

Gazprom's response to Commission/BNetzA questions and comments of 26 July 2013

I. CAPACITY ANALYSIS

1. Did the capacity situation really change significantly? Firm capacity was also available in the years 2006, 2007, 2008 and 2009, years in which the exemption criteria have been checked and the initial decisions were taken. Please provide historic capacity data from 2006 till 2010 (the current analysis covers the period of 2011-2012)

Information on available capacity at the various interconnectors for the years 2006 to 2009 is attached at Annex A and B, to the extent that it is available from the various TSOs.

2. Gazprom respectfully requests the European Commission ("Commission") and the Bundesnetzagentur ("BNetzA"), collectively referred to as the "Authorities", to clarify the relevance of this question, given the context in which Gazprom has provided capacity information. In your analysis, GATRAC offers capacity at all three interconnection points with the Czech Republic. However, according to our information, GATRAC does not offer capacity from and to NCG anymore since neither ONTRAS nor eustream nor Net4Gas has pipelines within NCG market area. On GATRAC, NET4GAS offers bundled day ahead capacities at Lanzhot (eustream in Slovakia) and at HSK (Gaspool in Germany). Please update.

All the capacities of German TSO's are published at PRISMA (both for the NCG and Gaspool market areas). GATRAC state that they do provide interruptible capacity between the Czech Republic and NCG.¹ However, Gazprom understands that GATRAC does not offer capacity to and from the NCG anymore.

GRTgaz DE joined the GATRAC platform on 6 May 2011.² On further research, however, we understand that GRTgaz DE has subsequently left GATRAC and (as of August 2013) is not a member of GATRAC,³ as confirmed by the Commission. When GRTgaz DE was a member of GATRAC, capacity at the Waidhaus between the Czech Republic and NCG was available via GATRAC.⁴ As GRTgaz DE has left the GATRAC platform, capacity from the Czech Republic to NCG is not available via GATRAC anymore.

3. Apart from information provided on type of capacity products available, please provide tariff information for each capacity product, as requested previously. Links provided in Appendix A are not sufficient.

The following table sets out, for each of the relevant interconnection points:

1 <http://www.gatrac.com/gatrac-web/gate/products.do>
 2 http://www.gatrac.com/gatrac-web/res/files/gatrac1/2011-05-06_GATRAC_GRTgazD_EN.pdf
 3 <http://www.gatrac.com/gatrac-web/gate/home.do>
 4 http://www.gatrac.com/gatrac-web/res/files/gatrac1/2011-05-06_GATRAC_GRTgazD_EN.pdf

- the type of products offered;
- how products are offered to the market; and
- the terms for which these products are offered.

Table 1: Products Offered at Relevant Interconnection Points

IP	Direction	TSO	Products*	Allocation procedure	Term*†
Baumgarten	Exit AT → SK	Baumgarten Oberkappel Gasleitungs- gesellschaft (BOG)	Firm – FZK Interruptible – FZK	NC CAM auction via Prisma	A, Q, M, DA
Baumgarten	Entry AT → SK	eustream	Firm – FZK Interruptible – FZK	FCFS	A, M, D
HSK-DN	Exit DE → CZ	ONTRAS	Firm – FZK Interruptible – FZK	NC CAM auction via Prisma FCFS via Prisma	A, Q, M, DA A, Q, M, D
HSK-DN	Entry DE → CZ	NET4GAS	Firm – FZK Interruptible – FZK	Pro-rata	M, D, DA, WD
HSK-OL	Exit DE → CZ	Gascade	Firm – FZK Firm – BZK Firm – DZK Interruptible – FZK	NC CAM auction via Prisma FCFS via Prisma	A, Q, M, DA A, Q, M, D
HSK-OL	Entry DE → CZ	NET4GAS	Firm – FZK Interruptible – FZK	Pro-rata	M, D, DA, WD
Waidhaus	Exit CZ → DE	NET4GAS	Firm – FZK Interruptible – FZK	Pro-rata	M, D, DA, WD
Waidhaus	Entry CZ → DE	Open Grid Europe	Firm – FZK Interruptible – FZK	NC CAM auction via Prisma FCFS via Prisma	A, Q, M, DA A, Q, M, D
Waidhaus	Entry CZ → DE	GRTGaz DE	Firm – FZK Firm – bFZK Firm – DZK Interruptible – FZK	NC CAM auction via Prisma FCFS via Prisma	A, Q, M, DA A, Q, M, D
Lanžhot	Exit SK → CZ	eustream	Firm – FZK Interruptible – FZK	FCFS	A, M, D
Lanžhot	Entry SK → CZ	NET4GAS	Firm – FZK Interruptible – FZK	Pro-rata	M, D, DA, WD

IP	Direction	TSO	Products*	Allocation procedure	Term**†
HSK – Brandov	Exit	OPAL	Firm – BZK	NC CAM auction via Prisma**	A, Q, M, DA
	DE → CZ	Gastransport	Interruptible – FZK	FCFS via Prisma**	A, Q, M, D
HSK – Brandov	Entry	Net4Gas	Firm – FZK	Pro-rata**	M, D, DA, WD
	DE → CZ		Interruptible – FZK		

Notes:

Situation as of August 2013.

"NC CAM allocation" refers to the auction mechanism specified in the draft for the European Netcode on Capacity Allocation Mechanisms as currently applied by the European capacity platform PRISMA in their primary capacity auctions.

"FCFS" means allocation according to the "first come first serve" principle.

"pro rata" means that available capacity will be allocated to capacity requests according to the ratio of the individual request to the sum of all requests

* Products and terms actually offered at a specific point in time are subject to availability

** Only the capacities available for third party access (i.e. those not exempted)

† A=one or several years, Q=one or several quarters, M=one or several months, D=one or several days, DA=one day ahead,

WD=within day

Sources: <https://primary.prisma-capacity.eu>, Austrian Gas-Systemnutzungsentgelte-Verordnung 2013 - GSNE-VO 2013 (gas system tariff ordinance); Austrian Gaswirtschaftsgesetz 2011 (Austrian Gas Act), § 36 (2), www.eustream.sk, www.ascade.de, www.ecteez-deutschland.de, www.oprgas.com, www.open-erid-eurooa.com, www.opal-gastransport.de, www.eru.cz, www.net4gas.cz

Austrian Tariffs (Baumgarten Oberkappel Gasleitungsgesellschaft)

The transmission tariffs of the Austrian TSOs (including Baumgarten Oberkappel Gasleitungsgesellschaft – BOG) are based on the Austrian Gas-Systemnutzungsentgelte-Verordnung 2013 (gas system tariff ordinance – GSNE-VO 2013). The GSNE-VO 2013 was enacted by the Austrian regulator E-Control and is published on their website (www.e-control.at).

According to the Austrian Gas Market Model Decree, capacities on gas transmission systems are auctioned. The reserve price to be applied in such auctions consists of a capacity fee and surcharges for products with terms below one year, both of which are regulated in the gas system tariff ordinance.

For interruptible capacities the same reserve price as for firm capacities applies but in case of actual interruption, which does not result from force majeure or planned maintenance, a portion of the capacity fee is refunded.

For exit capacities in Baumgarten the capacity fee is currently (as of August 2013) 1.15 EUR/kWh/h/a. The following surcharges for short term products apply on top of the capacity fee:

- Quarterly: 25%
- Monthly: 50%
- Daily: 75%

The actual tariff payable for firm and interruptible capacities is determined in the auctions on the European primary capacity platform PRISMA and may include an auction premium.

eustream Tariffs

The transmission tariffs applied by eustream are regulated by the Slovak regulator (ÚRSO). The respective decree is published on the website of eustream (www.eustream.sk).

At border points eustream offers the following products:

- Long-term contracts for terms over 12 months;
- Yearly contracts;
- Monthly contracts; and
- Daily contracts

eustream transmission tariffs consist of the following elements:

- A capacity fee contingent on product type, booking volume and product term; and
- Operational gas either to be provided in kind or financially settled at the CEGHIX⁵ price.

Capacity fees for all product types and terms are calculated relative to a base capacity fee, which itself applies to contracts with a term of one year. The base capacity fee for the two relevant points is reproduced in the table below.⁶

Table 2: Base Capacity Fee for eustream Tariffs

Booked Capacity	Base Capacity Fee	
	Baumgarten Entry	Lanžhot Exit
MWh/d	€/MWh/d/y	€/MWh/d/y
Up to 18,200	79.39	159.63
18,200 to 416,000	80.63	162.13
416,000 to 1,372,3000	56.79	114.20
Over 1,372,8000	41.80	84.05

Source: http://www.eustream.sk/files/docs/eng/tariffs_2013_05_02.pdf

For long-term contracts (i.e. terms of more than one year) a discount on the base capacity fee is granted. The discount amounts to 0.6% per year of the term and is capped at a maximum total discount of 11.4%.

For monthly contracts the capacity fee is equal to one tenth of the annual fee plus an additional tenth of that fee for each month of term (i.e. the capacity fee for a 5 month contract is 10% + 5 x 10% = 60% of the annual fee).

⁵ The CEGHIX is a price index based on spot deals or spot orders at the CEGH Gas Exchange of the Vienna Stock Exchange.

⁶ Some additional factors apply when determining the capacity fee in order to avoid steps between fees for the different capacity brackets.

For daily contracts the capacity fee is equal to 0.1% of the annual fee plus an additional 0.72% of that fee for each day of the term (i.e. the capacity fee for a 25 day contract is $0.1\% + 25 \times 0.72\%$ = 18.1% of the annual fee).

The amount of operational gas to be provided by the shipper is specified as a share of the gas volume transported and different for each interconnection point and transport direction:

- Operational gas share for entry in Baumgarten: 0.14%
- Operational gas share for exit in Lanžhot: 1.10%

The capacity tariff and the obligation to provide operational gas also apply to interruptible capacities. However, in case of interruption the capacity fee is refunded proportional to the duration and extent of interruption. A minimum of 4% of the capacity fee is payable in any case.

NET4GAS Tariffs

The transmission tariffs applied by NET4GAS are regulated by the Czech regulator, ERU. The respective decree is published on the website of the ERU (www.eru.cz).

At border points, NET4GAS offers several capacity products:

- At all border points the following non-bundled firm and interruptible capacity products are offered
 - o standard capacity: term of up to 60 months;
 - o daily capacity: term of up to 31 days;
 - o day-ahead capacity: term of 1 day; and
 - o intraday capacity: term of the hours until the end of the respective gas day.
- At border points covered by the GATRAC platform, bundled firm and interruptible day-ahead capacities are also offered under the name of "coordinated capacity".

NET4GAS transmission tariffs consist of the following elements:

- A capacity fee depending on product type and product term; and
- A volume-driven fee to cover cost of operational gas.

Capacity fees for all products are calculated relative to a base capacity fee, which itself applies to contracts with a term of one year. The base capacity fee for the relevant points are reproduced in the table below.

Table 3: Base Capacity Fee for NET4GAS

Interconnection Point and Transport Direction	Base Capacity Fee (C _r) CZK/MWh/d/d
Hora Svaté Kateřiny – Olbernhau (Entry)	727.12
Hora Svaté Kateřiny – Sayda/Deutschneudorf (Entry)	727.12
Lanžhot (Entry)	727.12
Waidhaus (Exit)	4,675.31

Source: http://www.enu.cz/user_data/files/cenova%20rozhodnuti/CR%20plyn/2013/CR_3_2012_ENG.pdf

For the various products offered by NET4GAS the applicable capacity fee is calculated as shown in the table below.

Table 4: Applicable NET4GAS Capacity Fee

Product	Term	Applicable Capacity Fee
standard capacity	Up to 11 months (MS)	$Cr \times 0.157 \times MS \times 0.81$
standard capacity	12 or more months (MS)	$Cr \times MS / 12$
daily capacity	Up to 31 days (d)	$Cr \times 0.01 \times d \times 0.85$
day-ahead capacity	One day	$Cr \times 0.01$
intra-day capacity	the hours until the end of the gas day (T)	$Cr \times 0.01 \times 24 / T$

Source: http://www.enu.cz/user_data/files/cenova%20rozhodnuti/CR%20plyn/2013/CR_3_2012_ENG.pdf and
[www.net4gas.cz/en/media/novy_rad_provozovatele-aj\(1\).pdf?is=20130724154915](http://www.net4gas.cz/en/media/novy_rad_provozovatele-aj(1).pdf?is=20130724154915)

The capacity fee is the same for firm and interruptible capacities. For interruptible capacities a refund of 167% of the transmission fee for the duration and extent of the interruption is granted. The refund for each gas day is capped, however, with the transmission fee applicable for the gas day.

The volume fee is applicable only to exit points and is applied to the gas volumes actually transported. It is defined with reference to the day-ahead EEX settlement price of the one day 10 MW contract for delivery at the Virtual Point NCG (C_{NCG}) according to the following formula:

$$\text{Volume fee} = 0.0077 \times C_{NCG}$$

For NET4GAS capacities included in bundled products sold via the GATRAC platform the same tariff as for non-bundled capacities applies.

German Tariffs

The transmission tariffs applied by German TSOs are approved by the German regulator (BNetzA). The respective tariff information is published on the websites of the TSOs (www.gascade.de, www.grtgaz-deutschland.de, www.ontras.com, www.open-grid-europe.com).

The tariffs of German TSOs consist of the following elements:

- Capacity fee
- Invoicing fee
- Metering fee
- Fee for meter operations

The applicable tariff elements per TSO are summarised in the following table:

Table 5: German tariff elements

Fee Type		Gascade	GRTgaz DE	ONTRAS	Open Grid Europe
		HSK Exit	Waidhaus Entry	HSK Exit	Waidhaus Entry
Capacity fee – FZK	€/kWh/h/a	2.56	1.67	2.5185	2.6791
Capacity fee – bFZK	€/kWh/h/a	1.536	1.59	—	2.14328
Capacity fee – DZK	€/kWh/h/a	1.536	1.34	—	—
Capacity fee – interruptible	€/kWh/h/a	1.536	1.09	2.46813	2.14328
Invoicing fee	€/kWh/h/a	—	0.002	0.02555	—
	€ per invoice	25	—	—	—
Metering fee	€/kWh/h/a	0.03317	0.018	0.00365	—
Fee for meter operations	€/kWh/h/a	0.02788	—	—	—

Note: ONTRAS fees are originally quoted in €/kWh/d; Open Grid Europe fees are originally quoted in €/kWh/d. Both are converted to €/kWh/h/a to make them comparable; rounding differences may occur.

Sources: http://www.gascade.de/fileadmin/downloads/netzzugang/GASCADE_Tariff_Information_2013.pdf, <http://drupal.grtgaz-deutschland.de/node/422>,

http://www.ontras.com/cms/fileadmin/Dokumente_Kapazitaetsvermarktung/Geschaeftsbedingungen/Preisblatt_ONTRAS_DE_01_06_2013.pdf, http://www.open-grid-europe.com/cos/rda/xbcc/SID-C1C507C7-4C59C061/open-grid-europe-internet/2013_03_18_Preisblatt_OGE_TX_kurz_ab_2013_01_01_EN-GB.pdf

For contracts with duration of less than a year Gascade, ONTRAS and OGE charge 1/365 of the annual tariffs reproduced in the table above multiplied by the number of days of the contract term. GRTgaz DE charges for winter days (days within the months October, November, December, January, February or March) the annual tariff multiplied by 0.6/183 and for summer days (i.e. days within the months April, May, June, July, August or September) the annual tariff multiplied by 0.4/182.

All German TSOs offer a reduced tariff for interruptible capacities without refund in case of interruption.

4. How do you explain that technical capacity goes down significantly at IP HSK Deutschneudorf in the years following 2017?

Gazprom's external economic advisers Compass Lexecon asked Ontras for a clarification of this question and were given the following response: *"Please, let me come back to your inquiry about Deutschneudorf exit capacities. My colleague in charge of this issue who has come back from holiday this week investigated the case and confirmed that the reductions you noticed had to be made in the context of updating ONTRAS' capacity regime for the long-term. These changes are, however, subject to further modifications that may be required by national and/or European legislation/regulation"* (e-mail from Ontras to Compass Lexecon, 19 July 2013).

Gazprom respectfully submits that, should further clarifications be required, the Authorities would be better placed than Gazprom or its external advisers to obtain these from Ontras.

5. On page 8, you list different types of firm capacity products available in Germany (FZK, bFZK, DZK, BZK). What about the same type information requested previously also for the Czech Republic and Austria? Links provided in Appendix C are not sufficient.

See response to Q3 above.

6. What kind of capacity products have been assessed in your analysis under the label "firm"? The main question is whether or not the capacity products provide access to the virtual trading point (hub) and allow shippers to supply end customers without any additional capacity booking. The pure label "firm" is not sufficient, as in footnote 6 it is indicated that in your analysis you consider all firm products, and make no distinction between the different types of firm products available. For example, GASCADE offers FZK and DZK products, both products are "firm" but DZK is of lower quality (with only interruptible access to the virtual trading point). General definitions provided do not fully explain what are the precise restrictions of the DZK product.

As explained in Section 3 of the previously submitted Memo prepared by Compass Lexecon, all quantitative information on technical capacity, firm bookings and flows was extracted from the websites of the respective TSOs. Of these, only Gas Connect Austria lists different types of firm capacity (FZK and DZK, in addition to interruptible capacity – UK), but only FZK has positive data entries, so that FZK may be the only firm product offered. None of the other TSO websites provides further information on how "firm" was defined. We can only assume that the firm bookings reported on these websites include a variety of firm products, to the extent that more than one firm product is available.

Gazprom respectfully submits that, should further clarifications be required, the Authorities would be better placed than Gazprom or Compass Lexecon to obtain these from the relevant TSOs.

7. In view of the above comments, please specify what kind of capacity product is available at each point. Please provide this information for all entry / exit points, including "Brandov OPAL".

See response to Q3 above.

8. If data was unavailable (measured flows, nominated capacity) the consultant made assumptions and estimated the flows / number of used capacities. How often did that happen? What does "a small number of cases" mean?

This question was addressed in detail in Appendix D to the previously submitted Memo prepared by Compass Lexecon

9. In view of our previous comment that virtual reverse flow in Waidhaus (D=>CZ) is not always possible because physical flows from CZ=>D can go down to zero (cf. flows in October 2012) and thus the IP Waidhaus cannot be taken into consideration for the analysis, you mentioned storage facilities as an instrument to provide and use flexibility (page 6) in order to deal with interruptions at Waidhaus. Please provide a comprehensive analysis of the storage market in CZ (inter alia, access conditions and tariffs). Your current analysis is based on the total volume of gas that can be stored in the Czech Republic (i.e. total storage capacity), instead of the actual usage. According to our information, storage capacity of MND is sold out for 2012 and 2013.

This question was addressed in detail at paras. 2.7-2.11 and at Appendix B of the previously submitted Memo prepared by Compass Lexecon. The data provided there suggest that it is not the case that physical flows went down to zero on any day in 2011 or 2012 and that, on the contrary, substantial volumes of gas flowed in the German direction at all times. Nominations at Waidhaus from Czech Republic to Germany never fall below 165 GWh/day (falling to this level for a brief period in October 2011), while flows fell to between 14 GWh and 63 GWh on 11 October 2011 depending on which TSO's data is used. In 2012, daily nominations never fell below 271 GWh/day, whilst according to OGE and NET4GAS, flows never fell below 200 GWh/day in 2012 (although GRTgaz DE reported lower flows in 2012, with a minimum of 95 GWh/day).

On the basis of the data collected by its external advisers, Gazprom can only disagree with the representatives of the European Commission conclusion that "the IP Waidhaus cannot be taken into consideration for the analysis", irrespective of the availability of storage capacity in the Czech Republic.

Overview of Czech storage

In the years 2009 to 2012 three companies were operating underground gas storage facilities in the Czech Republic:

- RWE Gas Storage, s.r.o., operating six underground storage facilities:

- o Dolní Dunajovice
- o Háje
- o Lobodice
- o Štramberk
- o Třanovice
- o Tvrdonice
- MND Gas Storage, a.s., operating the underground storage facility Uhřice
- SPP Bohemia, a.s. operating the underground storage facility Dolní Bojanovice until August 2011; in September 2011 operation was handed over to SPP Storage, s.r.o.

However, only the storage facilities operated by RWE Gas Storage and MND Gas Storage are directly accessible from the Czech gas transmission network. The Dolní Bojanovice underground storage facility operated by SPP is connected via a cross border pipeline only to the Slovak gas transmission system. Therefore, only the facilities of RWE Gas Storage and MND Gas Storage are considered below.

The size of a gas storage facility is usually specified by three key figures:

- Working gas volume (WGV): The total volume of gas that can be stored in the storage facility;
- Maximum injection capacity (MIC): The maximum daily quantity that can be injected into the storage facility; and
- Maximum withdrawal capacity (MWC): The maximum daily quantity that can be withdrawn from the storage facility

The following two tables present the development of Czech storage capacities from 2008 to 2013.

Table 6: Development of Czech Storage Capacity 2008-2010

	2008			2009			2010		
	WGV	MIC	MWC	WGV	MIC	MWC	WGV	MIC	MWC
	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>
RWE	2.32	26.35	35.70	2.32	26.35	35.70	2.37	26.90	36.50
MND	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.18	2.70	6.00
Total	>2.32	>26.35	>35.70	>2.32	>26.35	>35.70	2.55	29.60	42.50

Source: RWE Gas Storage Annual Reports 2008 (p. 15), 2009 (p. 12), 2010 (p. 12), www.rwe-gasstorage.cz/en/virtual-storage-capacity/; MND Gas Storage <http://gasstorage.cz/information-disclosure-requirements/capacity-and-output>

Table 7: Development of Czech Storage Capacity 2011-2013

	2011			2012			2013		
	WGV	MIC	MWC	WGV	MIC	MWC	WGV	MIC	MWC
	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>	<i>bcm</i>	<i>mcm/d</i>	<i>mcm/d</i>
RWE	2.60	29.90	39.90	2.69	29.51	40.16	2.69	29.41	40.16
MND	0.16	2.70	6.00	0.22	3.50	7.70	0.23	4.00	8.20
Total	2.76	32.60	45.90	2.90	33.01	47.86	2.91	33.41	48.36

Note: MIC and MWC values for RWE Gas Storage in 2012 and 2013 were originally quoted in GWh/d and were therefore converted using a GCV of 10.607 kWh/m³ as found at: www.rwe-gasstorage.cz/en/mwh-to-m3-conversion
Source: RWE Gas Storage Annual Reports 2011 (p. 14) 2012 (p. 22), www.rwe-gasstorage.cz/en/virtual-storage-capacity/; MND Gas Storage <http://gasstorage.cz/information-disclosure-requirements/capacity-and-output>

RWE Gas Storage

RWE Gas Storage includes all 6 physical storage facilities into a virtual storage facility. Storage products sold by RWE Gas Storage therefore do not refer to a specific storage facility.

RWE Gas Storage offers the following storage products:

1. Annual firm storage bundles for existing storage capacity (term 1 to 5 years)
2. Annual firm storage bundles for new storage capacity (term 1 to 15 years)
3. Monthly firm storage bundles (term 1 to 12 months)
4. Daily firm storage bundles (term 1 to 30 days)
5. Firm daily unbundled injection or withdrawal capacity
6. Interruptible daily unbundled injection or withdrawal capacity
7. Temporary (i.e. unbundled) storage volume (minimum term one gas week)
8. Guaranteed Reverse Capacities⁷

Products (1) to (3) are sold using multi-round electronic auctions. For these auctions the storage operator specifies the duration and size of the total storage bundle available and a reserve price. The actual price for the storage bundles is determined in the auction. Products (4) to (6) are sold using an electronic request procedure. For the interruptible products (6) a pay-as-bid principle with a reserve price is applied, with the highest bid being the least likely to be interrupted. Products (7) and (8) can be ordered using an informal request via e-mail or phone.

In 2011 seven auctions for storage capacity were held, in total almost 500 million m³ of working gas volume were allocated.⁸ Due to the multi-annual nature of the products sold in 2011 only a limited amount of storage capacity was sold in 2012.⁹ In 2012 RWE Gas Storage had a total of 17 clients.¹⁰

⁷ Guaranteed reverse capacities allow a storage user to withdraw gas in summer and inject gas in winter even though the standard storage contract foresees withdrawal only in winter and injection only in summer.

⁸ RWE Gas Storage Annual Report 2011 (p. 14)

⁹ RWE Gas Storage Annual Report 2012 (p. 22).

¹⁰ Ibid.

- Currently (i.e. as of 6 August) RWE Gas Storage offers the following storage capacities for sale:
- Five auctions for firm bundled storage capacities for 2014 are scheduled as of 6 August 2013.

Table 8: RWE Gas Storage Capacity Auctions 2013

Auction Date	WGV on offer <i>million m³</i>	Reserve Price <i>CZK per m³ WGV</i>	Storage Period
August 6, 2013	2.8	0.68	01.04.2014 – 31.03.2017
August 7, 2013	2.6	0.68	01.04.2014 – 31.03.2017
August 8, 2013	3.5	0.70	01.04.2014 – 31.03.2017
August 13, 2013	3.1	0.71	01.04.2014 – 31.03.2017
August 14, 2013	3.2	0.71	01.04.2014 – 31.03.2017

Source: www.rwe-gasstorage.cz/en/available-storage-capacity

- 50 million m³ of temporary (i.e. unbundled) storage volume is available from 1 November 2012 to 15 September 2013. The price for temporary storage volume is 0.0002 CZK/m³/day.¹¹
- As of 6 August, 193.8 GWh of interruptible injection rate and 409.5 GWh of interruptible withdrawal rate for 7 August 2013 was available. The minimum price is 10 CZK/MWh.¹²
- As of 6 August, 1 GWh of guaranteed reverse capacities are available from 8 May 2013 to 30 September 2013 at a price of 2 CZK/MWh for the reservation and additional 8 CZK/MWh for actual usage.¹³

MND Gas Storage

MND offers the following storage products for the storage facility in Uhřetice:

1. Annual firm storage bundles for existing storage capacity;
2. Annual firm storage bundles for new storage capacity;
3. Monthly firm storage bundles;
4. Short-term unbundled firm injection or withdrawal capacity; and
5. Short-term unbundled interruptible injection or withdrawal capacity.

Allocation of products (1) to (3) is performed using multi-round electronic auctions. For each auction the storage operator specifies the available working gas volume, the ratio of working gas volume to injection and withdrawal rate, the term of the storage contracts on offer and sets a minimum price per m³ working gas volume. Allocation of products (4) and (5) is performed by an electronic procedure not specified in detail.

The table below gives an indication about the auctions performed during the last 2.5 years.

¹¹ <http://www.rwe-gasstorage.cz/en/available-storage-capacity/> and <http://www.rwe-gasstorage.cz/en/indicative-price/>
¹² Ibid.
¹³ Ibid.

Table 9: MND Gas Storage Auctions During the past 2.5 Years

Auction Date	WGV on offer	Reserve Price	Capacity Type offered	Storage Period
	<i>million m³</i>	<i>CZK per m³ WGV</i>		
3 February 2011	30.0	1.15	existing capacity	01.04.2011 – 31.03.2012
17 February 2011	150.0	0.50	existing capacity	01.04.2011 – 31.03.2012
21 March 2011	75.0	0.94	existing capacity	01.04.2011 – 31.03.2015
06 May 2011	10.0	0.74	unclear	01.06.2011 – 31.03.2012
10 December 2012	4.5	1.48	new capacity	01.04.2013 – 01.04.2018
2 January 2013	4.4	1.18	new capacity	01.04.2013 – 01.04.2018
18 February 2013	4.4	0.87	new capacity	01.04.2013 – 01.04.2018

Source: www.gasstorage.cz/auction-system

The website only lists prices for interruptible capacities – presumably because firm capacities are currently not available:¹⁴

- Interruptible injection: 0.015 CZK per kWh
- Interruptible withdrawal: 0.009 CZK per kWh

Currently (August 2013) the MND storage facility is fully booked with no firm storage capacities available for 2013 anymore.

Summary

The Czech storage facilities are close to fully booked for the storage year¹⁵ 2013/14 with only very limited firm and interruptible capacities currently available. This is not surprising, however, as the storage year is well advanced and storage operators were trying to sell off all available capacities prior to the start of the storage year (which was 1 April 2013).

The past and current (non-)availability of storage capacities is unlikely to hamper the use of Czech storage to back-up any brief non-availability of counter-flow capacities in Waidhaus for the following reasons:

- In 2011, 2012 and 2013 large amounts of storage capacities were made available for 2012/13 and 2013/14. RWE Gas Storage even had to lower the reserve prices to sell all available capacities.¹⁶

¹⁴ <http://gasstorage.cz/uqs-operation-code-83-86>

¹⁵ The storage year runs from 1 April to 1 April of the subsequent year.

¹⁶ RWE Gas Storage Annual Reports 2011 (p. 14).

- At the moment there are already a substantial number of companies (at least 17) holding storage capacities in the Czech Republic. These companies are moreover likely to be those most interested in importing gas from Germany to the Czech Republic as they are likely to already have some kind of business established there.
- The amount of gas storage available in the Czech Republic is large compared to the counterflow capacity in Waidhaus. The total Czech storage withdrawal rate of 48.36 mcm/d makes up between a third and a half of the maximum main flow nominations at Waidhaus (approximately 91 mcm/d in 2010 and 2011 and approximately 131 mcm/d in 2012). Therefore, there is enough storage available to make up for temporary interruptions of counterflow capacity from Germany. Even if the counterflow capacity is used by a company not holding a sufficient storage contract in the Czech Republic to back-up the missing import capacity, a spot trade could be executed with any firm holding storage to make up for the temporarily missing imported gas.
- Finally for 2014/15 any party interested has an opportunity to obtain storage capacities in the auctions already scheduled by RWE Gas Storage for this storage year.¹⁷

10. Actual flows can be left out in the analysis since they are not relevant for firm capacities. These firm capacities are, however, a basic requirement for market players to enter the market. For this reason the data called "total spare capacity" is also less relevant. In addition, "total spare capacity" shows an annual average with no information value concerning the utilization in critical hours, weeks and months. If "total spare capacity" is been analyzed than hourly numbers have to be provided.

Information on capacity utilisation on an hourly and daily basis has been provided in the previously submitted Memo prepared by Compass Lexecon, at paras. 3.11-3.13, 3.20-3.21, 3.26, and 3.35.

The question seems to imply that a new entrant would only be interested in booking firm capacity. Gazprom respectfully disagrees. Interruptible capacity is offered by TSOs and actually purchased by shippers. There is thus no reason to believe that the degree to which interruptible capacity is available is a wholly irrelevant criterion when assessing the likelihood of entry. In any event, the analysis in Annex A and B includes data on spare firm capacity where available.

11. There are some inconsistencies regarding the technical and spare firm capacity at the IP Olbernau and IP Deutschneudorf (Exit from Germany) between the data provided in Gazprom's analysis and those on the operators websites (these inconsistencies had been also noted in the current analysis). This might be because annual averages are also used for technical and spare firm capacities. It is therefore preferable to provide the data on a monthly basis (for all IPs) to make the numbers comparable.

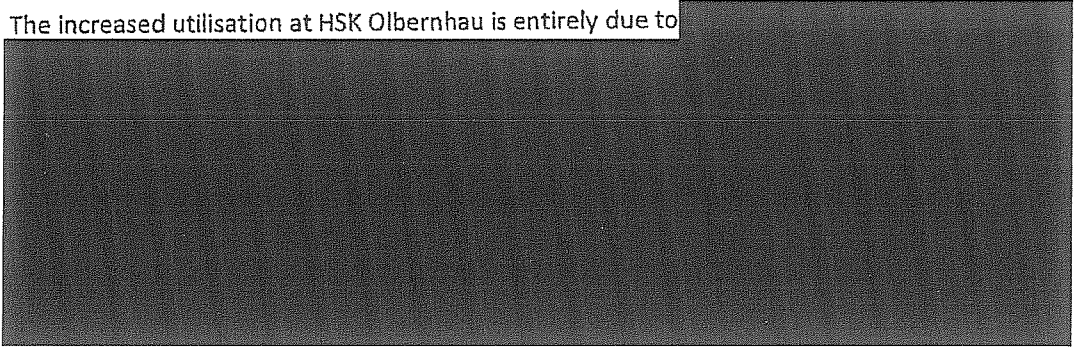
This question was addressed in the previously submitted Memo prepared by Compass Lexecon at footnotes 26 and 29. Compass Lexecon have not used annual averages, and have instead used daily data from Gascade and ONTRAS and calculated annual values as a sum of daily values.

¹⁷

As of now MND does not publish if and how much storage capacities for 2014/15 will be made available.

12. According to the data provided, at HSK Olbernhau, there had been in the past many instances of high utilization rates. In particular the first half of this year show increased number of instances of peak bookings. Could you explain why the days with higher than 90% utilization rates had increased considerably in 2013 and how you expect the utilization rates to evolve in the future?

The increased utilisation at HSK Olbernhau is entirely due to



II. FUNCTIONING AND LIQUIDITY OF GERMAN GAS HUBS

13. Please provide more comprehensive analysis of functioning and liquidity of German gas hubs with respect to
- Gaspool and NetConnect Germany
 - exchange www.eex.com and
 - Spot and forward products (provide the volumes of spot and forward products)

We consider that the economically relevant information on the liquidity of the Gaspool and NetConnect Germany ("NCG") hubs was provided in paragraphs 2.26 to 2.32 of the previously submitted Memo prepared by Compass Lexecon. Volume, churn and bid-ask spreads are widely accepted and frequently used indicators of hub liquidity.

The data presented related only to OTC trades, as similar information for www.eex.com does not appear to be available in the public domain. However, OTC volumes by far exceed exchange volumes at both German hubs. In the first quarter of 2013, EEX traded volumes were around 7.5% of total OTC trading on the NCG and Gaspool hubs, in comparison with 5.7% in Q1 2012¹⁸. The data provided are therefore representative of the large majority of trades at the hubs in question.

An extensive discussion of the functioning of the NCG and Gaspool hubs is set out in the October 2012 Full Report and Q1 2013 Update of the ICIS European Gas Hub Report, which are available from ICIS. "Continental European Gas Hubs: Are they fit for purpose?" by Patrick Heather of the Oxford Institute for Energy Studies, June 2012, also provides some details that may be useful.

Relevant points include:

¹⁸ ICIS European Gas Hub Report, Q1 2013 Update, page 8.

- The most liquid contracts are day-ahead and contracts in the forward month at both hubs. Both hubs have limited liquidity on the forward seasonal and annual curve¹⁹.
- Although Gaspool covers a large geographical area, Heather (2012) reports that it is mainly used by traders to adjust their storage portfolios and in relation to the NCG²⁰.
- Some have speculated that the TTF and GASPOOL may merge in the future, especially as Gaspool is 16.66% owned by state-owned Nederlands Gasunie. In March 2012, the respective hub operators announced that they would begin auctioning bundled capacity, which allows for transmission of gas across both hubs without a need for two separate transportation agreements or capacity payments.^{21 22}

III. FUNCTIONING AND LIQUIDITY OF AUSTRIAN GAS HUBS

14. How the Baumgarten gas hub functions, what are the prices at hub? In particular taking into account the identified differences in the liquidity between German and Austrian hubs, could you please provide information on possibilities of any given shipper to purchase gas in Baumgarten and ship it into the Czech Republic.

The relevant information on the possibilities to purchase gas at the Baumgarten gas hub (formally, the Central European Gas Hub or "CEGH") and ship it into the Czech Republic was provided in paragraphs 2.1 to 2.25 of the previously submitted Memo prepared by Compass Lexecon.

The economically most relevant information on the liquidity of the CEGH was provided in paragraphs 2.26 to 2.32 of the previously submitted Memo prepared by Compass Lexecon. Below, further details and references on the functioning of the CEGH, CEGH hub prices, and shipping gas from CEGH to the Czech Republic are provided:

Functioning of the CEGH

- Until January 2013, CEGH operated as a physical hub which comprised 6 tradable locations across Austria, the most important of which was Baumgarten on the Eastern border with Slovakia²³.
- On 1 January 2013 the Austrian Virtual Trading Point ("VTP") was launched, operated by the TSO, Gas Connect Austria. It covers the entire country except the states of Tyrol and Vorarlberg (both of which will be integrated into the NCG market zone on 1 October 2013; as they lack a physical interconnection with the rest of the Austrian transmission system)²⁴.

¹⁹ ICIS European Gas Hub Report, Q1 2013 Update, pages 8 and 14.

²⁰ Heather, Patrick, "Continental European Gas Hubs: Are they fit for purpose?," Oxford Institute for Energy Studies, June 2012.

²¹ <http://www.gasunietransportservices.nl/en/news/gasunie-tsos-auction-bundled-cross-border-capacity>

²² ICIS European Gas Hub Report, Q1 2013 Update, p. 15.

²³ Heather, Patrick, "Continental European Gas Hubs: Are they fit for purpose?," Oxford Institute for Energy Studies, June 2012.

²⁴ ICIS European Gas Hub Report: October 2012 Full Report, page 28.

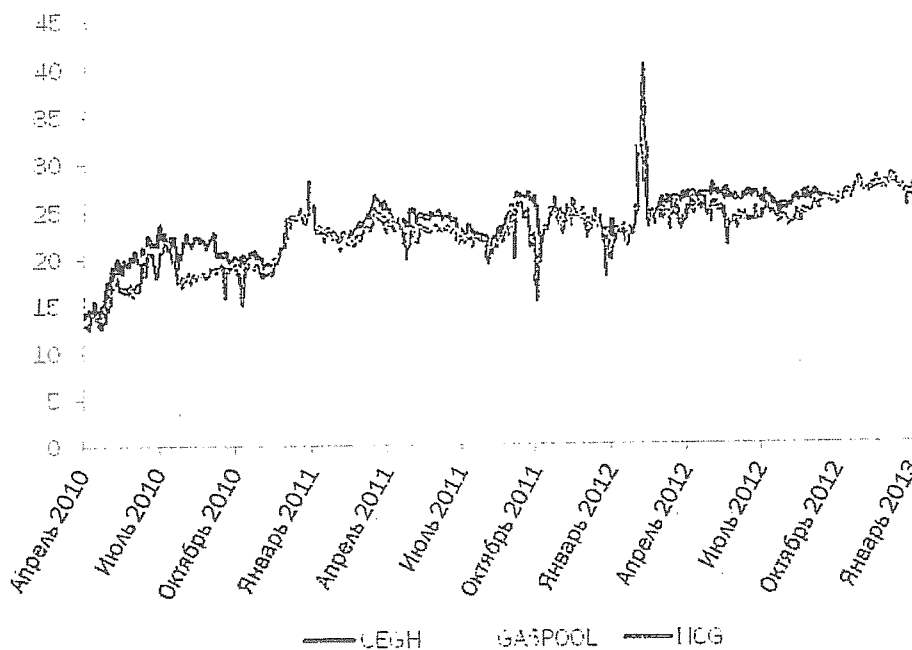
- ICIS reports that liquidity on prompt trades on the VTP is increasing, although a large proportion of trades in Austria are still done bilaterally²⁵. The VTP is still reliant on a small number of large traders however.

An extensive discussion of the functioning of the CEGH is set out in the October 2012 Full Report and Q1 2013 Update of the ICIS European Gas Hub Report, which are available from ICIS.

CEGH hub prices

The chart below shows daily prices for CEGH, NCG and Gaspool between April 2010 and March 2013.

Figure 1: CEGH, NCG and Gaspool prices, €/MWh



Source: Ceghotc.com, Gaspool.de, Datenservice.net-connect-germany.de.

Note: CEGH prices are Day-Ahead Reference Prices. NCG and Gaspool prices are Daily Reference Prices, due to a change in the publication of prices for the German hubs.

On average, CEGH prices were higher than NCG and Gaspool prices between 2010 and mid-2012. However from late 2012 through early 2013, CEGH prices have been lower than German hub prices. The table below shows the average difference between CEGH prices and prices at the German hubs.

Table 10: CEGH prices v Gaspool and NCG prices

Year	CEGH minus GASPOOL €/MWh	CEGH minus NCG €/MWh
2010	1.56	1.70
2011	1.04	1.03
2012	1.08	1.00
January – March 2013	(1.14)	(1.13)
Average 2010-2013	1.01	1.01

Source: Ceghotc.com, Gaspool.de, Datenservice.net-connect-germany.de.

CEGH prices have generally been highly correlated with NCG and Gaspool prices in the past several years. ICIS reports that CEGH prices still follow NCG prices, but have been increasingly linked to the Italian supply and demand balance²⁶. The table below shows the correlation coefficient between CEGH prices and each of the German hubs since 2010.

Table 11: CEGH prices v Gaspool and NCG prices

Year	CEGH - GASPOOL	CEGH - NCG
2010	0.906	0.883
2011	0.607	0.590
2012	0.850	0.848
January – March 2013	0.859	0.842
Average 2010-2013	0.924	0.921

Source: Ceghotc.com, Gaspool.de, Datenservice.net-connect-germany.de.

Shipping gas from CEGH to the Czech Republic

It is possible to ship gas from CEGH via the Austro-Slovak border point at Baumgarten, the Slovak transmission network and the Slovak-Czech border point at Lanžhot. The relevant gas TSOs, from which transmission tariff and access information can be obtained, are:

- Gas Connect Austria for CEGH;
- eustream in Slovakia; and
- NET4GAS in the Czech Republic.

GATRAC, a Czech-German gas capacity booking platform, offers gas shippers bundled day-ahead capacity, as well as medium and long-term capacity booking, between CEGH, Slovakia and Austria. It offers a bundled day-ahead capacity product which enables bi-directional transmission between the Czech virtual trading point, Slovakia, and the CEGH. Capacity booking can be made using a click-and-book system for firm capacities. Further details, including pricing information, are available at <http://www.gatrac.com/gatrac-web/gate/products.do>.

²⁶

ICIS European Gas Hub Report: October 2012 Full Report, page 28.

IV. CZECH GAS MARKET

Gazprom respectfully requests the Authorities to clarify the relevance of the information requested in this section for the Working Group discussions of the OPAL exemption conditions.

15. Please provide definitions and analysis of upstream (import), and downstream (wholesale and retail) gas markets in Czech Republic. Please explain how the Czech market has developed since 2008?

Upstream (Import) Gas Market

On the upstream gas import level, producers typically supply natural gas to wholesalers, which acquire gas volumes for onward sale in downstream markets. In line with the Commission's hitherto decision practice (mainly in merger control proceedings), Gazprom submits that there is a single product market encompassing development, production, and upstream supply of natural gas to wholesalers which is at least EEA-wide including Russia and Algeria in scope.²⁷

1. *Product market*

The Commission has consistently found that there is a single product market for the development, production, and upstream supply of natural gas to wholesalers. The Commission has found that this market is distinct from the market for the exploration of oil and natural gas (which is also sometimes referred to as 'exploration and production'), which consists in finding hydrocarbon resources. The Commission has also considered whether the market for upstream gas supply could be further segmented between high-calorific gas ("H-gas") and low-calorific gas ("L-gas") – and whether a further distinction should be made between pipeline gas and liquefied natural gas ("LNG"). Both issues were ultimately left open. In contrast, the German Federal Cartel Office ("FCO") has defined a single market comprising all forms of natural gas, including pipeline gas, LNG, gas from conventional and unconventional sources, and both H-gas and L-gas in a recent merger control decision.²⁸

Similarly, Gazprom considers that the relevant product market comprises the development, production, and upstream supply of natural gas from both conventional and unconventional sources. Consistent with the FCO's recent findings, this market includes both pipeline gas and Liquefied Natural Gas ("LNG") and both high calorific value gas ("H-gas") and low calorific value gas ("L-gas").

²⁷ Cf. e.g. Commission, decision of 15 September 2008, Case COMP/M. 5183 – *Centrex/ZMB/Enis/IV*, para. 14; Commission, decision of 23 January 2003, Case/COMP/M.3052 – *ENI/Forum*, paras 9 et seqq.; Commission, decision of 6 March 2002, Case COMP/M.2681 – *Conoco/Phillips Petroleum*, para. 10; Commission, decision of 29 September 1999, Case COMP/1383 – *Exxon/Mobil*, para. 18 – in some more recent decisions the Commission envisaged narrower geographic markets but ultimately left the decision open, cf. Commission, decision of 21 August 2009, Case COMP/M.5585 – *Centrica/Venture Production*, para. 11; Commission, decision of 15 October 2008, Case COMP/M.5220 – *Eni/Distrigaz*, para. 35; Commission, decision of 3 May 2007, Case COMP/M.4545 – *Statoil/Hydro*, para. 16.

²⁸ FCO, decision of 31 January 2012, Case B 8 – 116/11 – *Gazprom Germania/VNG*, paras. 66 et seqq..

2. Geographic Market

The Commission has traditionally considered the upstream supply market to cover the EEA, including imports from Algeria and Russia, but has ultimately left this question open.²⁹ In Statoil/Hydro, for example, the Commission conducted a market test in which

*“all the respondents to the market investigation carried out in this case have, on one hand, confirmed that relevant sources of natural gas for delivery into the EEA should include also at least Russian and Algerian gas.”*³⁰

Similarly, in E.ON/Mol, some respondents of the market investigation stressed,

*“that gas is procured by MOL WMT and EMFESZ from international companies (such as Gazprom, E.ON, GDF, etc.) and is commonly traded at the European level, including Russia. Therefore, the supply side (procurement) of the wholesale supply of gas is clearly international in scope.”*³¹

And in one of its most recent decisions, BP/Chevron/ENI/Sonangol/Total/JV, the Commission stated that the geographic scope of the Gas Import Market “most likely” comprises the EEA, plus Russian and Algerian imports.³² In more recent cases, however, the Commission has also considered whether the relevant geographic upstream supply market could be narrower in scope, and be limited to either of (1) the EEA, (2) an area comprising a number of EEA countries, or (3) individual countries.³³ In these cases, the Commission has left the question open.

Gazprom submits that the geographic market for upstream supply is EEA-wide, including all imports into the EEA. Notably, there is no valid reason to exclude imports into the EEA from countries other than Algeria and Russia, as this would exclude a large number of other import sources directly competing with Russian and Algerian volumes. In line with the FCO’s Gazprom Germania/VNG decision³⁴, imports of piped natural gas and LNG from the Middle East (Egypt, Oman, Qatar, Yemen), other North- and West- African States (Algeria, Libya, Nigeria), South America (Peru, Trinidad and Tobago), and to a limited extent also North America, must all be considered. These natural gas imports are competing supply sources within the EEA, being interchangeable from the point of view of the wholesalers.

The interconnection of EEA-wide natural gas infrastructure supports a market definition which comprises all natural gas imports into the EEA. This is also the case for the Czech Republic. The Czech Republic disposes of a well-established natural gas infrastructure with highly-developed natural gas import and transmission grids interconnected with Germany, Slovakia, and Poland. The relevant interconnectors have substantial spare capacity. This has been described in detail in

²⁹ Commission, decision of 15 September 2008, Case COMP/M. 5183 – *Centrex/ZMB/Enia/JV*, para. 14; Commission, decision of 3 May 2007, Case COMP/M.4545 – *Statoil/Hydro*, para. 13 et seq.; Commission, decision of 29 September 1999, Case COMP/1383 – *Exxon/Mobil*, para. 18. Communication from the Commission – Inquiry pursuant Article 17 of Reg. 1/2003 into the European gas and electricity sector (“Energy Sector Inquiry”), (Final Report) (SEC(2006) 1724), footnote 57 in reference to the aforementioned Case COMP/M. 1383 – *Exxon/Mobile*.

³⁰ Commission, decision of 3 May 2007, Case COMP/M.4545 – *Statoil/Hydro*, para. 13.

³¹ Commission, decision of 21 December 2005, Case COMP/M.3696 – *E.ON/MOL*, para. 132 – this market was not under investigation in that case.

³² Commission, decision of 16 May 2012, Case COMP/M.6477 – *BP/Chevron/ENI/Sonangol/Total/JV*, para. 18.

³³ Commission, decision of 3 May 2007, Case COMP/M.4545 – *Statoil/Hydro*, para. 15.

³⁴ FCO, decision of 31 January 2012, Case B 8 – 116/11 – *Gazprom Germania/VNG*.

the previously submitted Memo prepared by Compass Lexecon, with further information being provided in the responses to the questions in Section I of the Authorities' questionnaire above.

The German NCG and Gaspool hubs play a particularly important role with regard to the procurement of natural gas volumes in the Czech Republic. Czech wholesalers acquire significant amounts of natural gas from these hubs, demonstrated by the fact that 14%³⁵ of the annual Czech consumption was covered by volumes deriving from hubs in 2010.³⁶ Volumes from a large number of different origins are traded on these hubs, leading to a diversified supply for the Czech Republic.

Imports from the German hubs into the Czech Republic are facilitated by low costs of transportation.

A chart showing spot prices at the hubs is provided in the response to Q14 above.

The tables below compare the costs of transporting gas from the NCG and Gaspool hubs, respectively, to the Czech virtual point. In 2012, the transport cost (essentially, the exit fee from the German system and the entry fee into the Czech system) corresponded to approximately 1.5% of the average hub prices.

Table 12: Transport Costs as a Percentage of NCG price 2010-2012

	2010	2011	2012
NCG spot (€/MWh)	17.41	22.81	25.19
Waidhaus (DE) exit tariff (€/MWh)	0.26	0.26	0.30
Waidhaus (CZ) entry tariff (€/MWh)	0.08	0.08	0.08
Transport costs as % of spot	1.9%	1.5%	1.5%

Notes: We take daily reference prices for NCG from the NCG website, and calculate a simple annual average. Transport tariffs are calculated from the relevant tariff sheets. For NCG, the exit point is Waidhaus (DE) with tariff information from the OGE website. For NCG, the entry point is Waidhaus (CZ). All Czech entry tariff information comes from the ERU website. Where transport charges were in bcm, we have used a conversion factor of 10.83 kWh=1m³ (as per Eurogas Statistical Report 2012, p. 12). Where transport charges were in local currency, we have converted to € using annual exchange rates from the European Central Bank.
Sources: http://datenservice.net-connect-germany.de/Preisgrunddaten.aspx?MandantId=Mandant_Ncg&rdeLocaleAttr=en;
http://www.eru.cz/user_data/files/ERV/ERV7_2012.pdf;
http://www.eru.cz/user_data/files/cenova%20rozhodnuti/CR%20plyn/2011/ER%20CR%204_2011.plyn.pdf;
http://www.eru.cz/user_data/files/plyn/CR_3_2010_ENG%20_2_.pdf; http://www.open-grid-europe.com/cps/rde/xbcr/SID-A1A9893F-9968CE1F/open-grid-europe-internet/2012_01_05_Preisblatt_Englisch_OGE_TK_detalliert.pdf; http://www.open-grid-europe.com/cps/rde/xbcr/SID-A1A9893F-9968CE1F/open-grid-europe-internet/110801_Detailed_Overview_of_Fees_of_OGE_valid_on_and_after_1_October_2011.pdf; http://www.open-grid-europe.com/cps/rde/xbcr/SID-A1A9893F-9968CE1F/open-grid-europe-internet/101209b_Detailed_Overview_of_Fees_OGE_from_01.01.2011.pdf; http://www.open-grid-europe.com/cps/rde/xbcr/SID-A1A9893F-9968CE1F/open-grid-europe-internet/101022_Price_List_of_OGE_from_Jan_1_2010.pdf; http://www.open-grid-europe.com/cps/rde/xbcr/SID-A1A9893F-9968CE1F/open-grid-europe-internet/082661_en_EGT_u_EON_Gas_Grid.pdf

³⁵ The Czech Republic's National Report on the Electricity and Gas Industries 2010, p. 46. See http://www.eru.cz/user_data/files/narodni%20zpravy/english/NZrok2010_ENG.pdf.

³⁶ These are, in particular, (i) the Czech Virtual Trading Point launched in 2010 and operated by the OTE and (ii) the neighbouring NCG and Gaspool hubs in Germany.

Table 13: Transport costs as a percentage of Gaspool price 2010-2012

	2010	2011	2012
Gaspool spot (€/MWh)	18.83	22.81	25.11
Olbernhau (DE) exit tariff (€/MWh)	0.24	0.25	0.27
HSK (CZ) entry tariff (€/MWh)	0.08	0.08	0.08
Transport costs as % of spot	1.7%	1.5%	1.4%

Notes: We take daily reference prices for Gaspool from the NCG website, and calculate a simple annual average. Transport tariffs are calculated from the relevant tariff sheets. For Gaspool, the exit point is Olbernhau (DE) with tariff information from the Gascade website. For Gaspool the entry point is HSK (CZ). All Czech entry tariff information comes from the ERU website. Where transport charges were in bcm, we have used a conversion factor of 10.83 kWh=1m³ (as per Euragas Statistical Report 2012, p. 12). Where transport charges were in local currency, we have converted to € using annual exchange rates from the European Central Bank. Sources: http://datenservice.net-connect-germany.de/Preisgrunddaten.aspx?MandantId=Mandant_Ncg&rdeLocaleAttr=en; http://www.eru.cz/user_data/files/ERV/ERV7_2012.pdf; http://www.eru.cz/user_data/files/cenova%20rozhodnuti/CR%20plyn/2011/ER%20CR%204_2011plyn.pdf; http://www.eru.cz/user_data/files/plyn/CR_3_2010_ENG%20_2_.pdf; http://www.gascade.de/fileadmin/downloads/netzzugang/Gascade_Tariff_Information_2013.pdf; http://www.gascade.de/fileadmin/downloads/netzzugang/ab_1210/Gascade_Tariff_Information_2012.pdf; http://www.gascade.de/fileadmin/downloads/netzzugang/netzzugang_ab_10_2011/WINGAS_TRANSPORT_Tariff_Information_1110_20.pdf; http://www.gascade.de/fileadmin/downloads/archiv/entgeltinformationen/WINGAS_TRANSPORT_Tariff_Information_2011.pdf; http://www.gascade.de/fileadmin/downloads/archiv/entgeltinformationen/WINGAS_TRANSPORT_Entgeltinformation_101022.pdf; http://www.gascade.de/fileadmin/downloads/archiv/entgeltinformationen/WINGAS_TRANSPORT_Entgeltinformation_091001.pdf

In sum, the upstream supply market should comprise piped natural gas as well as LNG. The geographic market is EEA-wide in scope, including all imports into the EEA.

3. Market situation on upstream (import) level

On the EEA-wide upstream gas market, Gazprom's market shares have in recent years consistently remained below 25%. Gazprom estimates the competitive situation on this market in 2009 to 2011 as follows:

Table 14: EEA-Wide Upstream Gas Supply

EEA Upstream Gas Supply						
Supplier	2009		2010		2011	
	Volume supplied (mcm)	Share of supply (%)	Volume supplied (mcm)	Share of supply (%)	Volume supplied (mcm)	Share of supply (%)
Gazprom	[REDACTED]					
RWE Dea						
Statoil ASA						

Gas Terra	70,900	13.0	81,500	14.1	72,484	13.2
Sonatrach	52,00	9.5	49,920	8.6	47,840	8.7
ExxonMobil	48,811	8.9	58,940	10.2	46,497	8.5
Shell	21,548	3.9	23,467	4.1	18,891	3.4
Total	14,087	2.6	16,495	2.9	17,715	3.2
ENI	12,874	2.4	12,115	2.1	11,917	2.2
ConocoPhillips	9,109	1.7	8,475	1.5	6,510	1.2
BP	6,593	1.2	5,064	0.9	3,827	0.7
GDF Suez	1,374	0.3	1,196	0.2	1,064	0.2
Wintershall	1,066	0.2	920	0.2	840	0.2
Others	96,626	17.7	100,036	17.3	105,721	19.3
Total	546,992	100	577,328	100	549,002	100

Sources: The totals were drawn from the OECD/IEA Natural Gas Report 2012, which contains data up to the year 2011. While Gazprom provided its own sales volumes, the competitor sales volumes were provided by TeamConsult, a management consultancy with focus on the energy markets.

These data show the increasing competitiveness in the European natural gas industry, driven by a marked increase in available natural gas supplies. The rapidly increasing availability in the EEA of hub-traded natural gas and LNG as a result of the unconventional (shale) gas boom in the United States, combined with decreased demand following the financial crisis, puts high pressure on upstream natural gas supply.

As stated above, we consider that the market for upstream supply of natural gas to wholesalers is at least EEA wide. However, even if one were to consider a hypothetical Czech upstream market for natural gas supply, it would not be possible to calculate the market shares of suppliers. This is because, as explained in the response to Q17, it is not possible to know where the gas sold to Czech wholesale customers is eventually consumed. For example, it is clear from annual reports that RWE CZ sells gas outside of the Czech Republic, so some gas supplied to RWE CZ by Gazprom, Statoil or others may not be consumed in the Czech Republic. This confirms Gazprom's view that upstream gas supply markets are not national in scope.

Downstream (Wholesale) Gas Market

The wholesale gas supply segment typically refers to the activity of procuring natural gas from producers for resale to resellers. Gazprom is of the view that the product market should be

defined as the wholesale supply of natural gas to resellers, the market being at least national in scope, and probably wider.

1. Product Market

The relevant product market encompasses the wholesale supply of natural gas to resellers. There are no special circumstances that would justify a further segmentation into more than one wholesale market.

All wholesalers (i.e., RWE CZ, SPP CZ, Vemex, Ceska Plynarenska, and Wingas) compete for the same group of customers, namely resellers one level down the supply chain. These resellers include RWE CZ Group (i.e., Severomoravska plynarenska, a.s., Jihomoravska plynarenska, a.s., Vychodocestka plynarenska, a.s., RWE Energie, a.s., RWE Key Account CZ, s.r.o.), Vemex, PP Distribuce, or E.ON Distribuce. Conversely, virtually all resellers procure their natural gas volumes directly from the previously mentioned wholesale suppliers, without an additional intermediary trade level.

2. Geographic Market

In several cases, the Commission has taken the view that the geographic market for the wholesale segment is national in scope.³⁷ In the case of the Czech Republic, the Commission has left the exact geographic market definition open.

A market definition comprising at least the Czech Republic and Germany is appropriate, considering the fully interconnected grid infrastructure, excess interconnection capacities, and low transport costs (as set out earlier in the response to Q15). No physical or other barriers prevent natural gas volumes from being distributed to any destination within the national and neighboring grids. Wholesalers can sell their volumes to any reseller in the Czech Republic, Germany and beyond, no matter where the respective customer is connected to the grid. Finally, Gazprom is not aware of any material price differences across the market area, as defined here.

In sum, there is a single market for wholesale gas supply to resellers which includes the Czech Republic and at least Germany.

3. Market situation on downstream (wholesale) level

As pointed out above, Gazprom believes that the relevant geographic market includes at least the Czech Republic and Germany, but shares of wholesale sales to Czech customers are nevertheless provided below.

On the downstream (wholesale) level, [REDACTED] hold marginal market shares [REDACTED] [REDACTED] respectively in 2011).

³⁷

Cf. e.g. Commission, decision of 21 December 2005, Case COMP/M.3696 – E.ON/MOL, paras. 131 et seqq.

Table 15: Downstream (wholesale) Gas Supply Czech Republic

Czech Republic Wholesale Supply To Resellers						
Supplier	2009		2010		2011	
	Volume supplied (mcm)	Share of supply (%)	Volume supplied (mcm)	Share of supply (%)	Volume supplied (mcm)	Share of supply (%)
RWE CZ						
Vemex						
Wingas						
Others ³⁸	163	2	1,871	20.8	2,615	32.3
Total	8150	100	8,995	100	8,096	100

Sources: The total market volumes are based on Czech Republic's National Report on the Electricity and Gas Industries for 2009 and 2010. Since the 2011 Czech National Report does not contain the same detailed level of information, the total volumes were based on the OTE Yearly Report on Natural Gas Supply and Consumption in the Czech Gas System for that year. For all three years, the total wholesale volume is based on the total Czech consumption provided in these reports.

The table shows that RWE CZ is the largest wholesaler in the Czech Republic by a margin,



least 19 independent wholesalers. We do not have equivalent data for 2012.

Downstream (Retail) Gas Market

1. *Product Market*

The retail segment refers to the sale of natural gas to final customers. In line with the Commission's decision practice³⁹, Gazprom deems it possible to distinguish between large industrial customers, including gas-fired power plants, and small customers, including households. Large industrial customers typically enjoy tailor-made and distinct products, additional services, and special pricing arrangements. They also usually have a more sophisticated relationship with their gas supplier, which implies, for instance, more flexible supply and dedicated service arrangements.

2. *Geographic Market*

Gazprom believes the geographic market for retail supply to large industrial customers to be national in scope while the retail supply to small customers is at least regional in scope.

3. *Market situation on downstream (retail) level*

³⁸ In particular SPP CZ, United Energy Trading, Lumius, Ceska Plynarenska.

³⁹ Cf. e.g. Commission, decision of 23 October 2007, Case COMP/IM. 4890 – Arcelor/Femgas, para. 11.

On the downstream (retail) level, the Czech market has become increasingly competitive over time. The market share [REDACTED] RWE CZ acknowledged in 2011 that "Competitors made extensive use of contracting short-term gas on international spot markets."⁴⁰ Nonetheless, [REDACTED]

Table 16: Downstream (retail) Gas Supply Czech Republic

Year	Market share of largest supplier (RWE CZ)	Market share of 2nd largest supplier (PP)	Combined market share of other suppliers	Switching rates
2008	72.75%	12.69%	14.56%	Close to zero
2009	64.88%	13.28%	21.84%	1.2%
2010	62.35%	12.50%	25.15%	3%
2011	52.40%	9.94%	37.66%	13%
2012	44.00%	11.00%	45.00%	Unknown

Sources: Czech Republic's National Report on the Electricity and Gas Industries, 2011 (p.21), Czech Republic's National Report on the Electricity and Gas Industries, 2010 (p.36), Czech Republic's National Report on the Electricity and Gas Industries, 2009 (pp. 8 and 36), RWE Supply & Trading CZ a.s., "Long Term Gas Supply Contracts - Relationship between Buyers and Suppliers - Future of Long Term Gas Supply contracts", Presentation to the 3rd Annual Congress on Long Term Gas Supply Contracts, 2 July 2013.

In 2012, there were at least 13 other suppliers in the competitive downstream (retail) gas supply market in the Czech Republic.⁴¹

16. Please provide information on market shares of, Gazprom, its affiliates, RWE and other competitors on the Czech gas market at upstream (import) level, and downstream wholesale and retail levels separately. Please provide the evolution of the market shares from 2008 till 2012.

See response to Q15 above.

17. Please provide figures (actual and estimated in bcm and TWh) on Gazprom's market position on the upstream wholesale Czech gas market.
- Gazprom's annual gas sales in the Czech Republic for 2008-2018
 - Annual gas consumption in the Czech Republic for 2008-2018

The table below provides a summary of annual consumption figures in the Czech Republic, both in bcm and TWh. We do not have a forecast of annual consumption for the Czech Republic.

⁴⁰ RWE Energie 2011 Annual Report, p.6.

⁴¹ See RWE Supply & Trading CZ a.s., "Long Term Gas Supply Contracts - Relationship between Buyers and Suppliers - Future of Long Term Gas Supply contracts", Presentation to the 3rd Annual Congress on Long Term Gas Supply Contracts, 2 July 2013.

Table 17: Annual Gas Consumption in the Czech Republic

Year	bcm	TWh
2008	8.7	94.1
2009	8.2	88.4
2010	9.0	97.2
2011	8.1	87.5
2012	8.2	88.4

Source: ERU and OTE Yearly Report on the Operation of the Czech Gas System, 2012, Table 1/2, p. 6.

Gazprom is not a wholesaler or retailer in the Czech Republic and therefore is not in a position to estimate how much of its gas is sold there.

Gazprom sells gas to RWE CZ, the Czech wholesale incumbent, which it delivers at the interconnector at Velké Kapušany on the border between Ukraine and Slovakia. Gazprom does not know exactly how much of that gas is sold in the Czech Republic.

Gazprom also sells gas to Vemex., a gas wholesaler that is active in the Czech Republic and in Slovakia. Gazprom delivers that gas at Lanžhot, which is on the Slovakian-Czech border.

In the brief time available to prepare this response Gazprom has not been able to obtain information from Vemex on the amount of gas it sells in the Czech Republic. However, information on Vemex's share of supply in the Czech Republic is provided in response to Q15 above.

Finally, Gazprom also sells gas in Germany to Wingas, a gas wholesaler that is active primarily in Germany but also is involved in the Czech Republic. This gas is delivered at various points including in Germany at Frankfurt/Oder or the Gaspool Virtual Point and Velké Kapušany. Information on Wingas' share of supply in the Czech Republic is provided in response to Q15 above.

The table below provides a summary of supplies of Gazprom to RWE CZ and Vemex.⁴² We do not have a forecast of sales to RWE CZ and Vemex.

⁴² Wingas is not included in the table as the vast majority of its purchases from Gazprom are intended for Germany.

Table 18: Annual Gazprom sales to RWE CZ and Vemex

Year	Gazprom sales to RWE CZ		Gazprom sales to Vemex	
	bcm	TWh	bcm	TWh
2008	7.1	76.4	0.7	7.5
2009	6.1	66.6	0.1	1.6
2010	8.2	88.9	0.2	2.2
2011	7.4	79.8	0.1	0.8
2012	7.2	77.6	0.0	0.1

Source: Gazprom.

18. Please provide analysis of legal and/or economic market entry barriers. This should include the analysis of the transportation costs versus the spreads of the gas prices in the Czech Republic and the adjacent hubs/markets for 2008-2012.

There are currently no legal market entry barriers, since the Czech Republic is compliant with relevant European legislation.⁴³ An analysis of transport costs is provided in the answer to Q15.

The absence of significant market entry barriers (both upstream and downstream) is demonstrated in the following section:

Upstream supply

There are no quotas, tariffs, or non-tariff barriers to the import of natural gas into the EEA. In addition, access to pipelines and re-gasification terminals is available under applicable third-party access rules. The large volume of imports from Russia, Algeria, and (increasingly) the Middle East and Africa evidences the absence of impediments to the import of gas into the EEA. EEA natural gas demand is consequently met by a combination of supplies from indigenous EEA production and imports. Numerous pipelines connect the EU with suppliers in Norway, Russia, Algeria, and Libya. Additional pipeline projects are currently being constructed or under discussion, which in time will connect the EEA with suppliers in Nigeria, Egypt, and Iraq. In addition, there are currently some 21 LNG terminals in operation in Europe, with at least another nine LNG terminals under construction or committed to be constructed and 38 more in the planning stage.

The table below provides an overview of the sources of natural gas (including LNG) consumed in the EU between 2009 and 2011. It shows that nearly 2/3 of EU consumption is met by imports, mainly originating from Russia (i.e., Gazprom), Norway, Algeria, Qatar, other Middle Eastern countries, and North- and North-Western Africa. In addition, given the US surplus in natural gas resulting from the shale gas boom, additional imports from the United States may soon become available (currently only small volumes reach the EEA).

⁴³ The obligations of the Czech Republic under the Directive were implemented into Czech law by an amendment to Act no. 488/2000 (Act no 211/2011) which came into effect on 18 August 2011.

Table 19: Origin of gas consumed in the EU

EU-Wide Natural Gas Supplies						
Source of Supply	2009		2010		2011	
	Supplies (TWh)	% of EU consumption	Supplies (TWh)	% of EU consumption	Supplies (TWh)	% of EU consumption
EU	1,968.3	36%	2,012.9	35.6%	1,813.9	32%
Norway	1,091.3	20%	1,073.7	19%	1,027.7	19%
Russia	1,255.1	23%	1,271.8	22.5%	1,290.1	23%
Algeria	545.7	10%	541.5	9%	493.3	9%
Qatar	163.7	3%	394.0	7%	421.6	8%
Nigeria	109.2	2%	169.5	3%	196.8	3%
Libya	109.2	2%	113	2%	25.7	1%
Egypt	54.6	1%	56.5	1%	51.3	1%
Trinidad and Tobago	54.6	1%	56.5	1%	51.3	1%
Others	109.2	2%	N/A	N/A	221.5	3%
Total	5460.9	100	5689.4	100	5593.2	100

Source: Eurogas, Statistical Reports 2010-2012

The number of upstream suppliers has significantly increased between 2000 and 2010, and particularly over the past 5 years. Imports from around the world – by LNG and pipelines – brought the number of regular, major suppliers to 23.⁴⁴ The new entrants come from countries as diverse as Nigeria, Egypt, and Trinidad and Tobago. Occasional gas supplies also come from some seven other countries that are now major exporters of gas – such as Oman, Peru and Yemen.⁴⁵

Downstream supply

In the face of continuing liberalization, the downstream supply markets in the Czech Republic are characterized by low barriers to entry. New market players are exercising pressure on local incumbents and contributing to a general increase of competition in these segments. The ever-growing flexibility on the natural gas markets brought about by an increased use of hub trading

⁴⁴ Eurogas, "Gas – Fuel for the future", June 2012.

⁴⁵ Eurogas, Statistical Report 2012, p. 6.

and the wide availability of storage capacities means that wholesalers and resellers can today enter the market without facing any significant barriers to entry.

In 2008, at least the following three new companies entered the market of wholesale supply of natural gas to resellers: Wingas, Lumius, and Česká plynárenská. In 2009 another seven traders started operating.

Wingas' sales share in the market of wholesale supply of natural gas to resellers amounted to approximately [REDACTED] in 2011. Gazprom is unable to identify concrete sales shares for Lumius and Česká plynárenská. However, they belong to a group of new players in the market who – taken together – [REDACTED]

19. Please provide figures on the annual gas quantities (actual and estimated in bcm and TWh) exiting OPAL at Brandov for 2012-2018.

The table below presents the transit capacities for the W & G Beteiligungs-GmbH & Co. KG share of OPAL between the entry point of Greifswald and the exit point of Brandov.⁴⁶ [REDACTED]

Table 20: Transit capacities for Greifswald (entry) – Brandov (exit)⁴⁷

Year	bcm/y
2012	[REDACTED]
2013	[REDACTED]
2014	[REDACTED]
2015	[REDACTED]
2016	[REDACTED]
2017	[REDACTED]
2018	[REDACTED]

Source: Gazprom.

20. To what extent in addition to capacity being available there is also gas available in neighbouring markets? In particular, please describe from which sources wholesalers can procure gas for the Czech market. In particular, describe

- how much gas can be bought from each of the potential sources (given the actual and estimated availability of gas and capacity);
- at which conditions (e.g. short/mid/long-term supply, pricing method), and

⁴⁶ W & G Beteiligungs-GmbH & Co. KG is a joint venture between Wintershall Holding GmbH and Gazprom.

⁴⁷ The capacity from 2013-2018 is subject to finding a solution for booking capacity.

- how and at which cost it can be transported to the Czech Republic.

Concerning the availability of gas and cost of transportation, see response to Q18.

Gazprom further notes that the European gas market has been considered to be in surplus for some time, and is considered to remain in surplus or balanced in the coming years.

The IEA states that "as of 2012, European gas demand had lost ten years", with demand back to 2003 levels.⁴⁸ IEA forecasts "raise the possibility of such peak demand for gas having occurred as well, in 2007."⁴⁹ The table below sets out actual and forecast European gas demand from 2010-2018.

Table 21: European gas demand 2010-18

	2010	2012	2014	2016	2018
bcm	567	513	506	518	525

Source: IEA medium-term gas market report, 2013 (p.177).

21. Please explain to what extent gas supplies from other sources than Gazprom exert competitive pressure on Gazprom on the Czech upstream wholesale market. Indicate in this regard your forecast/expectation for the next 5-10 years.

Gazprom does not accept that the "Czech upstream wholesale market" is a relevant market. As explained in response to Q15 above, the geographic market of upstream gas supply includes the whole of the EEA.

In markets where long-term contracting is the norm, competitive pressures can be seen mostly (1) when new contracts are signed; (2) when prices are renegotiated; and (3) in relation to sales outside of the scope of long-term contractual commitments. In regards to upstream sales in the Czech Republic, competitive pressures are currently easily visible in relation to points (2) and (3) above. In point (2), price renegotiation in the context of Gazprom's recent price review proceeding with RWE CZ⁵⁰ led to a price reduction.

Gazprom also refers to the response to Q15 above, which shows that, in recent years, there has been substantial entry and expansion by wholesalers that do not purchase gas from Gazprom.

22. Please explain how gas-to-gas competition is developing on the Czech market? How the Czech hub functions, what are the prices at hub, how liquid it is? Do you observe any convergence between German/Austrian hubs and the VTP in the Czech Republic?

⁴⁸ IEA medium-term gas market report, 2013, p.18.

⁴⁹ IEA medium-term gas market report, 2013, p.3.

⁵⁰ <http://www.gazpromexport.com/en/presscenter/news/996/>

Gazprom is not an active wholesaler or retailer in the Czech Republic and is therefore not particularly well placed to answer this question.

However, to Gazprom's best understanding the development of competition in the Czech Republic seems to proceed through economic integration with (at least) the neighbouring German market more than through the development of the VTP as a national spot market. Gazprom refers again to a recent conference presentation by RWE Supply & Trading CZ, provided as Annex C to this response, which states (at slides 2 and 3) that (i) both buyers and sellers in the Czech Republic price with reference to the NCG price; and (ii) the *"Czech market [is] effectively [an] 'appendix' of NCG/Gaspool"*.

On this basis, it would appear that there is full convergence between the German hubs and the VTP in the Czech Republic.

Annex A: Capacity Analysis from 2006 to 2010 (bcm/y)**Gaspool via HSK Deutschneudorf**

Exit data from Germany to the Czech Republic from ONTRAS are only publicly available up to 5 years back, while flow data are available back to September 2007. However, the first non-zero flow data only appear on 1 July 2010.

Entry data from Germany to the Czech Republic from NET4GAS are available back to the start of 2011 for capacity, and back to 2007 for flows. However, the data for flows are zero until 2010, so it may be that the data series only truly starts in 2010.

Table 22: Capacity Utilisation at HSK Deutschneudorf, 2010 (bcm/y)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	3.64	3.64	0.33	0.00	3.31
HSK-DN (CZ) Entry	n/a	n/a	0.62	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS and Ontras. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³ (as per Eurogas Statistical Report 2012, p. 12). German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2010. German daily flows are counted from 6am on the day to 6am the next day. Data from NET4GAS on capacity and bookings were not available.

Table 23: Capacity Utilisation at HSK Deutschneudorf, 2009 (bcm/y)

2009	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	3.64	3.50	0.00	0.14	3.64
HSK-DN (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from Ontras. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³ (as per Eurogas Statistical Report 2012, p. 12). German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2009. German daily flows are counted from 6am on the day to 6am the next day. Data from NET4GAS on capacity, bookings and flows were not available.

Table 24: Capacity Utilisation at HSK Deutschneudorf, 2008 (bcm/y)

2008	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	3.65	3.45	0.00	0.20	3.65
HSK-DN (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from Ontras. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³ (as per Eurogas Statistical Report 2012, p. 12). German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2008. German daily flows are counted from 6am on the day to 6am the next day. Ontras data on capacity and bookings were only available from 2 August 2008. Therefore, we have annualised 2008 capacity and bookings by scaling by a factor of 365/(366-214). Data from NET4GAS on capacity, bookings and flows were not available.

Gaspool via HSK Olbernhau

Exit data from Germany to the Czech Republic from Gascade are publicly available from 1 January 2011 onwards.

Entry data from Germany to the Czech Republic from NET4GAS are available back to the start of 2011 for capacity and bookings, and back to 1 January 2007 for flows. However, the data for flows are zero until 2010, so it may be that the data series only truly starts in 2010.

Table 25: Capacity Utilisation at HSK Olbernhau, 2010 (bcm/y)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK-O (DE) Exit	n/a	n/a	n/a	n/a	n/a
HSK-O (CZ) Entry	n/a	n/a	3.96	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³. Czech flows are the sums of the relevant daily values for 2010. Data from Gascade on capacity, bookings and flows were not available. Data from NET4GAS on capacity and bookings were not available.

NCG via Waidhaus

Exit data from Germany to the Czech Republic from OGE are publicly available from 1 January 2007 onwards. However, the data for bookings were zero until 1 January 2008, so it may be that the data series only truly starts on 1 January 2008. The data for flows were zero until 1 July 2008, so it may be that the data series only truly starts on 1 July 2008.

Entry data from Germany to the Czech Republic from NET4GAS are only available back to the start of 2011 for capacity and bookings, and back to 1 January 2007 for flows. However, the data for flows are zero until 2010, so it may be that the data series only truly starts in 2010.

Table 26: Utilisation of Entry Capacity into the Czech Republic at Waidhaus (bcm/y)

Waidhaus	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
2010	n/a	n/a	3.29	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³. Flows are derived from the average daily flows reported for the year. Data from NET4GAS on capacity and bookings were not available.

Table 27: Bookings of Interruptible Exit Capacity from Germany at Waidhaus (bcm/y)

Waidhaus	Interruptible Bookings	Flows
2010	2.46	6.59
2009	0.51	6.21
2008	0.05	5.57

Source: Compass Lexecon analysis on the basis of data from OGE. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³. Bookings and flows are the sums of the relevant daily values for each year. OGE data on flows only appear to be available from 1 July 2008. Therefore, we have annualised 2008 flows by scaling by a factor of 366/(366-182).

CEGH via Baumgarten and Lanžhot

Exit data from Slovakia to the Czech Republic from eustream for bookings and capacity are publicly available from 1 January 2011 onwards, while flow data are available back to 2004.

Entry data from Slovakia to the Czech Republic from NET4GAS are available back to the start of 2011 for capacity, and back to 2007 for flows. However, the data for flows are zero until 2010, so it may be that the data series only truly starts in 2010.

Table 28: Capacity Utilisation at Lanžhot, 2010 (bcm/y)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	32.70	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	27.25	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS and eustream. kWh are converted into m³ using a conversion factor of 10.83 kWh=1m³. Slovakian data are available from eustream in m³. Czech flows are the sums of the relevant daily values for 2010. Slovakian annual flows are derived from the average daily flow reported for 2010. Data from NET4GAS on capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 29: Capacity Utilisation at Lanžhot, 2009 (bcm/y)

2009	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	25.81	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian data are available from eustream in m³. Slovakian annual flows are derived from the average daily flow reported for 2009. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 30: Capacity Utilisation at Lanžhot, 2008 (bcm/y)

2008	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	30.66	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian data are available from eustream in m³. Slovakian annual flows are derived from the average daily flow reported for 2008. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 31: Capacity Utilisation at Lanžhot, 2007 (bcm/y)

2007	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	29.35	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian data are available from eustream in m³. Slovakian annual flows are derived from the average daily flow reported for 2007. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 32: Capacity Utilisation at Lanžhot, 2006 (bcm/y)

2006	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	29.57	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian data are available from eustream in m³. Slovakian annual flows are derived from the average daily flow reported for 2006. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Exit data from Austria to Slovakia from Gas Connect Austria are only publicly available from 1 January 2013 onward.

Entry data from Austria to Slovakia from eustream are only available back to the start of 2011 for capacity and bookings, but flow data are available back to 2004.

Table 33: Utilisation of Entry Capacity into Slovakia at Baumgarten (bcm/y)

	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
2010	n/a	n/a	0.00	n/a	n/a
2009	n/a	n/a	0.29	n/a	n/a
2008	n/a	n/a	0.18	n/a	n/a
2007	n/a	n/a	0.04	n/a	n/a
2006	n/a	n/a	0.00	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Flows are derived from the average daily flows within each year.

Annex B: Capacity Analysis from 2006 to 2010 (kWh/h)

This annex presents the tables from Annex A in kWh/h terms.

Table 34: Capacity Utilisation at HSK Deutschneudorf, 2010 (kWh/h)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	4,498,400	4,498,400	403,844	0	4,094,556
HSK-DN (CZ) Entry	n/a	n/a	770,211	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS and Ontras. German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2010, before dividing by the number of hours in 2010. German daily flows are counted from 6am on the day to 6am the next day. Data from NET4GAS on capacity and bookings were not available.

Table 35: Capacity Utilisation at HSK Deutschneudorf, 2009 (kWh/h)

2009	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	4,498,400	4,331,213	0	167,187	4,498,400
HSK-DN (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from Ontras. German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2009, before dividing by the number of hours in 2009. German daily flows are counted from 6am on the day to 6am the next day. Data from NET4GAS on capacity, bookings and flows were not available.

Table 36: Capacity Utilisation at HSK Deutschneudorf, 2008 (kWh/h)

2008	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK DN (DE) Exit	4,510,724	4,265,298	0	245,426	4,510,724
HSK-DN (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from Ontras. German and Czech flows, capacities, and bookings are the sums of the relevant daily values for 2008, before dividing by the number of hours in 2008. German daily flows are counted from 6am on the day to 6am the next day. Ontras data on capacity and bookings were only available from 2 August 2008. Therefore, we have annualised 2008 capacity and bookings by scaling by a factor of 366/(366-214). Data from NET4GAS on capacity, bookings and flows were not available.

Table 37: Capacity Utilisation at HSK Olbernhau, 2010 (kWh/h)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
HSK-O (DE) Exit	n/a	n/a	n/a	n/a	n/a
HSK-O (CZ) Entry	n/a	n/a	4,901,222	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS. Czech flows are the sums of the relevant daily values for 2010, before dividing by the number of hours in 2010. Data from Gascade on capacity, bookings and flows were not available. Data from NET4GAS on capacity and bookings were not available.

Table 38: Utilisation of Entry Capacity into the Czech Republic at Waidhaus (kWh/h)

Waidhaus	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
2010	n/a	n/a	4,061,250	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS. Flows are derived from the average daily flows reported for the year, before dividing by the number of hours in 2010. Data from NET4GAS on capacity and bookings were not available.

Table 39: Bookings of Interruptible Exit Capacity from Germany at Waidhaus (kWh/h)

Waidhaus	Interruptible Bookings	Flows
2010	3,044,634	8,148,061
2009	626,991	7,675,336
2008	59,315	6,886,730

Source: Compass Lexecon analysis on the basis of data from OGE. Bookings and flows are the sums of the relevant daily values for each year, before dividing by the number of hours in each year. OGE data on flows only appear to be available from 1 July 2008. Therefore, we have annualised 2008 flows by scaling by a factor of 366/(366-182).

Table 40: Capacity Utilisation at Lanžhot, 2010 (kWh/h)

2010	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	40,432,000	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	33,692,999	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from NET4GAS and eustream. Czech flows are the sums of the relevant daily values for 2010. Slovakian annual flows are derived from the average daily flow reported for 2010, before dividing by the number of hours in 2010. Data from NET4GAS on capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 41: Capacity Utilisation at Lanžhot, 2009 (kWh/h)

2009	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	31,903,375	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian annual flows are derived from the average daily flow reported for 2009, before dividing by the number of hours in 2009. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 42: Capacity Utilisation at Lanžhot, 2008 (kWh/h)

2008	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	38,008,849	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian annual flows are derived from the average daily flow reported for 2008, before dividing by the number of hours in 2008. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Table 43: Capacity Utilisation at Lanžhot, 2007 (kWh/h)

2007	Technical Capacity	Firm Bookings	Flows	Spare Firm	Total Spare
Lanžhot (SK) Exit	n/a	n/a	36,280,500	n/a	n/a
Lanžhot (CZ) Entry	n/a	n/a	n/a	n/a	n/a

Source: Compass Lexecon analysis on the basis of data from eustream. Slovakian annual flows are derived from the average daily flow reported for 2007, before dividing by the number of hours in 2007. Data from NET4GAS on flows, capacity and bookings were not available. Data from eustream on capacity and bookings were not available.

Annex C: RWE Supply & Trading CZ Presentation to 3rd Annual Congress on Long Term Gas Supply Contracts, 2 July 2013

Provided separately.