

## Annex 2 - Quality and Pressure Specifications

### Pressure

„Pressure“, expressed in bar (the equivalent of one hundred thousand pascals), indicates gauge pressure, i.e. the difference between the absolute pressure of the natural gas and the atmospheric pressure. The pressure specifications apply only to physical but not to non-physical transportation services.

### Entry Point Überackern ABG

#### Normal cubic meter (Nm<sup>3</sup>)

Normal cubic meter (Nm<sup>3</sup>) is a cubic meter of natural gas at 273.15 K (= 0°C) and 101,325 kPa (=1.01325 bara).

#### Quality specifications

The natural gas delivered by the System User at the Entry Point Überackern ABG for transportation must be in line with the following chemical and physical specifications:

a) Chemical composition (in mol percent):

Methane (C <sub>1</sub> )	Minimum	85.0 %
Ethan (C <sub>2</sub> )	Maximum	7.0 %
Propane (C <sub>3</sub> )	Maximum	3.0 %
Butane (C <sub>4</sub> )	Maximum	2.0 %
Pentane and higher (C <sub>5</sub> +)	Maximum	1.0 %
Nitrogen (N <sub>2</sub> )	Maximum	5.0 %
Carbon dioxide (CO <sub>2</sub> )	Maximum	2.0 %
Oxygen (O <sub>2</sub> )	Maximum	0.02 %

b) Sulfur content:

Hydrogen sulfide (H <sub>2</sub> S)	Maximum	6.8 mg/Nm <sup>3</sup>
Mercaptan sulfur (RSH)	Maximum	16.9 mgS/Nm <sup>3</sup>
Total sulfur	Maximum	120.0 mgS/Nm <sup>3</sup>

c) Gross calorific value:

Minimum	10.7 kWh/Nm <sup>3</sup>
Maximum	12.8 kWh/Nm <sup>3</sup>

d) Wobbe-Index:

Minimum	13.5 kWh/Nm <sup>3</sup>
Maximum	15.5 kWh/Nm <sup>3</sup>

e) Hydrocarbon dew point:

At pressures between 1.0 and 70.0 bar, the hydrocarbon dew point must not be higher than 0 degree centigrade.

f) Water dew point:

At a pressure of 64.0 bar, the water dew point must not be higher than minus 8 degree centigrade.

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g) Impurities:

The natural gas must be technically free of dust, iron oxide, sludge, solid bodies, liquid hydrocarbons and must not be odorized.

h) Temperature:

Maximum: plus 50°C

**Pressure**

The System user is not entitled to deliver natural gas to Gas Connect Austria at the Entry Point Überackern ABG at a pressure of below 64 bar.

## Entry Point Überackern Sudal

### Normal cubic meter (Nm<sup>3</sup>)

Normal cubic meter (Nm<sup>3</sup>) is a cubic meter of natural gas at 273.15 K (= 0°C) and 101,325 kPa (=1.01325 bara).

### Quality specifications

The natural gas delivered by the System User at the Entry Point Überackern Sudal for transportation must be in line with the following chemical and physical specifications:

a) Chemical composition (in mol percent):

Methane (C <sub>1</sub> )	Minimum	85.0 %
Ethane (C <sub>2</sub> )	Maximum	7.0 %
Propane (C <sub>3</sub> )	Maximum	3.0 %
Butane (C <sub>4</sub> )	Maximum	2.0 %
Pentane and higher (C <sub>5</sub> +)	Maximum	1.0 %
Nitrogen (N <sub>2</sub> )	Maximum	5.0 %
Carbon dioxide (CO <sub>2</sub> )	Maximum	2.0 %
Oxygen (O <sub>2</sub> )	Maximum	0.02 %

b) Sulfur content:

Hydrogen sulfide (H <sub>2</sub> S)	Maximum	6.8 mg/Nm <sup>3</sup>
Mercaptan sulfur (RSH)	Maximum	16.9 mgS/Nm <sup>3</sup>
Total sulfur	Maximum	120.0 mgS/Nm <sup>3</sup>

c) Gross calorific value:

Minimum	10.7 kWh/Nm <sup>3</sup>
Maximum	12.8 kWh/Nm <sup>3</sup>

d) Wobbe-Index:

Minimum	13.5 kWh/Nm <sup>3</sup>
Maximum	15.5 kWh/Nm <sup>3</sup>

e) Hydrocarbon dew point:

At pressures between 1.0 and 70.0 bar, the hydrocarbon dew point must not be higher than 0 degree centigrade.

f) Water dew point:

At a pressure of 64.0 bar, the water dew point must not be higher than minus 8 degree centigrade.

g) Impurities:

The natural gas must be technically free of dust, iron oxide, sludge, solid bodies, liquid hydrocarbons and must not be odorized.

h) Temperature:

Maximum: plus 50°C

### Pressure

The System user is not entitled to deliver natural gas to Gas Connect Austria at the Entry Point Überackern Sudal at a pressure of below 64 bar.

### Entry Point Überackern 7-fields

#### Normal cubic meter (Nm<sup>3</sup>)

Normal cubic meter (Nm<sup>3</sup>) is a cubic meter of natural gas at 273.15 K (= 0°C) and 101,325 kPa (=1.01325 bara).

#### Quality specifications

The natural gas delivered by the System User at the Entry Point Überackern 7-fields for transportation must be in line with the following chemical and physical specifications:

a) Chemical Composition (in mol percent):

Methane (C <sub>1</sub> )	Minimum	85.0 %
Ethane (C <sub>2</sub> )	Maximum	7.0 %
Propane (C <sub>3</sub> )	Maximum	3.0 %
Butane (C <sub>4</sub> )	Maximum	2.0 %
Pentane and higher (C <sub>5</sub> +)	Maximum	1.0 %
Nitrogen (N <sub>2</sub> )	Maximum	5.0 %
Carbon dioxide (CO <sub>2</sub> )	Maximum	2.0 %
Oxygen (O <sub>2</sub> )	Maximum	0.02 %

b) Sulfur content:

Hydrogen sulfide (H <sub>2</sub> S)	Maximum	6.8 mg/Nm <sup>3</sup>
Mercaptan sulfur (RSH)	Maximum	16.9 mgS/Nm <sup>3</sup>
Total sulfur	Maximum	120.0 mgS/Nm <sup>3</sup>

c) Gross calorific value:

Minimum	10.7 kWh/Nm <sup>3</sup>
Maximum	12.8 kWh/Nm <sup>3</sup>

d) Wobbe-Index:

Minimum	13.5 kWh/Nm <sup>3</sup>
Maximum	15.5 kWh/Nm <sup>3</sup>

e) Hydrocarbon dew point:

At pressures of between 1.0 and 70.0 bar, the hydrocarbon dew point must not be higher than 0 degree centigrade.

f) Water dew point:

At a pressure of 64.0 bar, the water dew point must not be higher than minus 8 degree centigrade.

g) Impurities:

The natural gas must be technically free of dust, iron oxide, sludge, solid bodies, liquid hydrocarbons and must not be odorized.

h) Temperature:

Maximum: plus 50°C

### Pressure

The System user is not entitled to deliver natural gas to Gas Connect Austria at the Entry Point Überackern 7-fields at a pressure of below 64 bar.

### Entry Point Baumgarten GCA

#### Normal cubic meter (Nm<sup>3</sup>)

Normal cubic meter (Nm<sup>3</sup>) is a cubic meter of natural gas at 273.15 K (= 0°C) and 101,325 kPa (=1.01325 bara).

#### Quality specifications

The natural gas delivered by the System User at the Entry Point Baumgarten for transportation must be in line with the following chemical and physical specifications:

a) Chemical composition (in mol percent):

Methane (C1)	Minimum	89.7 %
Ethane (C2)	Maximum	6.3 %
Propane, Butane and Pentane and higher	Maximum	2.1 %
Nitrogen (N2)	Maximum	2.1 %
Carbon dioxide (CO2)	Maximum	1.575 %
Oxygen (O2)	no oxygen content	

b) Carbon oxysulfide (COS)	Maximum	5.0 mg/Nm <sup>3</sup>
Hydrogen sulfid (H <sub>2</sub> S)	Maximum	5.0 mg/Nm <sup>3</sup>
Mercaptan sulfur (RSH)	Maximum	6.0 mgS/Nm <sup>3</sup>

Total sulfur	in case of incidences	Maximum	105.0 mgS/Nm <sup>3</sup>
	yearly average	Maximum	30.0 mgS/Nm <sup>3</sup>
	continuously	Maximum	10.0 mgS/Nm <sup>3</sup>

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c) <u>Gross calorific value:</u>	Minimum	10.7 kWh/Nm <sup>3</sup>
	Maximum	12.8 kWh/Nm <sup>3</sup>
d) <u>Wobbe-Index</u>	Minimum	13.3 kWh/Nm <sup>3</sup>
	Maximum	15.7 kWh/Nm <sup>3</sup>

e) Hydrocarbon dew point:

At pressures of between 40.0 and 70.0 bar, the hydrocarbon dew point must not be higher than 0 degree centigrade.

f) Water dew point:

At a pressure of 40.0 bar, the water dew point must not be higher than minus 8 degrees centigrade.

g) Impurities:

The natural gas must be technically free of dust, iron oxide, sludge, solid bodies, liquid hydrocarbons and must not be odorized.

h) Temperature:

Maximum: plus 42°C

**Pressure**

The System user is not entitled to deliver natural gas to Gas Connect Austria at the Entry Point Baumgarten at a pressure of below 49 bar.

**Exit Point Murfeld**

**Quality specifications**

At the Exit Point Murfeld the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Murfeld with a minimum pressure of 37 bar.

**Exit Point Mosonmagyaróvár**

**Quality specifications**

At the Exit Point Mosonmagyaróvár the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Mosonmagyaróvár with a minimum pressure of 38 bar.

**Exit Point Überackern ABG****Quality specifications**

At the Exit Point Überackern ABG the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Überackern ABG with a minimum pressure of 45 bar.

**Exit Point Überackern Sudal****Quality specifications**

At the Exit Point Überackern Sudal the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Überackern Sudal with a minimum pressure of 45 bar.

**Exit Point Überackern 7-fields****Quality specifications**

At the Exit Point Überackern 7-fields the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Überackern 7-fields with a minimum pressure of 45 bar.

**Exit Point Petrzalka****Quality specifications**

At the Exit Point Petrzalka the quality specifications of the downstream operator shall apply.

**Pressure**

Gas Connect Austria shall deliver natural gas at the Exit Point Petrzalka with a minimum pressure of 27 bar.