2.7%	9.6%	7.8%	17.2%	0%-5%

All ratios are based on 'Adjusted' financial data and incorporate [Moody's Global Standard Adjustments for Non-Financial Corporations](#). Periods are financial year-end unless indicated otherwise. For definitions of Moody's most common ratio terms please see the accompanying [User's Guide](#). Forward view reflects Moody's estimates and not the view of the issuer.

Source: Moody's Financial Metrics™

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Profile

N4G is the owner and operator of the Czech gas transmission system. The company's core business consists of transporting gas, primarily sourced from Russia, towards Western and Southern Europe under long-term contracts, generating around 75-80% of its approximately CZK 8 billion (ca. €310m) revenues. It is also the regulated domestic gas transmission network operator under an unlimited licence, providing the remaining revenues. Management expects this revenue split to remain relatively stable for the foreseeable future, given the long-term nature of the gas transit contracts.

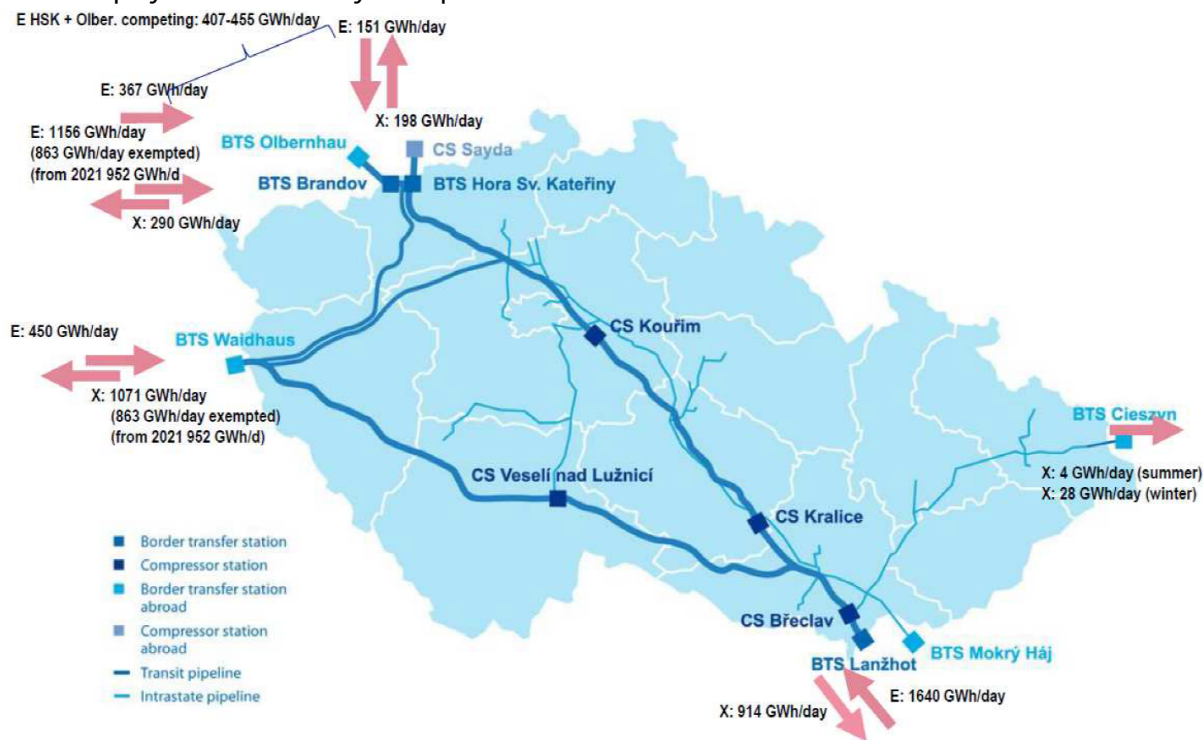
The company operates a network of more than 3,800 km of pipelines with a total capacity of up to 55 billion cubic metres (bcm) per year (in the East-West direction).

N4G's network does not only serve flows along the East-West corridor, which had been the traditional route for Russian pipeline gas to Europe prior to the opening of Nord Stream, but also North-South (N4G's wholly-owned subsidiary BRAWA, a.s. owns the so-called Gazelle pipeline, which provides the primary route for gas flows through the Czech transit network since its opening in 2013) and reverse West-East, with the following total capacities in each direction:

- » North – South (Brandov – Waidhaus) = ca. 1,100 GWh per day ~ 38bcm p.a.
- » East – West (Lanzhot – Hora Sv. Kateriny + Waidhaus) = ca. 1,600 GWh per day ~ 55bcm p.a.
- » West – East (Brandov – Lanzhot) = ca. 900 GWh per day ~ 31bcm p.a. (to be increased to ca. 45 bcm after the planned expansion in the context of the Capacity4Gas project)

Exhibit 3

Overview of the company's network and entry/exit capacities



The numbers in the map above indicate the maximum daily capacity at each border station and arrows indicate the direction of flow.

Source: Company's 2018 bond prospectus

Annual transportation of natural gas amounts to around 45-55 bcm p.a., including approximately 8 bcm for domestic use, and is now primarily shipped along the North-South and West-East routes.

N4G is directly wholly owned by NET4GAS Holdings, s.r.o., which in turn is owned 50% by Allianz Infrastructure Czech Holdco II S.a r.l., part of the wider Allianz group, and 50% by Borealis Novus Parent B.V., a subsidiary of OMERS Administration Corporation. The consortium of Allianz and OMERS acquired N4G from RWE AG in August 2013 and have since developed a track record of stable and supportive shareholding.

Detailed credit considerations

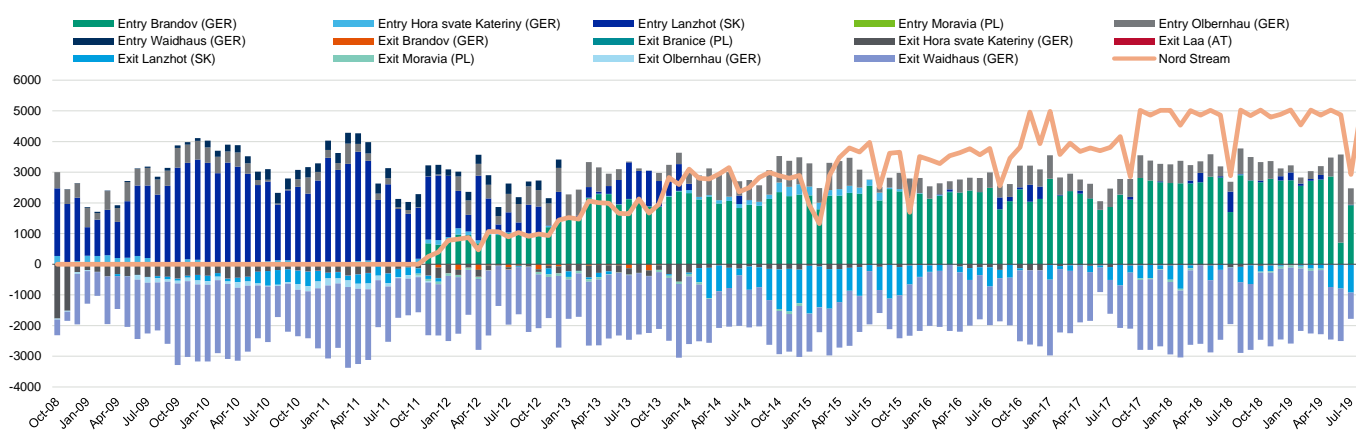
Strategic intermediate gas transit route for shipping Russian gas to Southern Europe

N4G's geographic location means that the company's network is in a key strategic location to ship Russian gas to its main customer base in Central, Western and Southern Europe. Specifically, the company's network connects the gas shipped through Nord Stream via Germany on the North-South route towards Southern Europe, and also allows for reverse flow to supply Ukraine, which has not taken any gas directly from Russia since 2014.

In comparison with its Slovak peer eustream, N4G is much less reliant on the East-West gas route through Ukraine. Exhibit 4 illustrates that actual flows switched from the East-West route towards the North-South route in N4G's network with the opening of the first Nord Stream pipeline.

Exhibit 4

History of gas trade flows to and from the Czech Republic Volumes in million cubic metres



Source: <https://www.iea.org/gtf/#>

The planned addition of Nord Stream 2 would increase flows along the company's West-East route from Germany (via the EUGAL onshore pipeline) through the Czech Republic via Slovakia into Austria and Italy.

Long-term ship-or-pay contracts underpin stability of cash flows...

The majority of N4G's revenues are generated from its international gas transit activities. Transit tariffs are subject to price cap regulation by the Czech Energy Regulatory Office (ERO), but volumes are contractually negotiated and depend on supply and demand requirements as well as geopolitical developments. Under long-term contracts, the tariffs determined at the outset will apply for the entire period of the contract and escalate annually by inflation.

We note that N4G's current transit contract portfolio also includes fully negotiated tariffs, in particular, the long-term North-South flow contract on the Gazelle pipeline, running until December 2034.

The company's main transit contracts consist of the following:

- » a contract for gas transit from Eastern Europe to Western Europe, expiring in 2021;
- » a contract for transit of Russian gas through the Gazelle Pipeline North to South expiring 1 January 2035 (the Gazelle Contract); and
- » three contracts for gas transit from Western Europe to Eastern Europe, expiring between 2019-2021.

In addition, N4G entered into a new gas transit contract related to shipments through EUGAL in Germany via the Czech Republic towards Slovakia, which would commence in 2020 and expire in 2039.

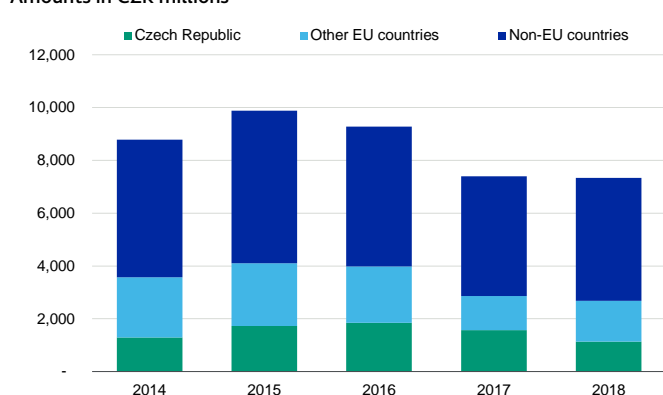
With the exception of the Gazelle Contract, all of N4G's contracts are on a full ship-or-pay basis, with a capacity-weighted average remaining contract life of around 11 years at December 2018, increasing to ca. 17 years at December 2019 when also taking into account the capacities booked from 2020-39. The long-dated nature of contracts is a key underpinning of the company's stable and predictable cash flows.

... but customer concentration exposes N4G to geopolitical risks

The majority of N4G's revenues are generated from non-EU countries and primarily concentrated on a single customer, namely Gazprom Export LLC, a 100% subsidiary of [Gazprom, PJSC](#) (Baa2 stable).

Exhibit 5

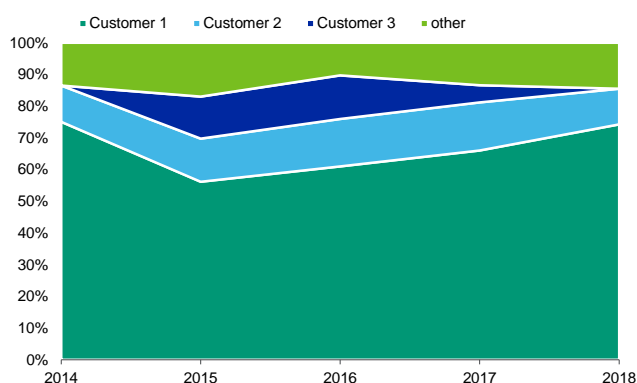
Revenue split per geography



Source: N4G's annual financial statements

Exhibit 6

Revenue split per customer



Source: N4G's annual financial statements

In 2018, Gazprom Export supplied a total of 200.8 bcm of gas to European countries. Western European countries accounted for approximately 81% of the company's exports from Russia, while Central European states took 19%.¹

With the planned completion of the Capacity4Gas project, scheduled during 2019-21, and assuming that international transit contracts with expiry dates in the next three to four years are not renewed or replaced with other short-, medium- or long-term contracts, N4G's exposure to a single customer will remain around 75%.

N4G's overall credit quality is, thus, constrained by counterparty concentration and associated geopolitical tension. We do not believe that the core counterparty's credit quality should act as a direct cap on N4G's credit quality, given that alternative shippers could step in to use the company's transit networks. However, the shipment of gas is predicated on Russia's supply meeting Europe's demand, and a certain element of geopolitical risk resulting from this is reflected in our assessment of N4G's credit quality.

While ongoing tensions between Russia and Ukraine have, in contrast to the Slovak peer eustream, had limited impact on N4G's transported volumes to date, any future global sanctions on Russia may impact the interaction with Russia and its companies.

Solid revenue contribution from domestic monopoly transmission activities, underpinned by transparent and predictable regulatory regime

Domestic gas transmission activities account for around 20-25% of N4G's revenues (compared with less than 5% for eustream) and are subject to a regulatory revenue cap, designed to provide an allowance for a return on the regulated asset base (RAB), regulatory depreciation and operating expenditure (with the latter subject to adjustment for efficiency assumptions and price inflation).

The ERO was established on 1 January 2001 as the independent national regulator for energy networks. The regulator has set allowed returns under a RAB model for the past 10-15 years (since the start of the second regulatory period in 2005 for electricity transmission,

and 2010 for gas transmission and energy distribution, as discussed below), a period similar to that for most of its mainland European peers.

Exhibit 7

Czech networks are currently in the 4th regulatory period

Regulatory Period	1st Period	2nd Period	3rd Period	4th Period	5th Period
Timeline (original)	2001-2004	2005-2009	2010-14	2016-18	2021-2025
Timeline (extended)			by one year 2010-15	by two years 2016-20	

ERO's decision, published on 11 January 2018, to extend the current regulatory period for Czech network operators by two years (until 31 December 2020), with all key parameters unchanged, was in line with its draft decision, which we view as credit positive. The process followed, which included extensive stakeholder consultation, was consistent with the principles outlined in the enhanced Energy Act, effective from 1 January 2016.

Source: ERO

We consider the Czech regulatory regime to have established a track record of supportiveness, in particular with respect to cost and investment recovery and the level of allowed returns, compared with most other European regulated networks, and recognise that there is a common approach to tariff setting across the different sectors of gas and electricity as well as transmission and distribution in the Czech Republic, which provides a good degree of transparency.

We note that for the gas sector, the RAB had been revalued in 2009, following the unbundling process in 2005, and set at 50% of the book value of assets at that point in time. As a result, the current RAB that is used for calculating the allowed return has been applied to gas company regulation from 2010. This is a similar approach and time frame as seen for the electricity distribution companies, with electricity transmission network owner [CEPS, a.s.](#) (Aa3 stable) being the only entity for which the RAB had been revalued much earlier in 1998.

Since its revaluation, the RAB has been written forward with actual investments and depreciation, and consists of 100% of the domestic transmission assets as well as a proportion of international transit assets, which are included based on an allocation key, recognising that some of these assets are also required for domestic transmission.

In August 2018, ERO published its draft proposals for the forthcoming regulatory period commencing on 1 January 2021, which we summarise in Exhibit 8 below and compared with the current period.

Exhibit 8

Summary comparison of key regulatory parameters for the 4th and 5th regulatory period

	Current period (2016-20)	Next period (2021-25) - draft proposals
Method	Revenue cap	Revenue cap
Length of period	5 years	5 years
RAB and depreciation	RAB adjusted for investment and depreciation; transit subject to allocation key	RAB adjusted for investment and depreciation; transit subject to allocation key
Work-in progress and working capital	For transmission only, work in progress project in excess of CZK 500m can be included if construction >2 years and negative status of Development Fund (which compares long-term depreciation allowance and investment value over a period of 15 years from 2010); working capital not included	For transmission only, work in progress project in excess of CZK 500m can be included if construction >2 years and negative status of Development Fund (which compares long-term depreciation allowance and investment value over a period of 15 years from 2010); working capital not included
Opex	Base years 2012-13 average costs, adjusted by inflation and efficiency factor	Rolling three-year moving average (2017-19 reference years for 2021 allowance) updated for inflation and efficiency factors. Asymmetric exposure to out- or under-performance against regulatory allowance (underspent of allowed costs to be shared 75% with customers, while overspent 75% borne by companies).
Market factor	Adjusted for unexpected costs	To be maintained unchanged, but given three-year rolling average base is expected to be used less frequently.
Efficiency factor	General efficiency factor of around 1%, no company-specific factor	General efficiency factor maintained at around 1%, no company-specific factor
Quality incentives	Currently not used for gas	Currently not included for gas (albeit applied for electricity), but introduction possible in future periods
WACC	Fixed for the entire period at 7.94% Marginal difference between gas and electricity (7.95%) Risk-free rate based on average of 10-year gvmt bond yield between 2005-14	To be fixed for entire period Currently two options considered: A - same WACC for electricity and gas of 5.965% B - different WACC for electricity (6.54%) and gas (6.43%) The two options consider different approaches to risk-free rates, asset/equity betas as well as notional gearing

Source: ERO

The allowed return, which is calculated as the weighted average cost of capital (WACC) multiplied by the year-average RAB, currently reflects a risk-free rate of 3.82%, based on the average of ten-year government bond yields between 2005-14. For the 5th period, ERO is considering two options in setting the WACC (see Exhibit 9), providing a range of roughly 6.0-6.5% (nominal pre-tax), in line with our expectations.

Exhibit 9

Comparison of WACC parameters for 4th period with proposals for 5th period

	4th period (2016-20)		5th period (2021-25)		
	Electricity	Gas	Option A Electricity & Gas	Option B Electricity	Option B Gas
Risk-free rate	3.82%	3.82%	1.99%	2.04%	2.04%
Asset beta	0.536	0.532	0.510	0.51	0.49
Equity beta	0.901	0.801	0.785	0.90	0.87
Market risk premium	5.00%	5.00%	5.79%	6.54%	6.54%
Debt ratio	45.75%	38.48%	40%	48.92%	48.89%
Equity ratio	54.25%	61.52%	60%	51.08%	51.11%
Credit risk margin	1.38%	1.38%	0.81%	1.09%	1.09%
Tax rate	19%	19%	19%	19%	19%
Cost of debt (pre-tax)	5.20%	5.20%	2.80%	3.13%	3.13%
Cost of debt (post-tax)	4.21%	4.21%	2.27%	2.54%	2.54%
Cost of equity	8.32%	7.83%	6.54%	7.94%	7.76%
WACC (post-tax)	6.44%	6.43%	4.831%	5.30%	5.21%
WACC (vanilla)	6.89%	6.81%	5.04%	5.59%	5.50%
WACC (pre-tax)	7.95%	7.94%	5.965%	6.54%	6.43%

Option B would be more closely aligned with the approach during the 4th regulatory period, while Option A resembles ERO's methodology for the 3rd regulatory period.

Source: ERO

Reflecting ERO's draft decision and based on N4G's average transmission RAB for 2018 of around CZK 6.7 billion, allowed returns would fall by 20-25% from roughly CZK 450 million in the current period.

We note that ERO's draft proposals also include a penalty mechanism for high gearing, which aims to reduce the allowed return by 1% for gearing (defined by ERO as debt to total capitalisation) above 70%; the return would reduce by a further 1% for each additional 10% in gearing, with a cap of 3% reduction in allowed returns for gearing of over 90%. We expect N4G as a whole as well as in relation to its domestic transmission business to remain below the 70% debt to capitalisation ratio threshold and, thus, unaffected by the high gearing penalty, should it be introduced as part of the final determination.

Excluding the gearing penalty, the Czech framework continues to provide an allowed return above the European average, reflecting ERO's legal obligation (under the Energy Act) to set up a regulatory framework that enables and incentivises the network companies to realise their investment plans.

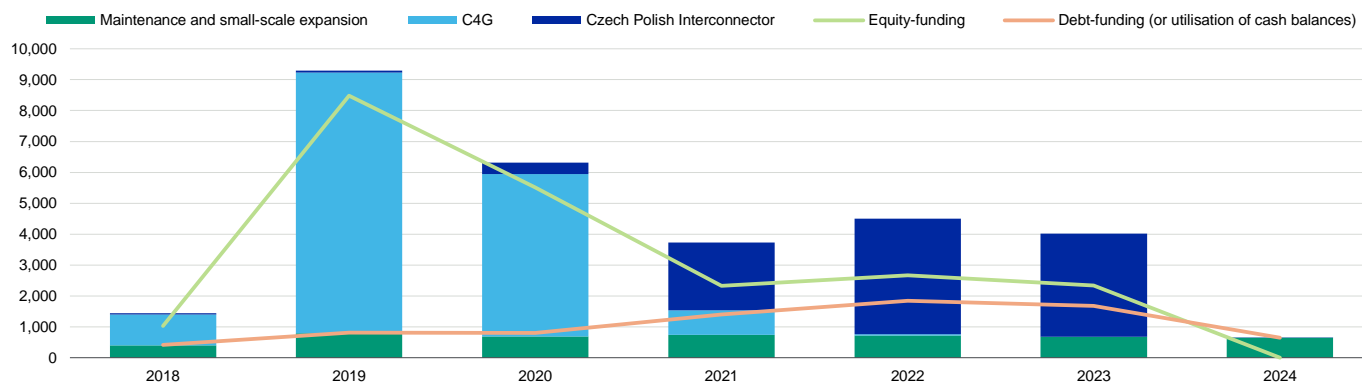
Sizeable investment projects are scheduled within the next five years

N4G's capital expenditure is typically in the range of CZK 500-1,000 million per year. However, the company's forecast investment profile over the next five years will be materially higher, largely driven by two main investment projects:

- » Capacity4Gas (C4G), with a budget of €540m over the main build-out phase to 2021, will create additional capacity to facilitate the shipments of gas from Germany through EUGAL towards Slovakia. The programme has been accelerated into 2019 and early 2020 compared with the original plan.
- » Czech-Polish interconnector (CPI), with a budget of €386m for N4G (excluding co-funding provided by the EU or investments related to the Polish side), with a current timeline to 2023.

Exhibit 10

N4G's forecast capex programme Amounts in CZK millions



Source: Company

The demand for C4G has been confirmed during the European capacity auction held on 6 March 2017, in which up to around 40 bcm have been contracted on a ship-or-pay basis until 2039. The project will involve additional pipeline works and new compressor stations as well as upgrades to existing infrastructure assets.

The CPI cross-border pipeline project has an investment volume of ca. €530 million on the Polish side and €386 million on the Czech side, the latter of which sits within N4G's area of responsibility. The project aims to enhance market interconnection and security of supply and is a major element of the Central European North-South gas corridor. It is currently included in the list of the European Union's Projects of Common Interest, and eligible for EU funding. The Polish partner for the project is GAZ-SYSTEM, S.A. (unrated). The project was initially scheduled to complete in 2019, but construction and commissioning is now being planned between 2020-23. Due to the project drivers being mainly related to security of supply considerations in Central-Eastern Europe, the project does not meet the criterion of economic viability, and will require external co-financing, with the company's submission including the proposal of 70:30

equity:debt funding. The final investment decision has not been taken due to ongoing regulatory discussions around the cross-border interconnection, but management expects to conclude the associated improvement to the domestic transmission network by 2022.

Financial profile driven by higher leverage than main European pipeline peer

N4G exhibits relatively high EBITDA margins of currently around 80-85%, supported by its long-term transit contracts and regulatory network tariffs. These also support relatively stable credit metrics, which improved slightly in 2016, compared with prior years, following the repayment of the then existing shareholder loans.

Since then, FFO/Debt has been around the high teens in percentage terms, and we expect this trend to continue for the foreseeable future. Stable leverage on an FFO/Debt basis is supported by a relatively flexible approach to dividend payments; however, this in turn means that retained cash flow (RCF)/Debt is very volatile.

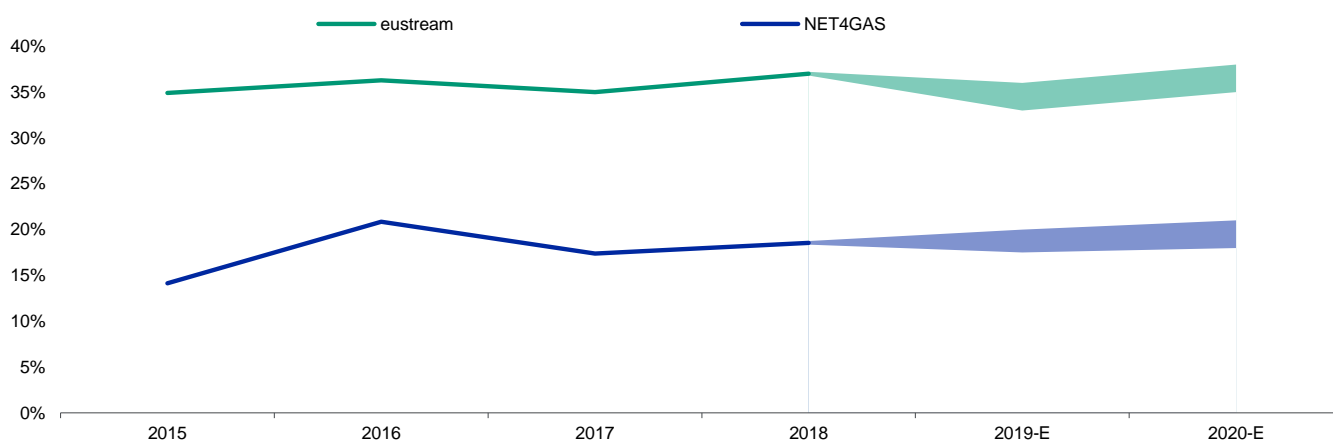
Overall, a strong shareholder commitment, underpinned by an agreement to provide equity funding for 100% of the C4G project and 70% of the planned CPI project, as discussed above, is credit positive.

To maintain its current credit quality, we expect N4G to continue to exhibit a relatively stable financial profile, with FFO/Debt at least in the mid-teens in percentage terms, underpinned by continuing stable and predictable cash flows from its transit and transmission activities and supported by a flexible approach to dividend payments, particularly in a period of higher investment requirements.

While leverage remains significantly higher than exhibited by the main European peer eustream (see Exhibit 11), N4G is less exposed to the geopolitical tensions around the East-West route for Russian gas shipment through the Ukraine, and benefits from more predictable cash flows under generally longer term ship-or-pay transit contracts and a much larger portion of regulated transmission tariffs.

Exhibit 11

N4G exhibits a stable FFO/Debt profile, which however, remains weaker than that of its Slovak peer eustream



eustream changed its accounting year to July in 2018; thus, the company has only been reporting 7 months to July 2018. The above represents Moody's estimate of the annual calendar year performance. The estimates for 2019 and 2020 represent Moody's forward view; not the view of the issuer.

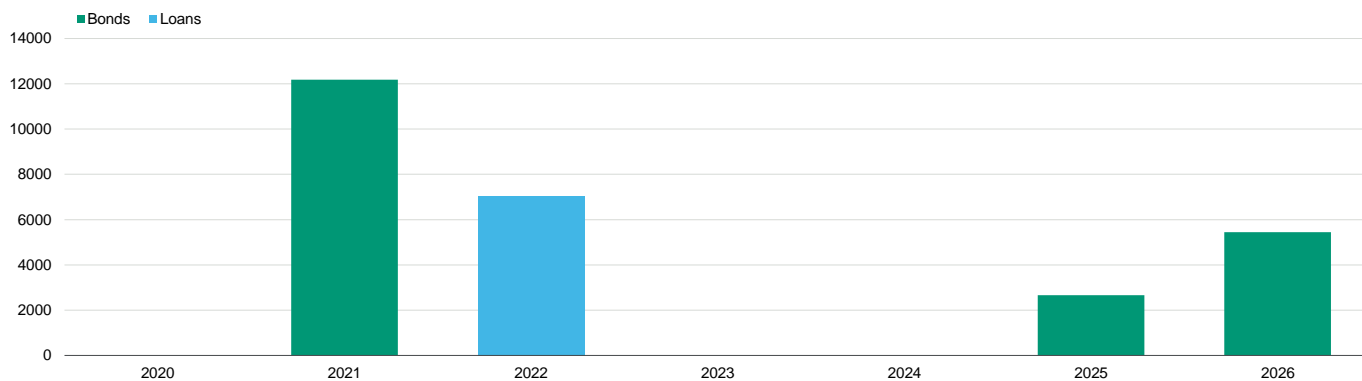
Source: Companies' annual financial statements, Moody's Investors Service

Liquidity analysis

N4G's liquidity position is strong, underpinned by cash reserves of CZK 1.3 billion (ca. €50m) as at 31 December 2018, and ongoing strong cash generation from its contracted gas transit and regulated gas transmission activities. The company also has access to a CZK 2.6 billion (ca. €100m) revolving credit facility, available until May 2022, with no restricting covenants or MAC clauses. During the investment peak, liquidity will also be supported by equity commitments from the shareholders.

The next major debt maturity is in 2021, being CZK 4.4 billion of notes (originally CZK 7.0 billion, but partially refinanced from proceeds of the company's 2018 bond issue) and €300 million of notes, both issued in 2014 under a €5.0 billion EMTN programme. We understand that the company is in the process of concluding negotiations on new term loan facilities, designed to cover the majority of the refinancing needs by the end of the year.

Exhibit 12

N4G's debt maturities have a weighted average of just under 5 years

Source: N4G's annual financial statements

The company carries some of its debt in € as well as US\$ to create a natural hedge against foreign exchange revenue exposure, under specific transit contracts, the largest of which is Gazelle. Foreign currency exposure will, however, decline as new capacity contracts are agreed, which tend to be denominated in Czech koruna.

Rating methodology and scorecard factors

N4G's Baa2 ratings reflects the application of our Rating Methodology for [Natural Gas Pipelines](#), published in July 2018. The scorecard indicates a Baa1-outcome under the forward view, one notch higher than the assigned ratings. However, the Baa2 ratings assigned to N4G also takes into account the counterparty concentration and associated geopolitical tension.

While ongoing tensions between Russia and Ukraine have, in contrast to Slovak peer eustream, had limited impact on the N4G's overall transit flows, any future global sanctions may impact the interaction with Russia and its companies.

Exhibit 13

Rating Methodology Scorecard NET4GAS, s.r.o

Natural Gas Pipelines Industry Scorecard [1][2]			Current FY 12/31/2018		Moody's 12-18 Month Forward View As of November 2019 [3]	
Factor	Measure	Score	Measure	Score	Measure	Score
Factor 1 : Market Position (15%)						
a) Demand Growth	Aa	Aa	Aa	Aa	Aa	Aa
b) Competition	A	A	A	A	A	A
c) Volume Risk & Throughput Trend	Baa	Baa	Baa	Baa	Baa	Baa
Factor 2 : Quality of Supply Source (10%)						
a) Supply Source	Baa	Baa	Baa	Baa	Baa	Baa
Factor 3 : Contract Quality (30%)						
a) Firm Revenues	A	A	A	A	A	A
b) Contract Life	A	A	A	A	A	A
c) Shipper Quality / Recontracting Risk	Baa	Baa	Baa	Baa	Baa	Baa
Factor 4 : Financial Strength (45%)						
a) (FFO + Interest) / Interest	8.9x	Aaa	8x - 9x	Aaa	8x - 9x	Aaa
b) FFO / Debt	18.4%	Baa	18% - 21%	Baa	18% - 21%	Baa
c) (FFO - Dividends) / Debt	17.2%	Baa	0% - 5%	B	0% - 5%	B
Rating:						
a) Indicated Outcome from Scorecard		A3				Baa1
b) Actual Rating Assigned						Baa2

(1) All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations; (2) As of 31/12/2018; (3) This represents Moody's forward view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.

Source: Moody's Financial Metrics TM

Ratings

Exhibit 14

Category	Moody's Rating
NET4GAS, S.R.O	
Outlook	Stable
Issuer Rating	Baa2
Senior Unsecured	Baa2

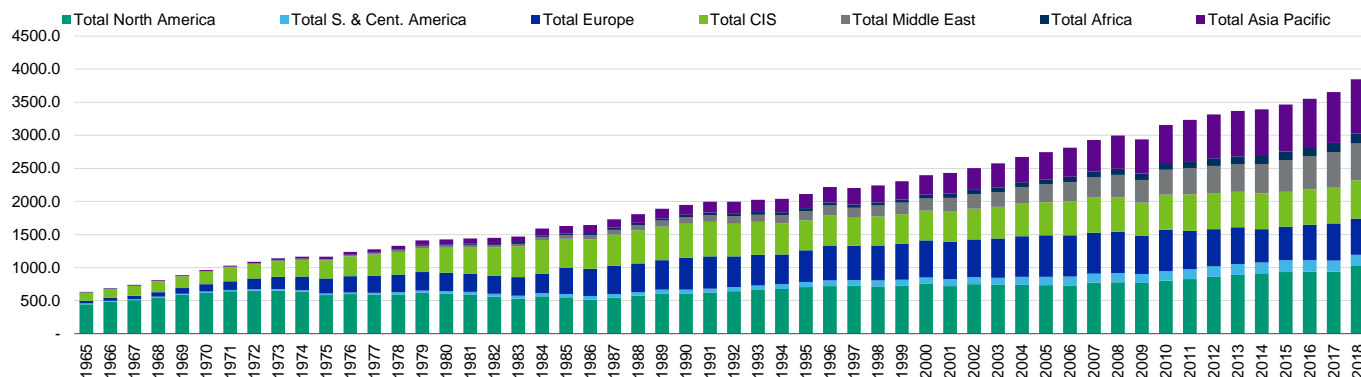
Source: Moody's Investors Service

Appendix 1 - N4G's Role in the European Gas Markets

Total gas consumption worldwide is driven by developed economies in the Northern hemisphere as well as regions with vast natural gas reserves, specifically Russia. Evolving markets have seen growing demand over the last 20 years, with growth in consumption particularly pronounced in Asia (largely driven by China).

Exhibit 15

Global gas consumption per region (all amounts in bcm)

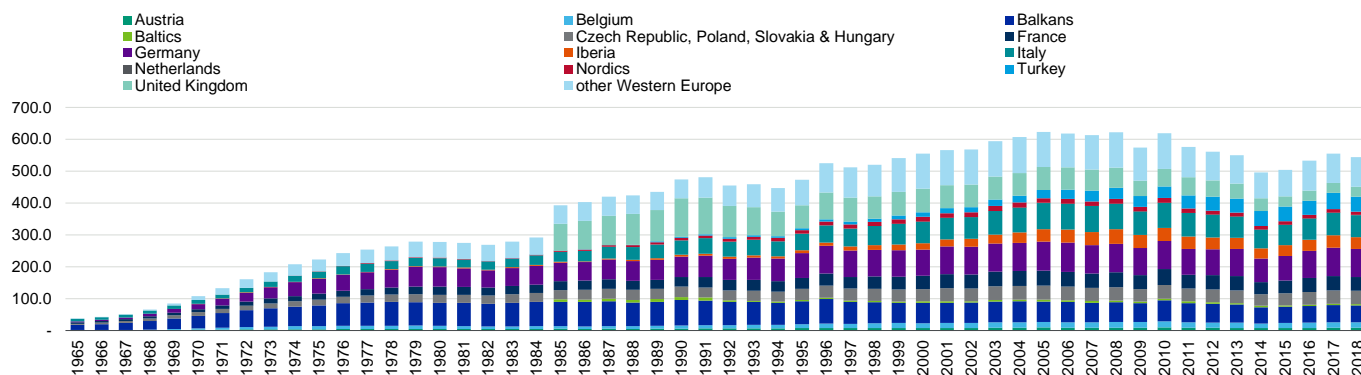


Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

Main consumers of natural gas in Europe are Central Europe, including France and Germany, Southern Europe, including Spain and Italy, as well as the Netherlands and United Kingdom. Turkey's demand has also been growing over the last decade.

Exhibit 16

European gas consumption per region (all amounts in bcm)



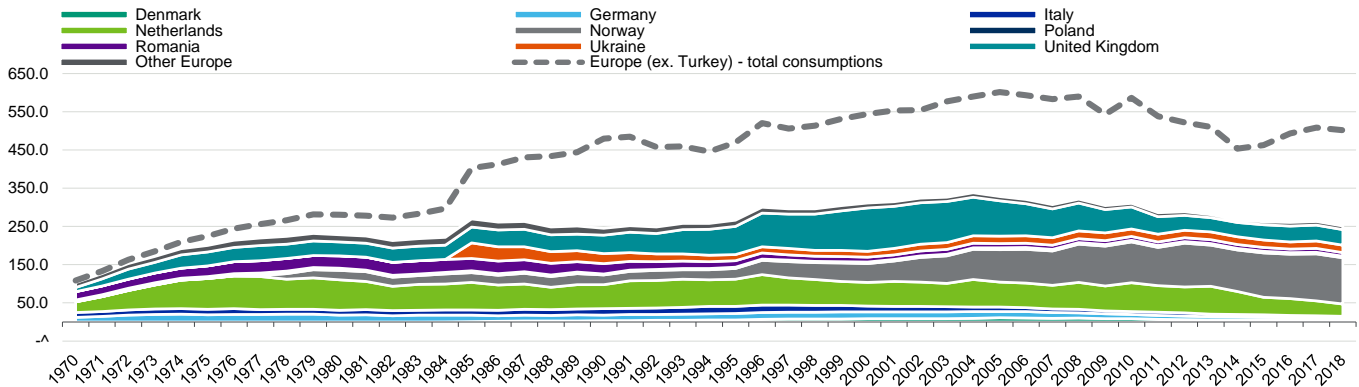
Note: Balkans include Bulgaria, Croatia, Macedonia, Romania and Slovenia; Baltics include Estonia, Latvia and Lithuania, Nordics include Denmark, Finland, Iceland, Norway and Sweden, and other Western Europe include Cyprus, Greece, Ireland, Luxembourg, Switzerland and other.

Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

Europe receives its natural gas from a variety of sources. With decreasing gas production in the Netherlands and United Kingdom, European domestic production is now largely stemming from Norway.

Exhibit 17

European gas production per country compared with consumption (all amounts in bcm)



Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

To offset the mismatch of domestic production and consumption, pipeline gas, particularly from Russia, has grown in importance over the past 50 years.

In 2018, European countries imported ca. 479 bcm of natural gas through pipelines, of which ca. 250 bcm came from sources outside of Europe, and 72 bcm, or 66bcm from outside Europe, in the form on liquefied natural gas (LNG).

Exhibit 18

Europe – natural gas imports 2018

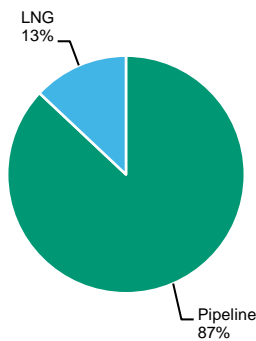
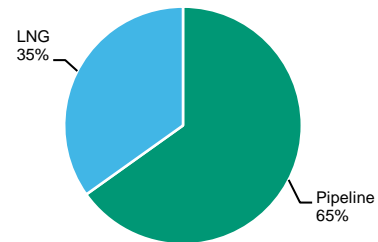


Exhibit 19

World – natural gas imports 2018



Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

The vast majority of pipeline gas is provided by Russia, which accounts for close to 80% of pipeline imports into Europe from external sources, while LNG is being shipped primarily from Qatar and Africa (with around 72% of LNG being imported from Qatar, Algeria and Nigeria, when excluding European sources).

Exhibit 20
Origin of 2018 European pipeline gas

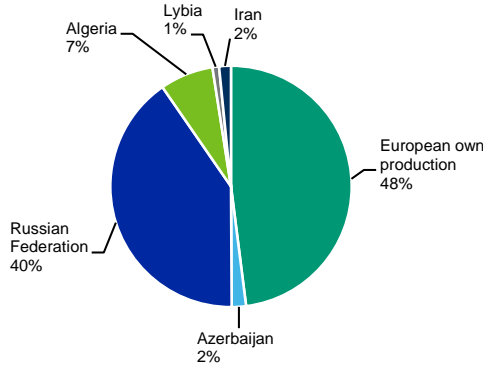
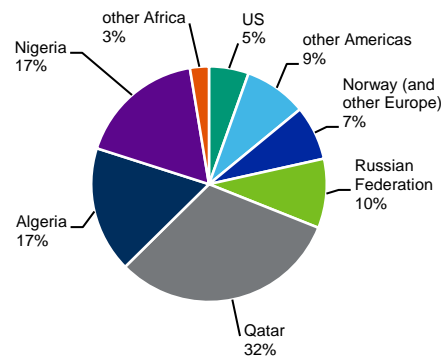


Exhibit 21
Origin of 2018 European LNG imports



Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

Russian pipeline gas is primarily serving Central and Eastern Europe, with Germany in the North and Italy in the South the main users, while LNG supplies principally serve Western and Southern Europe.

Exhibit 22
2018 importers of pipeline gas

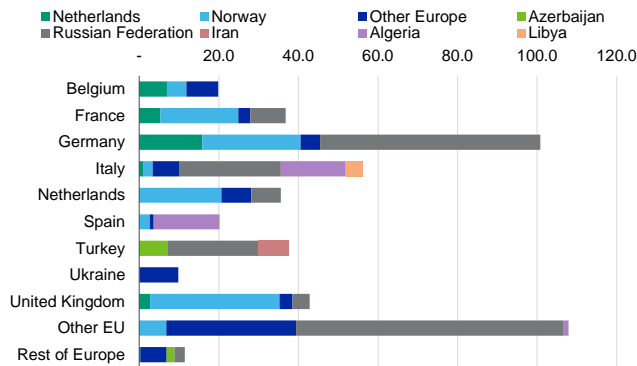
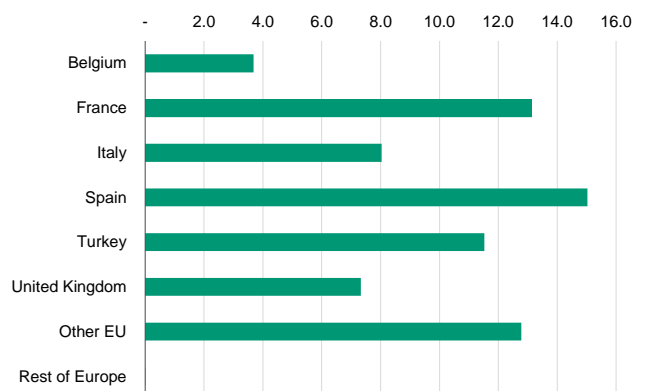


Exhibit 23
2018 importers of LNG

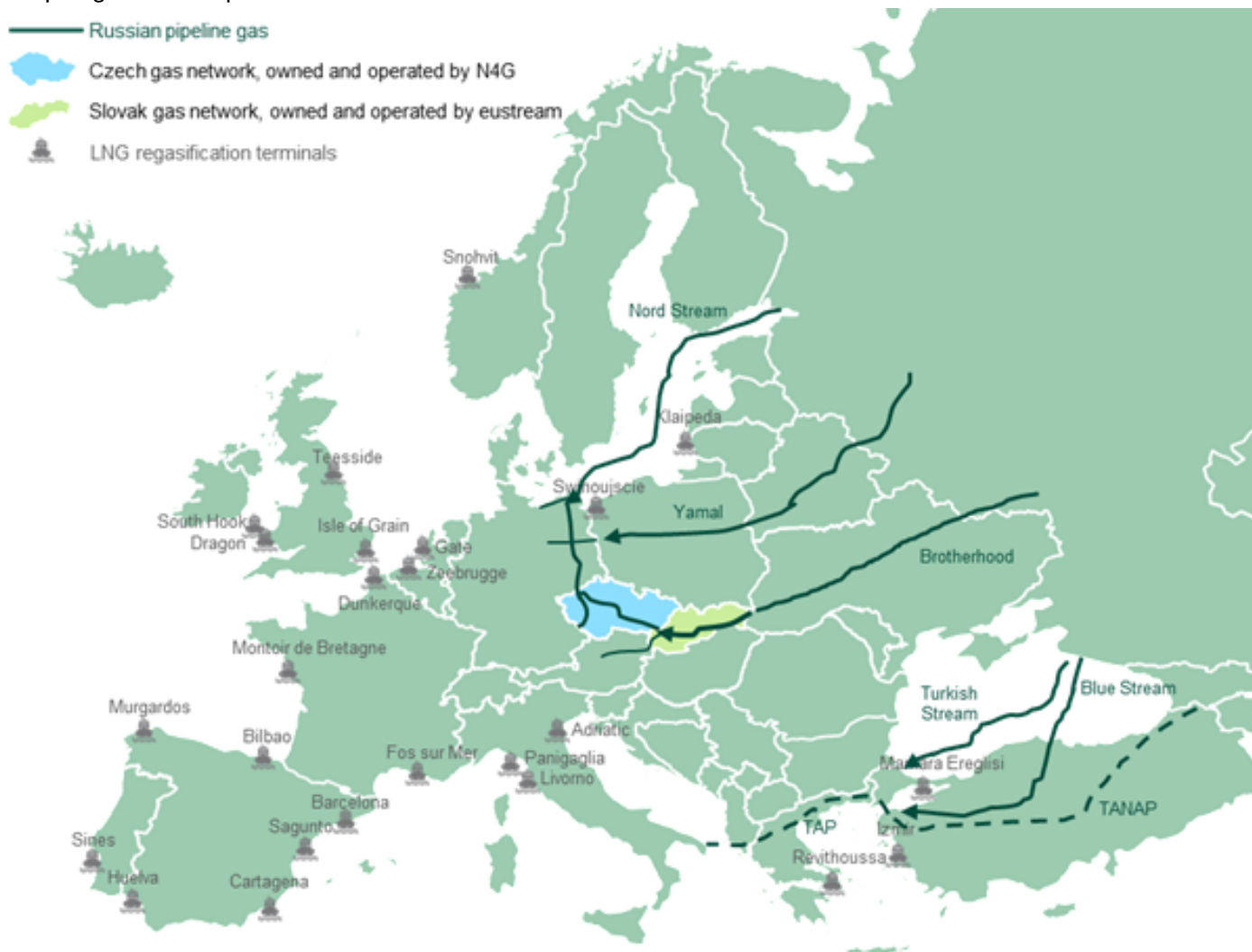


Source: <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

Global supply and demand balances and their influence on pricing as well as available and planned interconnections across the continent mean that LNG cannot easily replace pipeline gas and Russia remains a core supplier to European countries.

Exhibit 24

European gas market map



Source: International Energy Agency, Moody's Investors Service

According to Gazprom Export the most important gas transit routes for Russian gas to Western Europe, include:

- » **"Brotherhood" (Urengoy-Pomary-Uzhgorod):** This is the largest and longest-serving gas route, with a transport capacity of up to 100 bcm per year, via Ukraine and Slovakia (i.e. the eustream network). In Slovakia, the route splits into two parts, with connections into the Czech Republic and Austria. eustream plays an important role in delivering Russian natural gas to Italy, Hungary, Slovenia and Croatia. Gas deliveries along this route started in 1967.
- » **Yamal-Europe:** This pipeline runs across Russia, Belarus and Poland, ultimately reaching Germany. The first sections of the pipeline were commissioned in 1996, with the Belarusian part becoming operational in 1997. Upon commissioning of the last compressor station in 2006, Yamal-Europe reached its full capacity of 33 bcm per year.
- » **Transit through Romania:** This route carries Russian gas for the domestic market, transiting Ukraine and Moldova, and, furthermore serves the Balkan countries and Turkey.
- » **Blue Stream:** This line is intended for direct gas deliveries to Turkey, bypassing other transit countries, and started operations in 2003.

- » **Nord Stream:** This offshore pipeline, commissioned in 2012, has a capacity of 55 bcm per year and allows direct gas shipment to Western Europe. It consists of two lines with a throughput capacity of 27.5 bcm/year each. Core target markets for this line are Germany, the UK, the Netherlands, France and Denmark.

For delivery of gas to major Western European economies, Russia would firstly utilise available capacities of Nord Stream and Yamal, and only then followed by the traditional East-West route through the Ukraine.

Given Russia's strategy to increasingly diversify away from the Ukrainian route, any new alternative transit pipelines will likely lead to a reduction of flows and potentially lower capacity bookings along the East-West route over the medium to long-term.

Currently proposed new pipeline projects include:

- » **Nord Stream 2 (capacity 55 bcm):** This pipeline will run in parallel to the existing Nord Stream and enter into Germany. Preliminary capacity bookings indicate that flows would be routed through the Czech Republic and Slovakia on the West-East route (thus utilising the networks of N4G and eustream) into Austria and Italy. The Nord Stream 2 pipeline was originally scheduled for commissioning in 2019, but will likely only be ready in early 2020. Its full utilisation will also be subject to completion of onshore connections EUGAL in Germany and C4G in N4G's network area, which will only be fully completed in 2021.
- » **Turkish Stream 2 (capacity approx. 16 bcm):** This may allow some of the gas shipped via Turkey to reach Italy, and will affect transit through Ukraine to Turkey; however, additional transit infrastructure from Turkey to Western Europe would still need to be built.
- » **TAP/TANAP link through Turkey (capacity 16 bcm):** This is a relatively small pipeline, but could divert some of the Caspian Sea gas from Azerbaijan, particularly destined for Turkey (where some of the demand growth is expected).

Assuming European gas demand is maintained around current levels and there is full utilisation of existing and planned routes, Russia may no longer need to rely on the Ukrainian route for gas flow. However, supply and demand for natural gas remains in flux, and it may act as an interim fuel to support the decarbonisation plans of the European economies. Growing demand, coupled with, particularly in the Netherlands, rapidly declining indigenous production, does, in our view, support continued flows via the East-West route at least over the next five years.

Appendix 2 - Financial information

Exhibit 25

Selected peer comparison

NET4GAS, s.r.o

(in EUR million)	NET4GAS, s.r.o			eustream, a.s.			Florida Gas Transmission Co. LLC			Alliance Pipeline L.P.		
	Baa2 Stable			SPP IF B.v.: Baa2 Stable			Baa2 Stable			Baa2 Stable		
	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Jul-16	FYE Jul-17	FYE Jul-18	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-16	FYE Dec-17	FYE Dec-18
Revenue	343	281	286	842	854	538	825	832	836	317	318	338
EBITDA	280	226	241	757	754	477	651	670	679	211	209	226
Total Assets	1,714	1,779	1,871	5,275	5,722	5,275	5,590	5,583	5,604	918	878	826
Total Debt	1,049	1,077	1,073	1,416	1,612	1,546	2,495	2,470	2,515	441	335	442
Net Debt	1,034	1,041	1,022	1,339	1,556	1,487	2,483	2,455	2,505	440	443	442
(FFO + Interest Expense) / Interest Expense	6.8x	8.6x	8.9x	11.9x	11.4x	12.8x	3.3x	3.5x	3.6x	7.3x	8.9x	8.2x
FFO / Debt	20.8%	17.4%	18.4%	36.3%	34.9%	23.4%	15.1%	16.7%	16.7%	41.2%	40.8%	44.7%
RCF / Debt	9.6%	7.8%	17.2%	-0.9%	-9.8%	-10.6%	3.6%	4.0%	3.1%	2.7%	1.9%	2.7%

eustream changed its accounting year to July in 2018; thus, the company has only been reporting 7 months to July 2018. All figures & ratios calculated using Moody's estimates & standard adjustments. FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade

Source: Moody's Financial Metrics™

Exhibit 26

Moody's adjusted net debt breakdown

NET4GAS, s.r.o

(in CZK million)	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-18
As Reported Total Debt	38,938	28,047	27,287	27,397
Leases	232	208	256	260
Moody's Adjusted Total Debt	39,170	28,255	27,543	27,657
Cash & Cash Equivalents	(1,750)	(415)	(931)	(1,302)
Moody's Adjusted Net Debt	37,420	27,840	26,612	26,355

All figures are calculated using Moody's estimates and standard adjustments. FYE = Financial Year-End.

Source: Moody's Financial Metrics™

Exhibit 27

Moody's adjusted EBITDA breakdown

NET4GAS, s.r.o

(in CZK million)	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-18
As Reported EBITDA	7,464	7,521	5,887	6,151
Unusual Items - Income Statement	(4)	(3)	0	(45)
Leases	58	52	64	65
Moody's Adjusted EBITDA	7,518	7,570	5,951	6,171

All figures are calculated using Moody's estimates and standard adjustments. FYE = Financial Year-End.

Source: Moody's Financial Metrics™

Exhibit 28

Selected historical financials, Moody's-adjusted

NET4GAS, s.r.o

(in CZK million)	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-18
INCOME STATEMENT				
Revenue	9,879	9,280	7,397	7,335
EBITDA	7,518	7,570	5,951	6,171
EBITDA margin %	76.1%	81.6%	80.5%	84.1%
EBIT	5,006	5,446	3,883	4,227
EBIT margin %	50.7%	58.7%	52.5%	57.6%
Interest Expense	1,378	1,024	630	642
Net income	2,760	1,415	2,634	2,897
BALANCE SHEET				
Total Debt	39,170	28,255	27,543	27,657
Cash & Cash Equivalents	1,750	415	931	1,302
Net Debt	37,420	27,840	26,612	26,355
Net Property Plant and Equipment	45,994	44,591	43,403	42,964
Total Assets	50,078	46,160	45,490	48,231
CASH FLOW				
Funds from Operations (FFO)	5,537	5,891	4,789	5,084
Cash Flow From Operations (CFO)	5,754	5,745	4,337	4,593
Dividends	4,466	3,190	2,645	315
Retained Cash Flow (RCF)	1,071	2,701	2,144	4,769
Capital Expenditures	(633)	(772)	(799)	(1,459)
Free Cash Flow (FCF)	655	1,783	893	2,819
INTEREST COVERAGE				
(FFO + Interest Expense) / Interest Expense	5.0x	6.8x	8.6x	8.9x
LEVERAGE				
FFO / Net Debt	14.8%	21.2%	18.0%	19.3%
FFO / Debt	14.1%	20.8%	17.4%	18.4%
RCF / Net Debt	2.9%	9.7%	8.1%	18.1%
RCF / Debt	2.7%	9.6%	7.8%	17.2%
Net Debt / EBITDA	5.0x	3.7x	4.5x	4.3x
Net Debt / Fixed Assets	81.4%	62.4%	61.3%	61.3%

All figures and ratios are calculated using Moody's estimates and standard adjustments. FYE = Financial Year-End.

Source: Moody's Financial Metrics™

Endnotes

1 <http://www.gazpromexport.ru/en/statistics/>

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