

BEMIP

Gas Regional Investment Plan

2012 - 2021

Annex: Infrastructure Projects



Introduction

The following Infrastructure projects questionnaires provide detailed information on the (potential) future gas infrastructures in each of the countries of BEMIP region. It is based on the questionnaire prepared by ENTSOG for TYNDP 2011-2020. Both FID and Non-FID projects are covered in this Annex. The regional TSOs also decided to provide more detailed information on non-FID projects, as these projects are subject to further analysis.

The information was supplied by the respective TSOs and the third-party project sponsors.

Please also note the following when interpreting the data provided:

- → The FID status row/column gives information about the exact/expected year in which the FID was/is to be taken or only indicates the status (FID / Non-FID) where the year is not available or not known.
- → The commissioning date with regards to the non-FID projects is to be understood as the best estimate for the purpose of the BEMIP GRIP
- ightarrow No reference is made to the legal form of the TSOs.





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FID Projects

Transmission



© Image courtesy of Lietuvos Dujos :Kaunas-Sakiai pipe





Enhancement of Lithuania-Latvia Interconnection



General Information					
✓ Pipeline (incl. compressor stations)					
✓ Storage facility (aquifer storage facility)					
	Project	FID	Commissioning	Remarks	
	Pipes				
	Enhancement of bi-directional interconnection capacity between Latvia and Lithuania	2009	2013	Modernization and reconstruction of pipelines under EEPR program	
	Compressors				
List of Projects	Enhancement of bi-directional interconnection capacity between Latvia and Lithuania	2009	2013	Modernization of Panevezys gas compressor station under EEPR program	
	Others	1	I		
	Enhancement of bi-directional interconnection capacity between Latvia and Lithuania	2009	2012	Modernization of 15 wells in Incukalns UGS and construction of receiving trap for inspection gauges at underwater pass over Daugava River	
Total expected costs	25.9 mEUR (5,9 mEUR in LT terr	ritory and	d 20 mEUR in LV to	erritory)	
Link to the project sponsor's website	www.dujos.lt www.lg.lv				
Technical Information					
Total length of new pipes (based on the above list)	1.5 km (in LT territory) and 1.7 k	km (in LV	territory)		
Diameter range of new pipes	In LT territory: Connection to parallel pipeline of Kiemenai GM-station and 3 M&R stations – DN500, DN150 and DN50 mm;				
pipes	In LV territory: Underwater pass over Dau	ıguva riv	er – DN700 mm.		
		(GWh/d	l) Re	marks	
	Interconnectors				
	Enhancement of bi-directional in	nterconne	ection capacity betw	veen Latvia and Lithuania	
	Kiemenai IP: Exit LT -> Entry LV	Increase of 7.2			
Technical capacity	Kiemenai IP: Exit LV -> Entry LT	Increase of 40.3			
	Compressors (in MW)	(in MW) n-	marks	
	Enhancement of bi-directional in	-		marks veen Latvia and Lithuania	
		THE TECHNIC	etion capacity betw	reen Eatvia and Eithuania	
	Panevezys gas compressors station		Mo	odernization works	





Expected Benefits

Implementation of the project will increase security of gas supply and provide bi-directional gas flows with additional capacity between Lithuania and Latvia (after enhancement total cross-border capacity will reach 62 GWh/d); it will strengthen economic cooperation and development of necessary links between two systems in order to use this link after connection between Lithuania and Poland will be built with the aim to improve safety of supply for the whole Baltic states region.

Inter-governmental Agreements if applicable

There is no Inter-governmental Agreements for pipelines/compressor stations listed/described in the TYNDP questionnaire.

Financing Structure	
Expected or obtained share of public financing	Financing from the EU financial measures according to the EEPR program is 50% of the total costs of investments.
Expected or obtained share of private financing	Remaining 50% of the investments are financed at the expense of AB Lietuvos Dujos and AS Latvijas Gaze.
Expected or obtained share of multilateral financing	





Gas pipeline Jurbarkas - Klaipeda



General Information					
Types of project	✓ Pipeline				
	Project	FID	Commissioning	Remarks	
	Pipes				
List of Projects	Gas pipeline Jurbarkas - Klaipeda	2011	2013	Partial financial support from the EU Regional Development Fund	
Total expected costs	51.2 mEUR	51.2 mEUR			
Link to the project sponsor's website	www.dujos.lt				
Technical Information					
Total length of new pipes (based on the above list)	137.6 km				
Diameter range of new pipes	400 mm				

Expected Benefits

Gas pipeline Jurbarkas - Klaipeda will create a circular natural gas transmission system in Lithuania contributing thus to the reliability of gas supply in Lithuania, especially for Western part of Lithuania. It will also enable proper functioning of LNG terminal in Klaipeda.

Inter-governmental Agreements if applicable

-

Financing Structure	
Expected or obtained share of public financing	Financial support, about 50% of the project investment, is granted from the EU Regional Development Fund.
Expected or obtained share of private financing	Remaining share is financed by AB Lietuvos Dujos funds.
Expected or obtained share of multilateral financing	





Development of transmission system in Poland



General Information						
Types of project	ypes of project ✓ Pipeline (incl. compressor stations)					
	Project Pipes ⁽²⁾	FID	Commissioning	Remarks		
	Gustorzyn – Odolanów	2007	2014	Project is under the OPIE (cohesion fund)		
	Hermanowice MS	2009	2012			
	Odolanów node	2010	2014	Project is under the OPIE (cohesion fund)		
	Polkowice – Żary	2009	2014	Project is under the OPIE (cohesion fund)		
	Rembelszczyzna – Gustorzyn	2007	2014	Project is under the OPIE (cohesion fund)		
List of Projects	Rembelszczyzna node (modernisation)	2007	2014	Project is under the OPIE (cohesion fund)		
	Reszki – Kosakowo	2009	2012			
	Świnoujście – Szczecin	2007	2013	EEPR project (linked to the Baltic Interconnection project)		
	Szczecin – Gdańsk	2007	2013	Project is under the OPIE (cohesion fund)		
	Szczecin – Lwówek	2007	2014	Project is under the OPIE (cohesion fund)		
	Gustorzyn node	2011	2014	Project is under the OPIE (cohesion fund)		
Total expected costs	Approx. 1,5 bEUR					
Link to the project sponsor's website	www.gaz-system.pl					
Technical Information						
Total length of new pipes (based on the above list)	971 km	971 km				
Diameter range of new pipes	300/500/700/800 mm					

Expected Benefit

The SoS and the Market Integration (increase of competition) are expected benefits for all projects listed in the BEMIP GRIP questionnaire.

Inter-governmental Agreements if applicable

N/A

Financing Structure	
Expected or obtained share of public financing	EEPR, Operational Programme Infrastructure and Environment, TEN-E
Expected or obtained share of private financing	NA
Expected or obtained share of multilateral financing	NA





Denmark - Infrastructure projects



General Information					
Types of project	✓ Pipeline (incl. CSs)				
List of Projects	Project Pipes	FID	Commiss	ioning	Remarks
	Ellund-Egtved	2010	2013		TEN-E project of common interest EEPR project
-	Compressors				
	Egtved Phase I	2010	2013		TEN-E project of common interest
	Egtved Phase II	2010	2013		EEPR project
Link to the project sponsor's website	http://www.energinet.dk/E	EN/ANLAEG-(OG-PROJEŁ	KTER/An	laegsprojekter-gas/Sider/
Technical Information					
Total length of new pipes (based on the above list)	94 km				
Diameter range of new pipes	762 mm				
		(in 10^6	Nm³/d)	Remark	s
	Interconnectors				
	Ellund entry	Entry: 16 Exit: 4	i.8	GCV expected: 10,8 - 11,3 kWh/Nn GCV: 11-12 kWh/Nm³	
Technical capacity	Dragør exit	Exit: 1.2		Extra cor	mpressor of 5 MW
	Compressors				
	Egtved	15 5		FID FID	

Expected Benefits

- → Security of Supply
- → Market integration

The project will ensure supply of gas to the Danish and Swedish markets when the gas production from the Danish North Sea is declining. The project also ensures integration with the gas market in Germany. Furthermore, the project will enhance security of supply also in emergency situations by providing diversification of sources and routes.

Inter-governmental Agreements if applicable

N/A

Financing Structure	
Expected or obtained share of public financing	50% European Economic Recovery Programme – co-financing of 100 million EUR.
Expected or obtained share of private financing	50% Financed by Energinet.dk
Expected or obtained share of multilateral financing	0%





Changes as compared to TYNDP 2010-2019

The Ellund IP expansion will enable 7,7 GWh/h in entry capacity from 2013. FID confirmed by Minister of Energy in June 2011. Project entered construction phase and on track for operation by October 2013. Approval process completed in 2011.

The project intends to increase import capacity for the Danish and Swedish markets after 2013 and is essential to supplement rapidly declining indigenous production. As such, the project is based on matching investments in infrastructure south of the Danish border in the Northern German transmission system. Investment decision was based on shipper demand expressed on Danish and German side of the Ellund IP in Open Season processes conducted in 2008-10. Final investment decisions in Germany have since been prolonged threatening to extend the date of required and matching capacities for the Ellund IP. As of October 2011, FID on 3,4-3,9 GWh/h firm capacity has been obtained as German Ellund Exit capacity from October 2014. Additional capacity is dependent upon FID on a second expansion step in Northern Germany.





LNG terminals



© Image courtesy of GAZ-SYSTEM: LNG terminal in Swinoujscie





LNG terminal in Klaipėda



General Information				
Types of project	✓ LNG terminal			
	Project FID Commissioning Remarks			
List of Projects	LNG terminal	March 01, 2012	4Q 2014	March 2, 2012 FSRU supply contract has been signed
Total expected costs	300-350 mEUR			
Link to the project sponsor's website	www.lng.lt			
Technical Information ³				
Max. send-out capacity	Up to 114 GWh/d			
Storage capacity	approx. 1 TWh			

Expected Benefits

- Security of Supply Lithuania on its own will be able to cover emergency demand for natural gas,
- Supply of natural gas will be diversified and the country will not be dependent on a single gas supplier,
- Competitive market the country will gain access to international gas markets.
- Preconditions to form both national and regional gas markets in Lithuania will be created with the possibility in the future to supply gas to neighbouring countries

Inter-governmental Agreements if applicable

N/A

Financing Structure		
Expected or obtained share of public financing	N/A	
Expected or obtained share of private financing	100%	
Expected or obtained share of multilateral financing	N/A	





LNG terminal in Świnoujście



General Information						
Types of project	✓ LNG terminal					
	Project	Project FID Commissioning Remarks				
List of Projects	LNG terminal in Świnoujście	2010	2014	EEPR Project, Project is under the OPIE (cohesion fund), TEN-E (Priority project)		
Total expected costs	600 mEUR					
Link to the project sponsor's website	www.gaz-system.pl					
Technical Information ¹	Technical Information ¹					
Max. send-out capacity	148 GWh/d (marketable)					
Storage capacity	2 x 160 000 (cm)					

Expected Benefits

The LNG terminal in Śwnoujście will be the first LNG terminal in the Baltic Sea area. In will come on stream in 2014 with annual re-gasification capacity of 54 TWh/y. In the following years, depending on the increase of demand for gas, it will be possible to increase the capacity up to 84 TWh/y, without the need to increase the area on which the terminal will be constructed. The terminal in Świnoujście will consist of two storage tanks, each with the capacity of 2 x 160 000 (cm).

The terminal may provide a new source of supply for Lithuania and the other Baltic States once GIPL is implemented. The terminal in Świnoujście may also constitute a regional solution supplying local LNG terminals in the Baltic Sea area (smaller vessels). Furthermore, the supplies from the LNG terminal in Świnoujście may be directed through the planned Baltic Pipe to Denmark and Sweden and by means of upgraded transmission system in Poland, PL-CZ and PL-SK interconnectors towards the South, to other CEE countries.

The completion of the Terminal in Świnoujście together with the upgrade of transmission system in Poland and interconnectors between Poland and the other EU member states may contribute to the creation of a physical hub in Świnoujście and/or virtual hub in Poland.

Implementation of the project will contribute to the entry of new players to the market and increase of price competition. The terminal will also play an important role in terms of security of supply and diversification of import sources and routes, as the terminal will offer free capacities that can be used in case of short-term disruptions.

Inter-governmental Agreements if applicable

N/A

Financing Structure	
Expected or obtained share of public financing	EEPR, Operational Programme Infrastructure and Environment, TEN-E
Expected or obtained share of private financing	NA
Expected or obtained share of multilateral financing	NA

^[1] In case of projects located in Poland, capacity data provided under assumption 1cm = 10,8 kWh.





Storage facilities



© Image courtesy of Latvijas Gaze: Incukalns Underground Gas Storage facility





Kosakowo Cavity Underground Gas Storage Facility Project





General Information	
Name of project	Kosakowo Cavity Underground Gas Storage Facility Project
Types of project	Storage facility
Expected costs	€ 153 076 771 (net of VAT) € 186 703 419 (gross with VAT)
Name of the sponsors and their shares	100 % - Polskie Górrnictwo Naftowe I Gazownictwo S.A. (in short: PGNiG S.A.) (eng.: Polish Oil and Gas Company Inc.)
Link to the project website	http://osm.pgnig.pl/osm/magazyny/kosakowo http://pgnig.pl





Technical Information	
Working gas volume	CUGSF active capacity: 100 mcm (equivalent to 1 080 GWh)
Deliverability	Maximum gas injection capacity: 100 tcm/h (equivalent to 1,08 GWh/h) Maximum gas withdrawal capacity: 400 tcm/h (equivalent to 4,32 GWh/h) Gas injection cycle: 42 [days] Gas withdrawal cycle: 25 [days]
Interconnections with other gas infrastructures	Kosakowo Cavity Underground Gas Storage Facility (CUGSF) will be connected with the Polish National Gas System through a gas pipeline (DN 500, length of ca. 15 km), connecting to the gas distribution node (GDN) in Reszki (located west of Gdynia). The construction of this connection will be executed by the Gas Transmission Operator, i.e. GAZ-SYSTEM S.A. and will constitute a link to the Włocławek- Gdynia transmission gas pipeline (DN 500), currently constructed by GAZ-SYSTEM S.A.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: : (Q1) 2015 FID: (Q1) 2007 End of permitting phase: (Q2) 2009
Project development phase reached	Design & Permitting phase completed – the Project is already under construction Press releases can be found at the following links: http://osm.pgnig.pl/osm/magazyny/kosakowo
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Projects of common interest See: ANNEX III TRANS-EUROPEAN ENERGY NETWORKS, item: 8.37. Storage at Kossakowo (PL), developing underground storage http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006D1364:EN:HTML
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefits	
What is/are the expected benefit(s) of the project?	 ✓ SoS: Obtaining an additional active gas storage capacity in order to increase energy security guaranteeing undisrupted gas supplies irrespective of technical, climatic or political events. ✓ Market Integration (Increase of competition):
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	N/A (amount to be determined upon completion and final financial settlement of the Project)
Expected or obtained share of private financing	N/A (amount to be determined upon completion and final financial settlement of the Project)
Expected or obtained share of multilateral financing	N/A





Mogilno Cavity Underground Gas Storage Facility Project





General Information	
Name of project	Mogilno Cavity Underground Gas Storage Facility Project
Types of project	Storage facility
Expected costs	€ 50 551 007 (net of VAT) € 61 672 229 (gross with VAT)
Name of the sponsors and their shares	100 % - Polskie Górrnictwo Naftowe I Gazownictwo S.A. (in short: PGNiG S.A.) (eng.: Polish Oil and Gas Company Inc.)
Link to the project website	http://osm.pgnig.pl/osm/magazyny/mogilno http://pgnig.pl





Technical Information		
Working gas volume	CUGSF active capacity: 492 mcm (equivale	ent to 5 313,6 GWh)
Deliverability	Maximum gas injection capacity: 400 tcm/h (equivalent to 4,32 GWh/h) Maximum gas withdrawal capacity: 860 tcm/h (equivalent to 9,29 GWh/h) Gas injection cycle: 87 [days] Gas withdrawal cycle: 41 [days]	
Interconnections with other gas infrastructures	Mogilno UCGSF is located in Central Poland in immediate neighbourhood of the following elements of the Polish National Gas System) operated by the Gas Transmission Operator, i.e. Gaz-System S.A.: a) Gustorzyn junction, from which one can withdraw gas towards large groups of customers, i.e.: ✓ Warsaw - two gas pipelines: DN 500, pr = 5.5 MPa, ✓ Gdańsk - two gas pipelines: DN 500, pr = 8.4 MPa and DN 500/400 pr = 5.5 MPa, ✓ Łódź - gas pipeline: DN 500, pr = 8.4 MPa, ✓ Lower Silesia - gas pipeline: DN 500, pr = 5.5 MPa. b) transit system: East - West, which is the major element of Polish gas transmission network.	
Time Schedule		
Probable date of commissioning and the main milestones	Date of commissioning: : (Q1) 2015 FID: (Q1) 2008 End of permitting phase: (Q3) 2009	
Project development phase reached	Design & Permitting phase completed – the Project is already under construction Press releases can be found at the following links: http://osm.pgnig.pl/osm/magazyny/mogilno	
TEN-E Project Information		
Is the project part of TEN-E?		No
If the project is part of TEN-E	TEN-E, specify the project category. N/A	
If the project is part of TEN-E requested / received?	, has financing from TEN-E funds been	No
Expected Benefits		
What is/are the expected benefit(s) of the project?	 ✓ SoS: Obtaining an additional active gas storage capacity in order to increase energy security guaranteeing undisrupted gas supplies irrespective of technical, climatic or political events, ✓ Market Integration (Increase of competition):	
TPA regime		
Have you applied for an exemption from Third Party Access?	No	
Financing Structure		
Expected or obtained share of public financing	N/A (amount to be determined upon corthe Project)	mpletion and final financial settlement of
Expected or obtained share of private financing	N/A (amount to be determined upon corthe Project)	mpletion and final financial settlement of
Expected or obtained share of multilateral financing	N/A	





Strachocina Underground Gas Storage Facility Project





General Information	
Name of project	Strachocina Underground Gas Storage Facility Project
Types of project	Storage facility
Expected costs	€ 113 319 070 (net of VAT) € 138 249 265 (gross with VAT)
Name of the sponsors and their shares	100 % - Polskie Górrnictwo Naftowe I Gazownictwo S.A. (in short: PGNiG S.A.) (eng.: Polish Oil and Gas Company Inc.)
Link to the project website	http://osm.pgnig.pl/osm/magazyny/strachocina http://pgnig.pl





Technical Information		
Working gas volume	UGSF active capacity: 330 mcm (equivalent to	o 3 564 GWh)
Deliverability	Maximum gas injection capacity: 97 tcm/h (e Maximum gas withdrawal capacity: 161 tcm/ Gas injection cycle: 150 [days] Gas withdrawal cycle: 120 [days	
Interconnections with other gas infrastructures	Strachocina UGSF is located in south-eastern part of Poland in immediate neighbourhood of the following elements of the Polish National Gas System: DN 300/250 Strachocina - Warzyce gas pipeline, DN 250 Strachocina - Targowiska gas pipeline, DN 150 to Brzozów gas pipeline, DN 150 to Sanok gas pipeline, DN 250 Warzyce - Gorlice - Nowy Sącz gas pipeline, DN 250 Wygoda - Siołkowa gas pipeline, DN 250 Wygoda - Siołkowa gas pipeline, DN 250 Warzyce - Wygoda gas pipeline, DN 250 Sędziszów - Warzyce gas pipeline, DN 250 Sędziszów - Sandomierz pigh-pressure gas pipeline with a Mielec branch, DN 250 Sandomierz - Ostrowiec Świętokrzyski gas pipeline, DN 500, DN 600 or DN 700 Hermanowice - Jarosław gas pipeline - operated by GAZ-SYSTEM S.A.	
Time Schedule		
Probable date of commissioning and the main milestones	Date of commissioning: (Q1) 2012 FID: (Q2) 2007 End of permitting phase: (Q1) 2009	
Project development phase reached	Design & Permitting phase completed – the Project is already under construction Press releases can be found at the following links: http://osm.pgnig.pl/osm/magazyny/strachocina	
TEN-E Project Information		
Is the project part of TEN-E?		No
If the project is part of TEN-E	, specify the project category.	N/A
If the project is part of TEN-E requested / received?	, has financing from TEN-E funds been	No
Expected Benefits		
What is/are the expected benefit(s) of the project?	energy security guaranteeing und technical, climatic or political events, ✓ Market Integration (Increase of competiti Creation of technical and organisatio storage for the purposes of providing order to fulfil the requirements of the Others, please specify:	nal conditions in the area of natural gas g storage services to external entities in
TPA regime		
Have you applied for an exemption from Third Party Access?	No	
Financing Structure		
Expected or obtained share of public financing	N/A (amount to be determined upon comp the Project)	eletion and final financial settlement of
Expected or obtained share of private financing	N/A (amount to be determined upon comp the Project)	oletion and final financial settlement of
Expected or obtained share of multilateral financing	N/A	





Wierzchowice Underground Gas Storage Facility Project





General Information	
Name of project	Wierzchowice Underground Gas Storage Facility Project
Types of project	Storage facility
Expected costs	€ 448 819 110 (net of VAT) € 547 559 314 (gross with VAT)
Name of the sponsors and their shares	100 % - Polskie Górrnictwo Naftowe I Gazownictwo S.A. (in short: PGNiG S.A.) (eng.: Polish Oil and Gas Company Inc.)
Link to the project website	http://osm.pgnig.pl/osm/magazyny/wierzchowice http://pgnig.pl





Technical Information	
Working gas volume	UGS active capacity: 1,2 bcm (equivalent to 12 960 GWh)
Deliverability	Maximum gas injection capacity: 400 tcm/h (equivalent to 4,32 GWh/h) Maximum gas withdrawal capacity: 600 tcm/h (equivalent to 6,48 GWh/h) Gas injection cycle: 150 [days] Gas withdrawal cycle: 110 [days]
Interconnections with other gas infrastructures	Wierzchowice UGSF is connected with the Polish National Gas System through a transmission gas pipeline (DN 1000) operated by the GAZ-SYSTEM S.A. This gas pipeline connects the UGSF to the gas distribution station in Odolanów (located west of Ostrów Wielkopolski).
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: (Q1) 2014 FID: (Q1) 2007 End of permitting phase: (Q2) 2007
Project development phase reached	Design & Permitting phase completed – the Project is already under construction Press releases can be found at the following links: http://osm.pgnig.pl/osm/magazyny/wierzchowice
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Projects of common interest See: ANNEX III TRANS-EUROPEAN ENERGY NETWORKS, item: 8.36. Storage at Wierzchowice (PL), extending existing site http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006D1364:EN:HTML
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefits	
What is/are the expected benefit(s) of the project?	 ✓ SoS: Obtaining an additional active gas storage capacity in order to increase energy security guaranteeing undisrupted gas supplies irrespective of technical, climatic or political events, ✓ Market Integration (Increase of competition):
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	N/A (amount to be determined upon completion and final financial settlement of the Project)
Expected or obtained share of private financing	N/A (amount to be determined upon completion and final financial settlement of the Project)
Expected or obtained share of multilateral financing	N/A





Non-FID projects

Transmission



© Image courtesy of Latvijas Gaze : pipeline Riga-Panevezys





Finland – Estonia Interconnector (Balticconnector Project)





General Information	
Name of project	Balticconnector
Types of project	Pipeline (incl. compressor stations)
Expected costs	130 mEUR
Name of the sponsors and their shares	Gasum Oy, AS Eesti Gaas
Link to the project sponsor'swebsite	www.gasum.fi
Technical Information	
Length of the pipe	80 km (50 km – in the territory of Estonia and 30 km – in the territory of Finland)
Diameter	500 mm
Technical capacity	22 000 GWh/y
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	<>
Power of the compressor station(s)	<> (in MW)
Interconnections with other gas infrastructures	Finnish natural gas gridEstonian natural gas grid





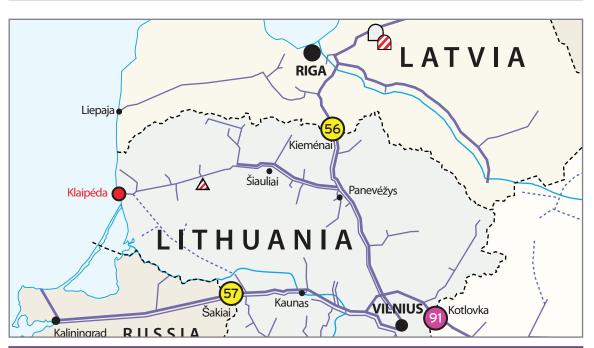
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2016-2018 FID: 2014 End of permitting phase:
Project development phase reached	Design & Permitting phase in advanced stage • <> • Press releases can be found at the following links: <>
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	TEN-E priority project
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: Year in which funding was received: 2005
Expected Benefits	
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition): ✓ Others, please specify:
TPA regime	
Have you applied for an exemption from Third Party Access?	<>
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	<>
Inter-governmental Agreem	ents
Inter-governmental agreements	<>
Financing Structure	
Expected or obtained share of public financing	Financing has not been requested yet
Expected or obtained share of private financing	<>
Expected or obtained share of multilateral financing	<>





Enhancement of Lithuania-Latvia Interconnection





General Information	
Name of project	Enhancement of bi-directional interconnection capacity between Latvia and Lithuania up to 124,2 GWh/d
Types of project	Pipeline (incl. expansion of GM-station)
Expected costs	2.9 million € (expansion of Kiemenai GM-station), 25 million € (construction of gas pipeline 40 km from Riga to lecava (DN 500) including underwater pass) – base case scenario
Name of the sponsors and their shares	 AB Lietuvos Dujos AS Latvijas Gaze Financial support from EU funds is expected
Link to the project sponsor's website	www.dujos.lt www.lg.lv
Technical Information	
Length of the pipe	40 km
Diameter	DN 500 mm
Technical capacity	Expansion of capacity at the IP up to 124,2 GWh/d
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	
Power of the compressor station(s)	
Interconnections with other gas infrastructures	In case gas interconnection between Lithuania and Poland will be build, the increase of capacity of Lithuania – Latvia interconnection would create more opportunities for using Incukalns UGS and cross-border gas trade.





Time Schedule			
Probable date of commissioning and the main milestones	Date of commissioning: The project could be implemented in 3-4 year time after FID will be taken depending on time needed for obtaining necessary permissions FID: N/A End of permitting phase: N/A		
Project development phase reached			
TEN-E Project Information			
Is the project part of TEN-E?	Yes		
If the project is part of TEN-E, specify the project category.	Project of common interest		
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Financing has not been requested yet		
Expected Benefits			
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition): ✓ Others, please specify: Implementation of the project will increase security of gas supply and provide additional capacity for bi-directional gas flows between Lithuania and Latvia (after enhancement total cross-border capacity will reach 124,2 GWh/d); it will strengthen gas trading opportunities and development of necessary links between gas markets.		
TPA regime			
Have you applied for an exemption from Third Party Access?	No		
(Expected) Gas Sourcing			
(Expected) Gas Sourcing	<>		
Inter-governmental Agreem	ents		
Inter-governmental agreements	-		
Financing Structure			
Expected or obtained share of public financing	Financial support from the EU financial measures is expected.		
Expected or obtained share of private financing	AB Lietuvos Dujos and AS Latvijas Gaze funds.		
Expected or obtained share of multilateral financing	<>		





Poland - Lithuania Interconnection (GIPL)





General Information			
Name of project	Gas Interconnection Poland Lithuania (GIPL)		
Types of project	Pipeline (incl. compressor stations)		
Expected costs	Stage I – 471 mEUR (investments in LT –127 mEUR, investments in PL –344 mEUR); Stage II – additional investments up to 66 mEUR (LT – 35 mEUR, PL – 31 mEUR).		
Name of the sponsors and their shares	GAZ-SYSTEM S.A.AB Lietuvos Dujos		
Link to the project sponsor's website	www.gaz-system.pl www.dujos.lt		
Technical Information			
Length of the pipe	562 km (211 km – in the territory of LT and 351 km – in the territory of PL)		
Diameter	700 mm		
Technical capacity	tage I – 68 GWh/d. At the Stage II capacity could be expanded up to 133 GWh/d, in ase of the additional capacity demand.		
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	It will highly depend on other gas supply diversification projects in the Baltic states (namely LNG terminals).		
Power of the compressor station(s)	Stage I – 2.1 MW, at the stage II – 20.8 MW.		
Interconnections with other gas infrastructures	GIPL would provide an access to the EU gas markets and create an opportunity of using the Polish LNG terminal in Świnoujście for the Baltic states and using of the Latvian Incukalns UGS for Poland.		





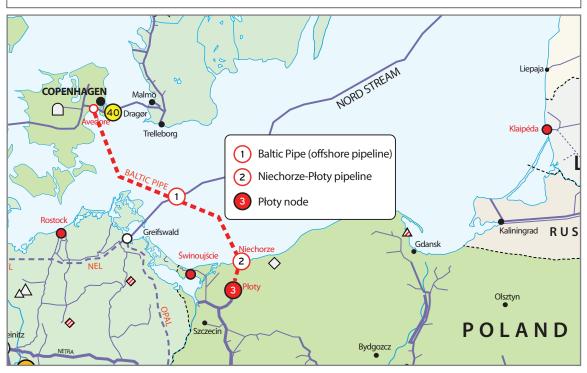
Time Schedule				
Probable date of commissioning and the main milestones	Date of commissioning: 2016 at the earliest FID: 2013 End of permitting phase: N/A			
Project development phase reached	Pre-feasibility study (business case analysis) has been carried out. The feasibility study should be prepared in 2012. Press releases can be found at the following links: http://www.dujos.lt/index.php/media-service/press-releases/the-business-case-analysis-of-gas-interconnection-poland-lithuania-finalized/44951 http://en.gaz-system.pl/centrum-prasowe/aktualnosci/informacja/artykul/201370. html			
TEN-E Project Information				
Is the project part of TEN-E?	Yes			
If the project is part of TEN-E, specify the project category.	Project of common interest			
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 30 April 2010 (for Pre-feasibility study (business case analysis) and Feasibility study) Year in which funding was received: 2011			
Expected Benefits				
What is/are the expected benefit(s) of the project?	 ✓ SoS ✓ Market Integration (Increase of competition): ✓ Others, please specify: GIPL should enable the integration of the isolated gas markets of the Baltic States (and Finland) with Polish and EU gas markets contributing to the creation of the regional gas market, enhancing competition and the security of gas supply. It would also provide an access to the global LNG market for the Baltic states. 			
TPA regime				
Have you applied for an exemption from Third Party Access?	No			
(Expected) Gas Sourcing				
(Expected) Gas Sourcing	PL -> LT direction: Polish LNG terminal in Świnoujście; access to the EU gas market (through PL-DE, PL-SK and PL-CZ interconnections); Polish indigenous gas sources. LT -> PL direction: possible use of the Latvian Incukalns UGS; Russian gas in case of disruptions in other routes to Poland from eastern direction.			
Inter-governmental Agreem	ents			
Inter-governmental agreements	N/A			
Financing Structure				
Expected or obtained share of public financing	TEN-E (project of common interest), financial support by means of other EU financial measures is expected.			
Expected or obtained share of private financing	N/A			
Expected or obtained share of multilateral financing	N/A			





Poland - Denmark Interconnection (Baltic Pipe)





General Information				
Name of project	PL-DK interconnection (Baltic Pipe): Baltic Pipe (offshore pipeline); Niechorze-Płoty pipeline (incl. onshore gas receiving terminal in Niechorze); Płoty node.			
Types of project	Pipeline (incl. compressor stations)			
Expected costs	IN TOTAL – 511 mEUR: Baltic Pipe (offshore pipeline) – 450 mEUR; Niechorze-Płoty pipeline – 59 mEUR; Płoty node – 2 mEUR.			
Name of the sponsors and their shares	GAZ-SYSTEM S.A.			
Link to the project sponsor's website	http://en.gaz-system.pl/			
Technical Information				
Length of the pipe	IN TOTAL – 324 km: Baltic Pipe (offshore pipeline) – 280 km; Niechorze-Płoty pipeline – 44 km.			
Diameter	 Baltic Pipe (offshore pipeline) – 600 mm; Niechorze-Płoty pipeline – 700 mm. 			
Technical capacity	Min. 88 GWh/d			
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A			
Power of the compressor station(s)	N/A			
Interconnections with other gas infrastructures	Szczecin-Gdansk pipeline, Avedore compressor station (Denmark).			





Time Schedule			
Probable date of commissioning and the main milestones	Date of commissioning: 2020* FID: 2015* End of permitting phase: 2015* (*) – depending on the market interest		
Project development phase reached	Pre-feasibility		
TEN-E Project Information			
Is the project part of TEN-E?	Yes		
If the project is part of TEN-E, specify the project category.	Project of common interest		
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 2008, 2009 Year in which funding was received: 2009, 2010		
Expected Benefits			
What is/are the expected benefit(s) of the project?			
TPA regime			
Have you applied for an exemption from Third Party Access?	No		
(Expected) Gas Sourcing			
(Expected) Gas Sourcing	PL -> LT direction: Polish LNG terminal in Świnoujście; unconventional gas; DK -> PL direction: NCS.		
Inter-governmental Agreem	ents		
Inter-governmental agreements	N/A		
Financing Structure			
Expected or obtained share of public financing	TEN-E (project of common interest)		
Expected or obtained share of private financing	N/A		
Expected or obtained share of multilateral financing	N/A		





Upgrade of transmission system within N-S interconnections in CEE (basic routing)





General Information	
Name of project	Upgrade of transmission system within N-S interconnections in CEE (basic routing): Lwówek-Odolanów pipeline; Odolanów compressor station; Odolanów-Tworzeń pipeline; Tworzeń-Oświęcim pipeline; Skoczów-Komorowice-Oświęcim pipeline; Pogórska Wola-Tworzeń pipeline; Strachocina-Pogórska Wola pipeline.
Types of project	Pipeline (incl. compressor stations)
Expected costs	IN TOTAL – 772 mEUR: • Lwówek-Odolanów pipeline – 165 mEUR; • Odolanów compressor stadion – 28 mEUR; • Odolanów-Tworzeń pipeline – 175 mEUR; • Tworzeń-Oświęcim pipeline – 44 mEUR; • Skoczów-Komorowice-Oświęcim pipeline – 32 mEUR; • Pogórska Wola-Tworzeń pipeline – 164 mEUR; • Strachocina – Pogórska Wola pipeline – 114 mEUR.
Name of the sponsors and their shares	GAZ-SYSTEM S.A.
Link to the project sponsor's website	http://en.gaz-system.pl/





Technical Information					
Length of the pipe	IN TOTAL – 713 km: • Lwówek-Odolanów pipeline – 162 km; • Odolanów-Tworzeń pipeline – 190 km; • Tworzeń-Oświęcim pipeline – 50 km; • Skoczów-Komorowice-Oświęcim pipeline – 51 km; • Pogórska Wola-Tworzeń pipeline – 160 km; • Strachocina – Pogórska Wola pipeline – 100 km.				
Diameter	500-700 mm				
Technical capacity	N/A				
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A				
Power of the compressor station(s)	Odolanów compressor station – not yet decided.				
Interconnections with other gas infrastructures	Entry point to Yamal-Europe pipeline, Odolanów-Aleksandrowice pipeline, KRIO Odolanów, UGS Wierzchowice, Tworóg-Odolanów pipeline, UGS Strachocina; Pogórska Wola compressor station, PL-CZ interconnection.				
Time Schedule					
	Name of project	End of permitting phase	FID	Commissioning	
	Lwówek-Odolanów Pipeline	2015	2015	2020	
Probable date of	Odolanów compressor station	2012	2012	2016	
commissioning and the	Odolanów-Tworzeń pipeline	2015	2015	2020	
main milestones	Tworzeń-Oświęcim pipeline	2015	2015	2018	
	Skoczów-Komorowice-Oświęcim pipeline	2013	2013	2015	
	Pogórska Wola-Tworzeń pipeline	2012	2012	2016	
	Strachocina-Pogórska Wola pipeline	2013	2013	2015	
Project development phase reached	Pre-feasibility				
TEN-E Project Information					
Is the project part of TEN-E?	Skoczów-Komorowice-Oświęcim pipeline – Yes				
If the project is part of TEN-E, specify the project category.	Project of common interest				
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: Year in which funding was received:				





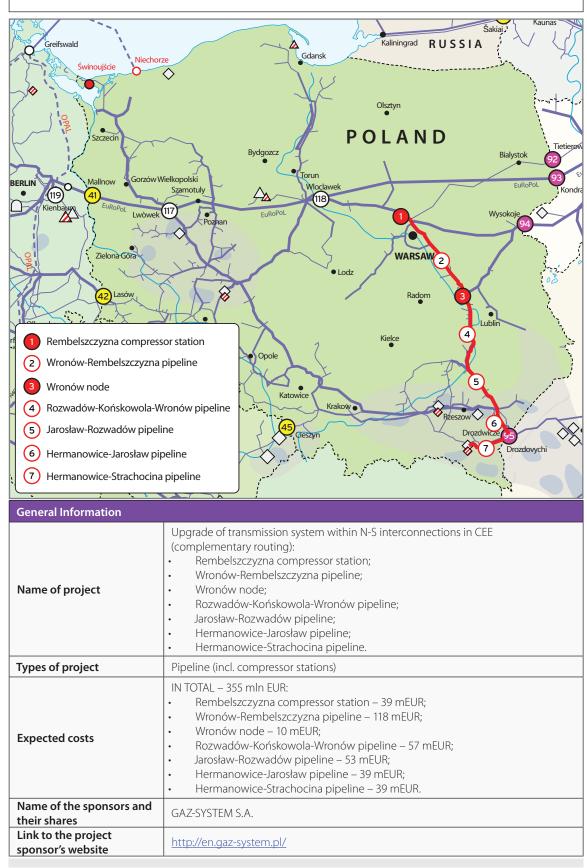
Expected Benefits		
	✓ SoS ✓ Market Integration (Increase of competition) ✓ Diversification of supply	
What is/are the expected benefit(s) of the project?	The abovementioned pipelines and compressor station constitute essential elements of the planned North-South gas corridor in Central and Eastern Europe. The corridor consists of two routings on the Polish territory – the basic one that is located in western and southern Poland and the complementary routing covering the area of potential unconventional gas deposits in northern and eastern Poland.	
	The main idea of the North - South Gas Corridor is to develop the gas infrastructure interconnections via all V4 countries which will help to increase the liquidity and level of competition on the regional market, to enhance regional security of supply and to enable the application of the solidarity mechanism in case of crisis in practice. The gas route should interconnect the LNG terminal in Świnoujście and the Baltic Pipe, through Poland, the Czech Republic, Slovakia and Hungary, with the proposed Adria LNG terminal in Croatia and potentially also the Nabucco pipeline. The North - South Gas Interconnection Axis does not constitute one single project. On the contrary, it consists of many bilateral interconnection gas pipelines and national pipelines which already exist or are in various stages of planning or construction.	
	Implementation of projects belonging to this group will enhance functionality of transmission system in central and southern Poland. They will enforce internal system in order to upgrade and facilitate better operational functioning of the newly opened PL-CZ interconnection, as well as to initiate gas flow on the planned PL-SK interconnection.	
	Construction of Odolanów compressor station, along with the modernisation of Odolanów node, will upgrade the existing installation to higher operating pressure of the system and allow for the connection of new high pressure transmission pipelines. It will facilitate access to expanded UGS Wierzchowice and, consequently, play an important role in case of supply crisis management in the Polish transmission system.	
	The pipelines situated in southern Poland (especially Strachocina-Pogórska Wola pipeline) will facilitate access to regional gas storage facility (UGS Strachocina). This part of Polish transmission system will constitute in the future an important element of an integrated regional gas market that could serve as a safety and reliability tool enhancing infrastructure in the region, particularly with regards to the Czech and Slovak systems.	
TPA regime		
Have you applied for an exemption from Third Party Access?	No	
(Expected) Gas Sourcing		
(Expected) Gas Sourcing	N/A	
Inter-governmental Agreem	ents	
Inter-governmental agreements	N/A	
Financing Structure		
Expected or obtained share of public financing	Operational Programme Infrastructure and Environment, TEN-E (Project of common interest)	
Expected or obtained share of private financing	N/A	
Expected or obtained share of multilateral financing	N/A	





Upgrade of transmission system within N-S interconnections in CEE (complementary routing)









Technical Information					
Length of the pipe	IN TOTAL – 372 km: • Wronów-Rembelszczyzna pipeline – 135 km; • Rozwadów-Końskowola-Wronów pipeline – 65 km; • Jarosław-Rozwadów pipeline – 60 km; • Hermanowice-Jarosław pipeline – 39 km; • Hermanowice-Strachocina pipeline – 73 km.				
Diameter	700 mm				
Technical capacity	N/A				
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A				
Power of the compressor station(s)	Rembelszczyzna compressor station – 18,3 MW				
Interconnections with other gas infrastructures	Rembelszczyzna - Gustorzyn pipeline, Rembelszczyzna – Wronów pipeline, Wronów-Hołowczyce pipeline, Jarosław node, Jarosław – Sędziszów pipeline, Entry point Drozdowicze (Polish – Ukrainian border), Jarosław compressor station, UGS Strachocina, Hermanowice metering station (Polish-Ukrainian border near Drozdowicze entry point).				
Time Schedule					
	Name of project	End of permitting phase	FID	Commissioning	
	Rembelszczyzna compressor station	2012	2012	2015	
Probable date of	Wronów-Rembelszczyzna pipeline	2015	2015	2020	
commissioning and the main milestones	Wronów node	2016	2016	2020	
main milestones	Rozwadów-Końskowola-Wronów pipeline	2015	2015	2020	
	Jarosław-Rozwadów pipeline	2016	2016	2020	
	Hermanowice-Jarosław pipeline	2015	2015	2018	
	Hermanowice-Strachocina pipeline	2013	2013	2015	
Project development phase reached	Pre-feasibility				
TEN-E Project Information					
Is the project part of TEN-E?	No				
If the project is part of TEN-E, specify the project category.	N/A				
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	N/A				





Expected Benefits Sos Market Integration (Increase of competition) Diversification of supply The abovementioned pipelines and compressor station constitute essential elements of the planned North-South gas corridor in Central and Eastern Europe. The corridor consists of two routings on the Polish territory – the basic one that is located in western and southern Poland and the complementary routing covering the area of potential unconventional gas deposits in northern and eastern Poland. The main idea of the North - South Gas Corridor is to develop the gas infrastructure interconnections via all V4 countries which will help to increase the liquidity and level of competition on the regional market, to enhance regional security of supply and to enable the application of the solidarity mechanism in case of crisis in practice. The gas route should interconnect the LNG terminal in Świnoujście and the Baltic Pipe, through Poland, the Czech Republic, Slovakia and Hungary, with the proposed Adria LNG terminal in Croatia and potentially also the Nabucco pipeline. The North - South Gas Interconnection Axis does not constitute one single project. On the contrary, it consists of many bilateral interconnection gas pipelines and national pipelines which already exist or are in various stages of planning or construction. What is/are the expected Currently existing infrastructure in eastern Poland is mostly used to transport gas from benefit(s) of the project? Drozdowicze entry point (UA-PL border) to central Poland. Implementation of the projects belonging to this group will enforce transmission system in Poland, improve their functionalities and modernise existing supply route from Ukraine. The projects located in south-eastern Poland will allow for significant volumes of gas to be transported in the future by means of planned PL-SK interconnection. They will also enhance the access to the USG Strachocina that have large expansion potential and may serve as essential security of supply infrastructure in the CEE region. The projects in eastern Poland are located on the area which offers the possibility to extract unconventional gas. If reserves are confirmed, the transmission infrastructure in eastern Poland might well be used to transport unconventional gas to the Baltic states (by means of planned GIPL) and CEE countries (using PL-SK and PL-CZ interconnection). Construction of the pipelines in this group, together with completion of the PL-SK interconnection and GIPL, would definitely have a positive impact on the competition in the CEE and Baltic region, as the projects provide a possibility to open the market for more gas suppliers. This would in turn mean ending the state of major dependency on one single gas supplier for the countries in the respective regions thanks to the potential access to gas deliveries from new sources. TPA regime Have you applied for an exemption from Third No Party Access? (Expected) Gas Sourcing (Expected) Gas Sourcing N/A **Inter-governmental Agreements** Inter-governmental N/A agreements **Financing Structure Expected or obtained** Operational Programme Infrastructure and Environment share of public financing **Expected or obtained** N/A share of private financing **Expected or obtained** share of multilateral N/A financing





Upgrade of transmission system in Lower Silesia (South-Western Poland)





General Information	
Name of project	Upgrade of transmission system Lower Silesia (South-Western Poland): Lasów metering station (extension); Lasów-Jeleniów pipeline; Jeleniów compressor station (extension); Jeleniów-Taczalin pipeline; Gałów-Kiełczów pipeline; Zadzieszowice-Wrocław pipeline; Czeszów-Wierzchowice pipeline.
Types of project	Pipeline (incl. compressor stations)
Expected costs	IN TOTAL – 268 mEUR: Lasów metering station (extension) – 1 mEUR; Lasów-Jeleniów pipeline – 12 mEUR; Jeleniów compressor station (extension) – 40 mEUR; Jeleniów-Taczalin pipeline – 75 mEUR; Gałów-Kiełczów pipeline – 23 mEUR; Zadzieszowice-Wrocław pipeline – 111 mEUR; Czeszów-Wierzchowice pipeline – 6 mEUR.
Name of the sponsors and their shares	GAZ-SYSTEM S.A.
Link to the project sponsor's website	http://en.gaz-system.pl/





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Technical Information				
Length of the pipe	IN TOTAL – 354 km: Lasów-Jeleniów pipeline – 19 km; Jeleniów-Taczalin pipeline – 90 km; Gałów-Kiełczów pipeline – 54 km; Zadzieszowice-Wrocław pipeline – Czeszów-Wierzchowice pipeline – 1			
Diameter	500-700 mm			
Technical capacity	N/A			
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A			
Power of the compressor station(s)	Jeleniów compressor station (extension)	Jeleniów compressor station (extension) – 12 MW (I phase), 22 MW (II phase)		
Interconnections with other gas infrastructures	Entry point to Ontras transmission syster UGS Wierzchowice	m, Tworzeń-Tword	óg-Zdzie	szowice pipeline,
Time Schedule				
	Name of project	End of permitting phase	FID	Commissioning
	Lasów metering station (extension)	2012	2012	2015
Probable date of	Lasów-Jeleniów pipeline	2012	2012	2015
commissioning and the	Jeleniów compressor station (extension)	2012	2012	2015 (I phase) 2018 (II phase)
	Jeleniów-Taczalin pipeline	2015	2015	2020
	Gałów-Kiełczów pipeline	2012	2012	2015
	Zdzieszowice-Wrocław pipeline	2013	2013	2015
	Czeszów-Wierzchowice pipeline	2012	2012	2015
Project development phase reached	Pre-feasibility			
TEN-E Project Information				
Is the project part of TEN-E?	Gałów-Kiełczów pipeline, Lasów meterin pipeline, Zdzieszowice-Wrocław pipeline			
If the project is part of TEN-E, specify the project category.	Projects of common interest			
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: NA Year in which funding was received: NA			





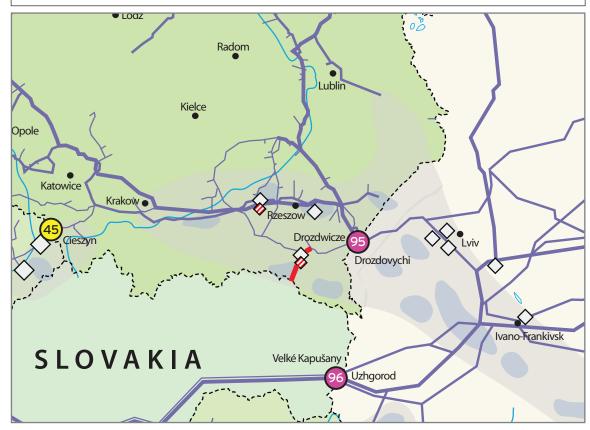
Expected Benefits	
What is/are the expected benefit(s) of the project?	 ✓ SoS ✓ Market Integration (Increase of competition) ✓ Diversification of supply
	Extension of Lasów metering station and Jeleniów compressor station, construction of Lasów-Jeleniów pipeline and Jeleniów-Taczlin pipeline will together contribute to the increase of import capacity at the interconnection point in Lasów, as well as will facilitate implementation of reverse flow operation. The aforementioned projects will also allow for improved functionality and better optimised operation of the grid in the Lower Silesia.
	Further increase of capacity (more than current 44 GWh/d) at the interconnection point in Lasów will require investments not only in Poland, but also in German transmission system. The approach applied by GAZ-SYSTEM S.A. will allow for gradual capacity enhancement which will be adjusted to market requirements.
	The construction of Czeszów-Wierzchowice pipeline will enable the enhanced injection of gas to UGS Wierzchowice coming from the South-West direction and withdrawal of gas from this storage facility in order to supply Wrocław area and transport gas to the interconnection point in Lasów. Implementation of Czeszów-Wierzchowice pipeline is also necessary to increase gas supplies from Lasów and initiate reverse flow operations on this interconnection point. Direct connection to UGS Wierzchowice, which is being upgraded, will facilitate implementation of crisis management actions.
	Additionally, Gałów-Kiełczów pipeline and Zdzieszów-Wierzchowice pipeline, together with the increase of gas supplies form the Lasów entry point and the planned increase of storage capacity in UGS Wierzchowice, will further strengthen the transmission system in the South-West of Poland.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreem	ents
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	Operational Programme Infrastructure and Environment, TEN-E (Project of common interest)
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A





Poland-Slovakia Interconnection





General Information	
Name of project	PL-SK interconnection
Types of project	Pipeline (incl. compressor stations)
Expected costs	71 mEUR*
Name of the sponsors and their shares	GAZ-SYSTEM S.A.
Link to the project website	http://en.gaz-system.pl/
Technical Information*	
Length of the pipe	70 km*
Diameter	700 mm*
Technical capacity	Approx. 148 GWh/d*
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A
Power of the compressor station(s)	N/A
Interconnections with other gas infrastructures	Hermanowice-Strachocina pipeline, Strachocina-Pogórska Wola pipeline, UGS Strachocina, Slovak section of PL-SK interconnection
* Estimates, more detailed information available after feasibility study is completed.	





Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2017* FID: 2014* End of permitting phase: to be determined (*) – depending on the market interest
Project development phase reached	Feasibility study is being developed. GAZ-SYSTEM S.A. and eustream a.s. established a joint task force which is responsible for preparing the technical, economic, environmental and legal analyses of the PL-SK interconnection.
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 2009 Year in which funding was received: 2010
Expected Benefits	
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition) ✓ Diversification of supply The main goal of the project is to increase the security of gas supplies in Central-Eastern Europe through the diversification of supply sources and routes, as well as integration of Sub-Carpathian Marker Area and enhancing market functionality. Currently, the connection between the Polish and Slovak gas transmission systems does not exist. The project would enable the creation of such missing interconnection of these two relevant gas transmissions systems and thus enhance both Poland and Slovakia's energy security. The creation of the integrated regional market would enable to supply gas pipelines from new sources such as LNG terminals in Poland and Croatia, planned Baltic Pipe and potentially also Nabucco pipeline. Implementation of PL-SK interconnection will contribute to development of the N-S gas corridor and will provide a possibility to open the CEE gas market for new sources and routes of supply. Additionally, it will strengthen economic cooperation and development of missing interconnection parts within the EU which is necessary in order to improve safety of supply for the countries in the region.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreem	ents
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	TEN-E (Project of common interest)
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A





Norway-Denmark

General Information	
Name of project	NO-DK interconnector
Types of project	Pipeline (incl. CS)
Expected costs	
Name of the sponsors and their shares	Not known yet
Link to the project sponsor's website	
Technical Information*	
Length of the pipe	60-175 km*
Diameter	24? inches
Technical capacity	5-9 million Nm³/d or 55-108 million kWh/h
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A
Power of the compressor station(s)	N/A
Interconnections with other gas infrastructures	Norwegian offshore system, Danish offshore system
* Estimates	
Time Schedule	
Probable date of commissioning and the main milestones	2013-2015
Project development phase reached	
TEN-E Project Information	
Is the project part of TEN-E?	N/A
If the project is part of TEN-E, specify the project category.	N/A
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	N/A





Expected Benefits	
	✓ Security of Supply✓ Market Integration (Increase of competition)
What is/are the expected benefit(s) of the project?	The project will ensure supply of gas to the Danish and Swedish markets when the gas production from the Danish North Sea declines even further and will ensure a second supply route, when the Danish and Swedish markets are totally dependent on the connection to Germany. Furthermore, the project will enhance security of supply also in emergency situations by providing diversification of sources and routes.
	Benefits to Denmark: ✓ Add a new producing country as supplier ✓ Physical security of supply ✓ Decreased unit costs in Energinet.dk system - transit income ✓ Lower market prices ('further upstream' position) ✓ Low environmental impact (subsea + use existing infrastructure: no digging up the land)
	Benefits to Norway: ✓ De-bottlenecking ✓ Long-term: Opening new corridor to the south-east ✓ Access to premium markets
	Benefits to Europe: ✓ (Long-term) security of Supply for Eastern Europe ✓ Cost-efficient ✓ Improve competition
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	Norwegian gas
Inter-governmental Agreem	ents
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	Not known yet
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A





LNG terminals



© Image courtesy of GAZ-SYSTEM: Polish LNG terminal construction in Swinoujscie - November 2011





Finngulf LNG project, Finland





General Information	
Name of project	Finngulf LNG, Inkoo, Finland
Types of project	LNG import terminal
Expected costs	350 mEUR
Name of the sponsors and their shares	Gasum Oy, Finland 100 %
Link to the project sponsor's website	
Technical Information	
Annual Capacity	22 000 GWh/y
Daily send-out capacity	<>
LNG storage capacity	<> (in MW)
Interconnections with other gas infrastructures	 Connection to the Finnish natural gas grid Connection to the Balticconnector (if built) and Estonian gas grid





Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2016-2018 FID: 2014 End of permitting phase: (Q) YYYY
Project development phase reached	- Design & Permitting phase in advanced stage • <> • Press releases can be found at the following links: www.
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	- <>
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: Year in which funding was received:
Expected Benefits	
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition) ✓ Others, please specify:
TPA regime	
Have you applied for an exemption from Third Party Access?	<>
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	<>
Inter-governmental Agreem	ents
Inter-governmental agreements	<>
Financing Structure	
Expected or obtained share of public financing	<>
Expected or obtained share of private financing	<>
Expected or obtained share of multilateral financing	<>





Paldiski LNG project, Estonia

Balti Gaas



General Information	
Name of project	Paldiski LNG, Padiski, Estonia
Types of project	LNG import terminal
Expected costs	350 mEUR
Name of the sponsors and their shares	Balti Gaas
Link to the project	
sponsor's website	





Technical Information	
Annual Capacity	24 900 GWh/y- 31 100GWh/Y
Daily send-out capacity	260 GWh/day
LNG storage capacity	1,97TW
Interconnections with other gas infrastructures	 Connection to the Estonian natural gas grid Connection to the Balticconnector and Finnish gas grid
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2015 FID: 2013 End of permitting phase:
Project development phase reached	- Design & Permitting phase in advanced stage • <> • Press releases can be found at the following links: <u>www.</u>
TEN-E Project Information	
Is the project part of TEN-E?	BEMIP priority
If the project is part of TEN-E, specify the project category.	- <>
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	
Expected Benefits	
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition) ✓ Others, please specify:
TPA regime	
Have you applied for an exemption from Third Party Access?	open
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	<>
Inter-governmental Agreem	ents
Inter-governmental agreements	Not yet
Financing Structure	
Expected or obtained share of public financing	<>
Expected or obtained share of private financing	Private
Expected or obtained share of multilateral financing	Private+public





Construction of LNG terminal in Latvia





General Information	
Name of project	Construction of LNG terminal in Latvia
Types of project	LNG
Expected costs	300-350 mEUR
Name of the sponsors and their shares	Depending on chosen project development structure different financing options will be assessed and investors attracted. It is prerequisite that investors shall be independent for the current gas suppliers for Latvia
Link to the project sponsor's website	www.latvenergo.lv.
Technical Information	
Annual Capacity	Min 25875 GWh
Daily send-out capacity	149 GWh
LNG storage capacity	1863 MWh
Interconnections with other gas infrastructures	There is well developed gas transmission network in Latvia, which has good connections to Estonian and Lithuanian gas grids. However, gas interconnection capacity and Kemenai gas metering station capacity between Lithuania and Latvia shall be enhanced. Major advantage of existing gas infrastructure in Latvia is Incukalns UGS, which offers opportunity to reduce storage costs of LNG terminal and cheaper price advantage in summer. LNG terminal is part of BEMIP action plan





Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2015-2017 (depending on on-shore or off-shore solution) FID: 2014-2015 End of permitting phase: 2013-2014
Project development phase reached	JSC "Latvenergo" has finished " Pre-feasibility Study to Develop a Baltic LNG Terminal in Latvia"
TEN-E Project Information	
Is the project part of TEN-E?	No, however it is part of the BEMIP action plan
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	
Expected Benefits	
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition) ✓ Diversification of supply
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	<>
Inter-governmental Agreem	ents
Inter-governmental agreements	<>
Financing Structure	
Expected or obtained share of public financing	<>
Expected or obtained share of private financing	<>
Expected or obtained share of multilateral financing	<>





Extension of LNG terminal in Świnoujście, Poland





General Information		
Name of project	Extension of LNG terminal in Świnoujście	
Types of project	LNG terminal	
Expected costs	Exact costs not yet estimated	
Name of the sponsors and their shares	GAZ-SYSTEM S.A.	
Link to the project sponsor's website	http://en.polskielng.pl/	
Technical Information		
Annual Capacity	81 TWh	
Daily send-out capacity	222 GWh/d (extension from 148 GWh/d)	
LNG storage capacity	The construction of the third storage tank. In total 3 x 160 000 (cm)	
Interconnections with other gas infrastructures	Świnoujście-Szczecin pipeline	





Time Schedule				
Probable date of commissioning and the main milestones	Date of commissioning: 2020 (depending on market interest) FID: 2014 End of permitting phase: to be determined			
Project development phase reached	Pre-feasibility study			
TEN-E Project Information				
Is the project part of TEN-E?	No			
If the project is part of TEN-E, specify the project category.	N/A			
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	N/A			
Expected Benefits				
What is/are the expected benefit(s) of the project?	✓ SoS ✓ Market Integration (Increase of competition) ✓ Diversification LNG terminal in Śwnoujście will be the first LNG terminal in the Baltic region. It will constitute the first new physical source of supplies in the Baltic region in 2014. The extension of the terminal is planned after 2014. This seems to be highly probable, as the terminal will offer the access to spot LNG markets that are characterised by lower prices than long-term contracts that currently prevail in the CEE and Baltic region.			
TPA regime				
Have you applied for an exemption from Third Party Access?	No			
(Expected) Gas Sourcing				
(Expected) Gas Sourcing	LNG exporting countries			
Inter-governmental Agreem	ents			
Inter-governmental agreements	N/A			
Financing Structure				
Expected or obtained share of public financing	Financial support by means of EU financial measures is expected.			
Expected or obtained share of private financing	N/A			
Expected or obtained share of multilateral financing	N/A			





Storage facilities



© Image courtesy of Latvijas Gaze - Incukalns Underground Gas Storage facility





Modernization and expansion of Incukalns Underground Gas Storage





General Information										
Name of project	Modernization and expansion of Incukalns Underground Gas Storage									
Types of project	Storage	Storage								
	According to the technical study, expected costs without expansion are 180.9 mEUR . The table below shows approximate estimated costs of most important activities split by years of implementation of the activity (in thousand EUR): 2012 2012 2012 2012 2012 2012 2012 2010									
	Construction of new collection facility	20.2	1000	17000	4000	3000				
	Modernization of existing collection facilities					5000	17000	4000	9000	25000
Expected costs	Modernization of compressor facility No.1						2000	6000	2000	
	Renovation and installation of new CU in compressor facility No.2		4000	6300	2000	2000	300		2000	300
	Modernization of wells	6500	6500	6500	6500	6500	6500	6500	6500	13000
	Other activities		300	4200	2600	400	100	200	100	100
	TOTAL	6500	11800	30000	15100	16900	25900	16700	19600	38400
Name of the sponsors and their shares	JSC "Latvijas Gaz	e"								
Link to the project sponsor's website	JSC "Latvijas Gaz	e" webp	age <u>ww</u>	w.lg.lv						





Technical Information	
Length of the pipe	
Diameter	
Technical capacity	24322.5 GWh can be expanded up to 33120 GWh
Expected load factor (non- mandatory information to be included in the TYNDP if provided)	N/A
Power of the compressor station(s)	33.8 MW
Interconnections with	Incukalns UGS is well connected to the gas transmission pipeline system of the three Baltic Countries (Latvia, Estonia and Lithuania) and normally is used for gas supply in winter for Latvia, Estonia and Russia, however in case of emergency also is used for Lithuania. According to Regional risk assessment carried out by the TSO's of Latvia, Lithuania and Estonia pursuant to Regulation of the Council and the Parliament No. 994/2010, it has crucial role in SoS for the whole region, and its failure will cause damaging and wide-range impact on the whole region.
other gas infrastructures	In case of construction of LNG terminal in Latvia, Incukalns UGS will be used for storing gas from the LNG terminal, thus considerably decreasing costs of construction of LNG terminal (storage capacities) as well as offering beneficial conditions for gas purchase in summer at a lower price.
	When interconnection between Lithuania and Poland will be built, Incukalns UGS can be used for storage of gas not only for Latvia, Estonia and Lithuania, but also for Poland, and expansion of the storage shall be considered.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2020, but depends on availability of financing FID: 1st quarter of 2012 End of permitting phase: since this is modernization of the existing storage, obtaining of permits will not cause significant problems
Project development phase reached	Modernization of Incukalns UGS was started in 1998. It was carried out step by step, and proposed project is continuation of existing project. Up to now JSC "Latvijas Gaze" for modernization of the storage has spent 100 mln EUR. From EERP funds Incukalns UGS has received 7.5 mln EUR.
TEN-E Project Information	
Is the project part of TEN-E?	YES
If the project is part of TEN-E, specify the project category.	Priority project
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 04/2010 Funding was denied





Expected Benefits	
What is/are the expected benefit(s) of the project?	 ✓ SoS ✓ Market Integration (Increase of competition) ✓ Economic benefits from summer gas purchase options
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	<>
Inter-governmental Agreem	ents
Inter-governmental agreements	<>
Financing Structure	
Expected or obtained share of public financing	Since this project is SoS project for the whole region, JSC "Latvijas Gaze" is planning to apply financing from available EU funds (Cohesion funds, funds for PCI as provided for by the draft Regulation on guidelines for trans-European energy infrastructure etc.)
Expected or obtained share of private financing	Most of the project will be financed by the JSC "Latvijas Gaze"
Expected or obtained share of multilateral financing	Taking into consideration regional importance of the storage, multilateral financing is possible.





Syderiai Underground Gas Storage Project



General Information	
Name of project	Syderiai underground natural gas storage project
Types of project	Storage facility (Saline aquifer structure)
Expected costs	approx. 350 mEUR
	State will have the controlling package. Other shareholders will be determined at the later stages of the project implementation, when Syderiai geological structure will be proven being suitable for the instalment of an underground natural gas storage.
Name of the sponsors	According to the 9 January 2012 resolution adopted by the Government of Lithuania implementation of the research phase of project assigned to Lietuvos energija, AB. On 13 January 2012 the board of Lietuvos energija, AB endorsed the decision to implement the project by allocating necessary financial recourses needed for the research of Syderiai geological structure.
	Project of Underground gas storage is endorsed by the Lithuanian Government. It is endorsed in the Government Programme Action Plan 2008–2012 on 25 February 2009 as well in the National energy strategy implementation plan 2008-2012 and programs of action on 27 December 2007.
	Project is also part of Baltic Energy Market Interconnection Plan (BEMIP) endorsed on 17 June 2009 by the Baltic Sea states and European Commission
Link to the project sponsor's website	http://www.enmin.lt/lt/activity/veiklos kryptys/strateginiai projektai/PGDS syderiai.php?clear c ache=Y http://www.le.lt/lt/veikla/projektai/syderiu-duju-saugykla/





Technical Information	
Working gas volume	5.2 TWh
Deliverability	Approx. 104 GWh
Interconnections with other gas infrastructures	Syderiai UGS will be part of Lithuanian national gas system. Lithuania's goal – diversification of gas supply sources for Lithuania and other Baltic states. Underground gas storage would work efficiently with these interconnections: LT bi-directional interconnection with Latvia including access to underground gas storage in Latvia – Incukalns; LT interconnection with Belarus; LT bi-directional interconnection with Poland; Syderiai UGS operation in combination with LNG terminal would have summer/winter demand balancing, access to spot market and diversification of gas supply.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2018 FID: 2014 End of permitting phase: 2015-2016
Project development phase reached	Planned / Under consideration 2014: Preparation of Project Development Plan and SEA. 2012-2013: Preparation of structure and reservoir simulation model. Seismic data reinterpretation using geophysical research data. Geological and geophysical research by drilling boreholes. On June 2012 a contractor for construction of drilling sites and building of access roads will be selected; On February 2012 public procurement announced for geological and geophysical research (drilling boreholes). On January 2012 contractor selected for designing drilling sites and access roads. 2010-2011: "Feasibility study: Seismic and Geophysical Investigations for the Installation of an Underground Natural Gas Storage Facility" (used 2D/3D seismic exploration method) have been performed.
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: June 2008 Years in which funding was received: 2010-2011 Date of request: February 2011 Years in which funding will be received: 2012-2013





Expected Benefits	
What is/are the expected benefit(s) of the project?	 ✓ SoS ✓ Market Integration (Increase of competition) ✓ Others, please specify: • Project will increase security of supply; • Project will create conditions for natural gas reserve storage in Lithuania and increase the security of natural gas supply in the region; • Project will decrease the load of the gas pipeline network; • Project will contribute to the creation of competitive national gas market; • Project in combination with LNG terminal will contribute to summer/winter demand balancing, access to spot market and diversification of gas supply.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	Share of public financing will be determined at the later stage of the Project.
Expected or obtained share of private financing	Share of private financing will be determined at the later stage of the Project.
Expected or obtained share of multilateral financing	





Map of investment projects







N°	Name of project		
LNG	LNG projects		
1	Finngulf LNG project		
2	Paldiski LNG terminal		
3	LNG terminal in Latvia		
4	Klaipėda LNG terminal		
5	LNG terminal in Świnoujście		

Stora	Storage projects		
6	Incukalns		
7	Syderiai		
8	Strachocina		
9	Wierzchowice		
10	Mogilno		
11	Kosakowo		

Trans	Transmission projects		
12	FI - EE interconnector (Baltic Interconnector)		
13	Enhancement of LT - LV interconnection		
14	Jurbarkas - Klaipeda		
15	PL - LT interconnection		
16	PL - DK interconnection (Baltic Pipe)		
17	Niechorze - Płoty		
18	Płoty node		
19	Ellund-Egtved		
20	Egtved CS		
21	Szczecin - Gdansk		
22	Świnoujście - Szczecin		
23	Szczecin - Lwówek		
24	Lwówek - Odolanów		
25	Odolanów CS		
26	Odolanów - Tworzeń		
27	Tworzeń - Oświęcim		
28	Skoczów - Komorowice - Oświęcim		
29	Pogórska Wola - Tworzeń		
30	Strachocina - Pogórska Wola		
31	PL - SK interconnection		





Transmission projects (continued)	
32	Gustorzyn - Odolanów
33	Gustorzyn node
34	Rembelszczyzna - Gustorzyn
35	Rembelszczyzna CS (modernisation)
36	Wronów - Rembelszczyzna
37	Wronów node (extension)
38	Rozwadów - Końskowola - Wronów
39	Jarosław - Rozwadów
40	Hermanowice - Jarosław
41	Hermanowice MS
42	Hermanowice - Strachocina
43	Lasów MS (extension)
44	Lasów - Jeleniów
45	Jeleniów CS (extension)
46	Jeleniów - Taczalin
47	Gałów - Kiełczów
48	Zdzieszowice - Wrocław





















© Image courtesy of GAZ-SYSTEM - Metering station in Lasów, Poland

BEMIP

Gas Regional Investment Plan

2012 - 2021

