Before going through the content of each specific Project Fiche, please read the introduction document.

Project Group BEMIP_01 - Enhancement of Latvia-Lithuania interconnection

Reasons for grouping [ENTSOG]

Project group is composed of transmission projects for enhancement of interconnection between Latvia and Lithuania. It includes both sides of the investment: project TRA-A-342 in Lithuania and project TRA-A-382 in Latvia.

Objective of the project(s) in the group [Promoter]

The objective of the group of projects is to remove bottlenecks and increase security of supply in the Baltic gas system and provide positive environment for the development of regional gas market. This could be achieved by enhancing the current interconnection capacities at Latvia-Lithuania.

Projects constituting the group

TYNDP Project Code	Project Name	Promoter	Hosting Country	Project Status	4th PCI List Code	First Comm Year	Last Comm. Year	Compared to TYNP 2018
TRA-A-0342	Enhancement of Latvia-Lithuania interconnection (Lithuania's part)	Amber Grid	LT	Less-Advanced	8.2.1	2023	2023	Rescheduled
TRA-A-0382	Enhancement of Latvia-Lithuania interconnection (Latvian part)	Conexus Baltic Grid	LV	Less-Advanced	8.2.1	2023	2023	Rescheduled

Technical Information

TYNDP Project Code	Diameter [mm]	Length [km]	Compressor Power [MW]
TRA-A-0342*	-	-	-
TRA-A-0382*	-	-	-

* No technical information is displayed as project involve capacity increase at existing IP without investment in new pipeline/CS.

Capacity Increment

The capacity increment values for each project are provided at all related Interconnection points (IP), both for “exit” and “entry” directions, being indicated the operator of the IP as well as the associated commissioning years of the capacity increments.

This information is presented in the table below and should be read per each line as follows: a certain project, TRA-N-123, can bring at a specific “Point Name” operated by “Operator X” an “exit” capacity increment “From System Y” “To System Z” which has associated an “Increment Commissioning Year”. Equally, for the same “Point Name” and operated by the same “Operator X”, an “entry” (reverse) capacity increment can be available to system “Y” from system “Z” which at its turn has associated an “Increment Commissioning Year”.

TYNDP Project Code	Point Name	Operator	From System	Exit Capacity [GWh/d]	Increment Comm. Year	To System	Entry Capacity [GWh/d]	Increment Comm. Year
TRA-A-342	Kiemenai	AB Amber Grid	Transmission Lithuania	62.87	2023	Transmission Latvia	54.43	2023
TRA-A-382	Kiemenai	Conexus Baltic Grid	Transmission Latvia	54.43	2023	Transmission Lithuania	62.87	2023

B. Project Cost Information

During the TYNDP 2020 Project Data Collection, promoters were asked to indicate whether their costs were confidential or not. The following tables display the costs provided by the promoters (as of June 2019, end of TYNDP 2020 project collection). The amounts provided can differ from the figures used by the project promoters in other contexts, where costs can be updated and/or evaluated using different methodologies or assumptions. For the purposes of this project fiche, in case promoters identified their costs as confidential, alternative costs have been provided by the promoter. The alternative costs are identified with "*".

	TRA-A-342	TRA-A-382	Total Cost
CAPEX [min, EUR]	4.7	5.5	**10.2**
OPEX [min, EUR/y]	0.3	0.04	**0.34**
Range CAPEX (%)	10	10	-
Range OPEX (%)	10	10	-

Description of costs and range [Promoter]

The total cost composes of the following project components:

Enhancement of Latvia-Lithuania interconnection (Lithuania's part)

- Increase of capacity of GMS Kiemenai
- Readjustment of piping in the territory of Panevezys Compressor station

Enhancement of Latvia-Lithuania interconnection (Latvian part)

- Enhancement works of the gas pipelines for increase of maximal operation pressure in transmission system of Latvia up to 50 bar

C. Project Benefits

C.1 Summary of project benefits

This section provides a summarised analysis by ENTSOG of the main benefits stemming from the realisation of the overall group and according to the guidelines included in the ENTSOG 2nd CBA Methodology. More details on the indicators are available in sections D and E.

National Trends

Benefits explained (but Sustainability) [ENTSOG]

> **Competition:**

In the existing infrastructure level, the project group allow Baltic states to further cooperate among them and **reduces dependency of Russian gas** supply in Estonia, Latvia and Lithuania from 2025. Additionally, in the low infrastructure level, with the inclusion of FID project Balticconnector second capacity increment, the project group **reduces dependency of Russian gas supply** in Estonia, Latvia and Finland in 2025 and 2030.
The project group **contributes to the diversification of entry points** reducing the LICD in Latvia, Estonia and Finland in the advanced infrastructure level thanks to the advanced-status project in Estonia (LNG terminal) and the consideration of one market zone in the Baltic Region (LV-EE-FI).

> **Market integration:**

The **bidirectionality between** Latvia and Lithuania **is slightly improved** at Kiemenai IP (cross-Border Transmission IP within Latvia-Lithuania) achieving 100% with the creation of capacity between these countries.
The project brings benefits in monetised terms as a **reduction of the cost of gas supply,** mainly under cheap LNG and expensive Russian supply price configurations (3.8 MEUR/y and 3.6 MEUR/y on average respectively) in the existing infrastructure level from 2030 onwards thanks to a decrease of Lithuanian demand from 2025 to 2030 which allows Lithuania to further cooperate with Latvia by using the enhancement of Latvia-Lithuania interconnection. Such benefit is mainly explained by the utilisation of LNG combined with lower transportation costs thanks to the utilisation of this alternative route. This is confirmed by the sensitivity on tariffs that shows variation in the size of benefits depending on the level of tariffs (higher or lower compared to the reference one) considered for this new route. In case of higher tariffs, the sensitivity analysis tables show in fact lower benefits (up to 2.6 MEur/y in the existing infrastructure level) that can be attributed to this new alternative route.
In case of the low and advanced infrastructure levels, the project group brings less benefits compared to existing infrastructure level driven by the new interconnection between Lithuania and Poland (GIPL project) which leads to a lower cooperation between Latvia and Lithuania.

Distributed Energy

Benefits explained (but Sustainability) [ENTSOG]

> **Competition:**

In the existing infrastructure level, the project group allow Baltic states to further cooperate among them and **reduces dependency of Russian gas** supply in Estonia, Latvia in 2025 and 2030, and in Lithuania in 2030.
In the low infrastructure level, with the inclusion of FID project Balticconnector second capacity increment, the project group **reduces dependency of Russian gas supply** in Estonia, Latvia and Finland in 2025.
The project group **contributes to the diversification of entry points reducing** the LICD in Latvia, Estonia and Finland in the advanced infrastructure level thanks to the advanced-status project in Estonia (LNG terminal) and the consideration of one market zone in the Baltic Region (LV-EE-FI).

> **Market integration:**

The **bidirectionality between** Latvia and Lithuania **is slightly improved** at Kiemenai IP (cross-Border Transmission IP within Latvia-Lithuania) achieving 100% with the creation of capacity between these countries.
The project brings benefits in monetised terms as a **reduction of the cost of gas supply,** however only under expensive Russian gas and cheap LNG supply price configurations (1.8 MEur/y and 1.6 MEur/y on average respectively) in the existing infrastructure level on 2030. Such benefit can be mainly explained by lower transportation costs thanks to the utilisation of this alternative route. This could be confirmed by the sensitivity on tariffs that shows variation in the size of benefits depending on the level of tariffs (higher or lower compared to the reference one) considered for this new route. In case of higher tariffs, the sensitivity analysis tables show in fact lower benefits (up to 1.1 MEur/y) that can be attributed to this new alternative route. In 2040 the project brings no benefits, or rather lower benefits, compared with 2030 driven by a decrease of Latvia and Lithuania demand reducing the cooperation from Lithuania to Latvia.

In case of the low and advanced infrastructure levels, the project group brings more benefits compared to the existing infrastructure level only in 2040 driven by the new interconnection between Lithuania and Poland together with the remarkable decrease of Latvian and Lithuania demand which leads to a higher cooperation from Latvia to Lithuania.

Global Ambition

Benefits explained (Sustainability) [ENTSOG]

> **Security of Supply:**

Regarding Belarus supply route disruption:
In the low and advanced infrastructure levels, with the inclusion of FID project Gas Interconnection Poland-Lithuania' (GIPL project) in this infrastructure level, that will allow Baltic states to cooperate with Poland and the project **fully mitigate the risk of demand curtailment** in Lithuania in 2040 **under Belarus supply route disruption and Peak Day** climatic stress case.
Regarding Baltics-Finland supply route disruption:
The project group **fully mitigates the risk if demand curtailment** in Lithuania in 2040, low infrastructure level under a peak day climatic stress condition.
Regarding disruption of the main infrastructure:
In case of SLID-Lithuania, the project group **fully mitigates the risk of demand curtailment** in Lithuania in 2040, low infrastructure level.

> **Competition:**

In the existing infrastructure level, the project group allow Baltic states to further cooperate among them and **reduces dependency of Russian gas** supply in Estonia and Latvia in 2025 and 2030.
In the low infrastructure level, with the inclusion of FID project Balticconnector second capacity increment, the project group **reduces dependency of Russian gas supply** in Estonia, Latvia and Finland in 2025 and 2030.
The project group **contributes to the diversification of entry points reducing** the LICD in Latvia, Estonia and Finland in advanced infrastructure level thanks to the advanced-status project in Estonia (LNG terminal) and the consideration of one market zone in the Baltic Region (LV-EE-FI).

> **Market integration:**

The **bidirectionality between Lithuania and Latvia is slightly improved** with the project group.
The project brings benefits in monetised terms as a **reduction of the cost of gas supply,** however only under expensive Russian gas and cheap LNG supply price configurations (3.9 MEur/y and 3.5 MEur/y respectively) in the existing infrastructure level in 2030. Such benefit can be mainly explained by lower transportation costs thanks to the utilisation of this alternative route. This could be confirmed by the sensitivity on tariffs that shows variation in the size of benefits depending on the level of tariffs (higher or lower compared to the reference one) considered for this new route. In case of higher tariffs, the sensitivity analysis tables show in fact lower benefits (up to 3.1 MEur/y in 2030) that can be attributed to this new alternative route. In 2040 the project brings no benefits, or rather lower benefits, compared with 2030 driven by a decrease of Latvia and Lithuania demand reducing the cooperation from Lithuania to Latvia.

In case of the low and advanced infrastructure level the project group brings more benefits compared to existing infrastructure level only in 2040 driven by the new interconnection between Lithuania and Poland together with the remarkable decrease of Latvian demand which leads to a higher cooperation from Latvia to Lithuania.

Sustainability benefits explained [ENTSOG]

Project group BEMIP_01 does not show significant benefits from fuel switch under flow-based allocation.
The table below shows the related reduction in terms of CO2eq/y for each scenario and infrastructure level and over the 25-years assessment period of the project group. The contribution of the project group to the CO2eq/y emissions (positive number indicate reduction in CO2eq/y emissions) is also displayed for the three simulation configurations that consider different level of tariffs for the project group.

Sustainability		EXISTING			LOW			ADVANCED		
CO2 and Other externalities (KtCO2 eq/y)	Reference	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Lower Tariff Sensitivity	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Higher Tariff Sensitivity	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0

The minimum and the maximum values displayed in the table above refer respectively to the CO2eq/y savings in case emissions from the additional gas demand increase not replacing other more polluting fuels are counted in the overall CO2eq emissions assessment or they are considered neutral. For more information, please consult the Project Fiche introduction document and the TYNDP 2020 Annex D.

Sustainability benefits explained [Promoter]

No additional benefits were provided by promoters.

C.2 Quantitative benefits [ENTSOG]

The following tables display all the benefits quantified by ENTSOG through specific indicators and stemming from the realisation of the considered project group. Some of those benefits are measured through quantitative indicators (i.e. SLID and Curtailment rate) and monetised ex-post. Their monetised value is displayed in section E. When assessing those type of benefits, it is important to avoid any double counting considering them both in quantitative and monetised terms.

EXISTING Infrastructure Level – National Trends

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			NT			NT		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	35%	23%	-12%	37%	26%	-11%	25%	12%	-13%	15%	4%	-11%
Latvia	35%	23%	-12%	37%	25%	-12%	24%	12%	-12%	15%	4%	-11%
Lithuania							14%	11%	-2%	9%	4%	-5%
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

LOW Infrastructure Level – National Trends

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			NT			NT		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	42%	30%	-12%	47%	33%	-14%	36%	30%	-6%			
Finland	42%	30%	-12%	47%	33%	-14%	36%	30%	-6%			
Latvia	41%	30%	-11%	46%	33%	-13%	35%	30%	-5%			
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

ADVANCED Infrastructure Level – National Trends

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			NT			NT		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
LNG and Interconnection Capacity Diversification (LICD)												
Estonia	5,362	5,000	-362	5,401	5,004	-397	5,300	5,000	-300	5,196	5,000	-196
Finland	5362	5000	-362	5401	5004	-397	5300	5000	-300	5196	5000	-196
Latvia	5,362	5,000	-362	5,401	5,004	-397	5,300	5,000	-300	5,196	5,000	-196
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

EXISTING Infrastructure Level – Distributed Energy

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			DE			DE		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	35%	23%	-12%	37%	26%	-11%	11%	3%	-8%			
Latvia	35%	23%	-12%	37%	25%	-12%	11%	3%	-8%			
Lithuania							6%	2%	-4%			
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

LOW Infrastructure Level – Distributed Energy

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			DE			DE		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	42%	30%	-12%	47%	33%	-14%						
Finland	42%	30%	-12%	47%	33%	-14%						
Latvia	41%	30%	-11%	46%	33%	-13%						
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

ADVANCED Infrastructure Level – Distributed Energy

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			DE			DE		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
LNG and Interconnection Capacity Diversification (LICD)												
Estonia	5,362	5,000	-362	5,401	5,004	-397	5,759	5,034	-725	5,273	5,000	-273
Finland	5,362	5,000	-362	5,401	5,004	-397	5,759	5,034	-725	5,273	5,000	-273
Latvia	5,362	5,000	-362	5,401	5,004	-397	5,759	5,034	-725	5,273	5,000	-273
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

EXISTING Infrastructure Level – Global Ambition

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			GA			GA		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	35%	23%	-12%	37%	26%	-11%	27%	23%	-4%			
Latvia	35%	23%	-12%	37%	25%	-12%	27%	23%	-4%			
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

LOW Infrastructure Level – Global Ambition

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			GA			GA		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
MASD-RU												
Estonia	42%	30%	-12%	47%	33%	-14%	39%	34%	-5%			
Finland	42%	30%	-12%	47%	33%	-14%	40%	34%	-6%			
Latvia	41%	30%	-11%	46%	33%	-13%	39%	34%	-5%			
Security of Supply												
Baltics Finland Disruption Curtailment Rate Peak Day (%)												
Lithuania										-9%	0%	9%
Belarus Disruption Curtailment Rate Peak Day (%)												
Lithuania										-9%	0%	9%
Single Largest Infrastructure Disruption (SLID)-Lithuania												
Lithuania										9%	0%	-9%
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

ADVANCED Infrastructure Level – Global Ambition

Sum of Value	Column Labels											
	2025						2030			2040		
	CBG			GBC			GA			GA		
Row Labels	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA	WITHOUT	WITH	DELTA
Competition												
LNG and Interconnection Capacity Diversification (LICD)												
Estonia	5,362	5,000	-362	5,401	5,004	-397	5,834	5,055	-779	5,510	5,000	-510
Finland	5,362	5,000	-362	5,401	5,004	-397	5,834	5,055	-779	5,510	5,000	-510
Latvia	5,362	5,000	-362	5,401	5,004	-397	5,834	5,055	-779	5,510	5,000	-510
Security of Supply												
Belarus Disruption Curtailment Rate Peak Day (%)												
Lithuania										-2%	0%	2%
Market Integration												
Bi-directionality - Point												
Kiemenai	96%	100%	4%	96%	100%	4%	96%	100%	4%	96%	100%	4%

C.3 Monetised benefits [ENTSOG]

This section includes all benefits stemming from the realisation of a project that are quantified and monetised. Some benefits are monetised ex-post while others directly as a result of the simulations and are impacted by the modelling assumptions chosen (e.g. tariffs or supply price assumptions). Monetised benefits are showed at EU level. In order to keep the results in a manageable number, those have been aggregated per Infrastructure Level and Demand Scenarios. In line with the CBA Methodology, promoters could provide additional benefits related to Sustainability or Gasification. In the tables below these benefits are displayed separately from the ones computed directly by ENTSOG and are labelled as "(Promoter)".
More information on how to read the data in this section is provided in the Introduction Document.

		EXISTING			LOW			ADVANCED		
Benefits (Meur/year)		NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION
EU Bill benefits With Tariffs	Reference Supply	2.1	0.8	0.2	0.0	0.7	0.0	0.3	0.6	0.0
	Supply Maximization	3.8	1.8	1.5	1.2	1.4	1.5	1.4	1.2	1.5
Security of Supply	Design Case	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.3
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainability	CO2 and Other externalities savings	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0	0	0	0	0	0	0	0	0

Comparison between the assessed SCENARIOS

ENTSOG runs the assessment for 5-year-rounded years (2020, 2025, 2030 and 2040) and interpolates these results to compute the benefits for the 25-years economic lifetime of projects. The following tables show the benefits as computed in the specific assessment years.

Year of assessment		*2020*									*2025*								
		EXISTING			LOW			ADVANCED			EXISTING			LOW			ADVANCED		
Benefits (Meur/year)		NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA
EU Bill benefits With Tariffs	Reference Supply	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.0	0.0	0.0	0.1	0.1	0.1
	Supply Maximization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	0.0	0.0	0.0	0.1	0.1	0.1
Security of Supply	Design Case	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainability	CO2 and Other externalities savings	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Year of assessment		*2030*									*2040*								
		EXISTING			LOW			ADVANCED			EXISTING			LOW			ADVANCED		
Benefits (Meur/year)		NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA	NT	DE	GA
EU Bill benefits With Tariffs	Reference Supply	2.4	2.3	0.2	0.0	0.0	0.0	1.0	0.0	0.0	2.6	0.0	0.0	0.0	1.3	0.0	0.0	1.2	0.0
	Supply Maximization	4.3	4.7	3.9	1.1	0.8	0.1	1.7	0.5	0.1	4.3	0.0	0.0	1.8	2.8	2.9	1.8	2.4	2.9
Security of Supply	Design Case	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.4
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sustainability	CO2 and Other externalities savings	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

C.4 Sensitivities analysis on monetised benefits [ENTSOG]

In line with ENTSOG Adapted 2nd CBA Methodology, ENTSOG has also run sensitivities on some relevant assumptions such as tariffs, commissioning year and lower supply source price differential. The results included in the tables below have to be compared with the ones included in section C.3. Further information is available in the common introduction (Pages 1-6) to all project fiches. Independently from the source of the input as described in C3 (ENTSOG or Promoter), the sensitivity analysis has been caried out by ENTSOG and according to the criteria in the approved CBA Methodology.

EXISTING Infrastructure Level

Benefits (Meur/year)		*Commissioning Year Sensitivity*			*Lower Tariff Sensitivity*			*Higher Tariff Sensitivity*			*Cost of Disruption Sensitivity*		
		NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION
EU Bill benefits With Tariffs	Reference Supply	2.1	0.8	0.2	2.7	1.1	0.5	1.0	0.3	0.0	2.1	0.8	0.2
	Supply Maximization	3.8	1.8	1.5	4.4	2.1	1.9	2.6	1.1	1.1	3.8	1.8	1.5
Security of Supply	Design Case	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	17.5	17.5
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	104.6	223.6	218.5
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	183.2	225.0	222.0
Sustainability	CO2 and Other externalities savings (MEUR)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LOW Infrastructure Level

Benefits (Meur/year)		*Commissioning Year Sensitivity*			*Lower Tariff Sensitivity*			*Higher Tariff Sensitivity*			*Cost of Disruption Sensitivity*		
		NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION
EU Bill benefits With Tariffs	Reference Supply	0.0	0.7	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0	0.7	0.0
	Supply Maximization	1.2	1.4	1.5	1.5	1.5	1.7	0.7	1.1	0.9	1.2	1.4	1.5
Security of Supply	Design Case	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0	0.5	7.5	16.2	16.2
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	135.4	149.2
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	168.9	163.1
Sustainability	CO2 and Other externalities savings (MEUR)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ADVANCED Infrastructure Level

Benefits (Meur/year)		*Commissioning Year Sensitivity*			*Lower Tariff Sensitivity*			*Higher Tariff Sensitivity*			*Cost of Disruption Sensitivity*		
		NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION	NATIONAL TRENDS	DISTRIBUTED ENERGY	GLOBAL AMBITION
EU Bill benefits With Tariffs	Reference Supply	0.3	0.6	0.0	0.8	0.6	0.1	0.0	0.3	0.0	0.3	0.6	0.0
	Supply Maximization	1.4	1.2	1.5	2.0	1.2	1.8	0.8	0.9	0.9	1.4	1.2	1.5
Security of Supply	Design Case	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.0	11.3	10.3
	2-weeks Cold Spell	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2-weeks Cold Spell DF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	0.0	0.0
Sustainability	CO2 and Other externalities savings (MEUR)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
	Additional benefit (Promoter)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

D. Environmental Impact [Promoter]

Any gas infrastructure has an impact on its surroundings. This impact is of particular relevance when crossing some environmentally sensitive areas. Mitigation measures are taken by the promoters to reduce this impact and comply with the EU and National regulations. The Tables have been filled in by the promoter.

TYNDP Code	Type of infrastructure	Surface of impact	Environmentally sensitive area

Potential impact	Mitigation measures	Related costs included in project CAPEX and OPEX	Additional expected costs

Environmental Impact explained [Promoter]

Environmental impact assessments for the projects have not indicated any substantial and irreversible impacts on the environment. In order to ensure that environmental assessments are correct, environmental monitoring is carried out before, during and after the construction of the infrastructure.
The project of Enhancement of Latvia-Lithuania interconnection related construction and operation activities have been analyzed for eligibility for Environmental Impact Assessment (EIA) or initial screening procedures. The analysis has been based on national regulatory acts in Latvia and Lithuania, which implement the EIA Directive. Given the fact that the Feasibility study provided the technical solution for the implementation of the project, i.e. the reconstruction, readjustment or upgrade of existing pipelines for the transport of gas and related infrastructure, e.g. CS and GMS (and not construction / installation of new infrastructure of such type), the project or intended activity should not a subject of the EIA or initial screening.

E. Other Benefits [Promoter]

Missing benefits are all benefits of a project which may be not captured by the current application in TYNDP 2020 of the 2nd CBA Methodology.
As a necessary condition a missing benefit cannot have discrepancies with the benefits already covered by the assessment run by ENTSOG and this condition needs to be proved and justified.

Other benefits explained

No other benefits were provided by the promoters.

F. Useful Links

The project website (Lithuanian part): www.ambergrid.lt/en/transmission-system/development-of-the-transmission-system/enhancement-Latvia-Lithuania-interconnection;

The project website (Latvian part): https://www.conexus.lv/ipgk-modernizacijas-projekti-eng/latvijas-lietuvas-starpsavienojuma-uzlabosana
Network Development Plan: www.ambergrid.lt/en/transmission-system/development-of-the-transmission-system/gas-transmission-system-development-plan