



KONKURENTSIAMET
Estonian Competition Authority



energiavirasto

Cross-Border Cost Allocation Agreement between the Estonian Competition Authority and Energy Authority of Finland (request accepted)

Pursuant to Regulation (EU) no 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 (Regulation No 347/2013) the following National Regulatory Authorities (NRAs):

NRA	Country	Contact details
Estonian Competition Authority (ECA), (Konkurentsiamet)	Estonia	Address: 6 Auna Street, 10317 Tallinn Phone: +372 667 2400 Fax: +372 667 2401 E-mail: info@konkurentsiamet.ee
Energy Authority (Energiavirasto)	Finland	Address: Lintulahdenkuja 4, 00530 Helsinki, Finland Phone: + 358 29 5050 000 Fax: + 358 9 6221 911 E-mail: kirjaamo@energiavirasto.fi

concerning the projects of common interest (PCIs):

- No 8.1.1 (Balticconnector) and
- No 8.2.2 (enhancement of Estonia-Latvia interconnection)

in the Union wide list of PCI adopted by the European Commission on 18 November 2015, as in the Annex of Regulation (EU) No 347/2013.

Acting in accordance with national legal acts of Estonia (Natural Gas Act in particular) and Finland (Law on Energy Authority in particular) and taking note of Recommendation of the Agency for the Cooperation of Energy Regulators no 05/2015 of 18 December 2015 on good practices for the treatment of the investment requests, including cross border cost allocation requests, for electricity and gas projects of common interest (ACER Recommendation), on 6 April 2016, Estonian, Latvian and Finnish NRAs received an investment request on PCI No 8.1.1 submitted by Estonian transmission system operator (TSO) Elering AS and Baltic Connector Oy, a Finnish state-owned company for the project development of Balticconnector. On 7 April, Estonian, Latvian and Finnish NRAs received an investment request on PCI No 8.2.2 submitted by Elering AS.

The project promoters submitted updates to the investment requests based on discussions with the NRAs on 20 April 2016.

1 INVESTMENT REQUEST

1.1 Project description

The project promoters have described the Balticconnector and enhancement of Estonia-Latvia interconnection projects in the investment requests, of which following are extracts:

The purpose of the Balticconnector natural gas pipeline project is to interconnect the Finnish and Estonian natural gas transmission networks and improve the energy security of the Baltic-Finnish region.

The offshore pipeline will enable gas transmission between Finland and Estonia while also providing the opportunity for Finland to utilize the underground natural gas storage facilities in Latvia and the diverse supply sources of Klaipeda LNG and, via GIPL, the Central European gas system.

The purpose of the Estonia-Latvia natural gas pipeline interconnection enhancement project "Enhancement of Estonia-Latvia interconnection" (Estonia-Latvia Enhancement) is to expand the connectivity of Latvian and Estonian natural gas transmission networks, allowing reverse flows from Estonia to Latvia.

The projects are technically interlinked and enabler projects towards each other. The Estonia-Latvia enhancement project is enabling bi-directional flow on the Estonia-Latvia border and allows utilisation of Balticconnector in both directions to the full capacity by increasing the flow capacity of the Estonian gas transmission system.

A detailed technical descriptions of the projects, including descriptions of the rationale behind the choice of the technology, and a map of the planned route are included in the investment requests.

1.2 Implementation plan

The project promoters have provided implementation plans of the projects providing information about the progress. The following are extracts of these plans:

Project stage	(expected) start date	(expected) end date
Consideration phase	06/2006	01/2013 Completed
Planning approval	06/2006	02/2013 Completed
Preliminary design studies	01/2013	08/2014 Completed
Market test	05/2015 02/2016	06/2015 03/2016 Completed
Public consultation	06/2009	05/2015 Completed

Pre-Construction permits	12/2012	10/2015 Finland Offshore 03/2016 Estonia Onshore 04/2016 Estonia Offshore Completed 06/2017 Finland Onshore
Construction permit procedure	03/2013	04/2016 Estonia Onshore 12/2016 Estonia Offshore 12/2017 Finland Offshore 02/2018 Finland Onshore
Definition of financing scheme and CBCA	08/2015	06/2016
Final Investment decision (FID)	09/2016	09/2016
Detailed design for all sections of the project	09/2016	03/2018
Tendering Onshore Estonia	08/2016	11/2016
Tendering Onshore Finland	11/2016	03/2018
Tendering Compressor stations	11/2016	03/2017
Tendering Offshore	09/2016	03/2018
Construction	11/2016*	12/2019

**The implementation plan is closely interlinked with the EST-LAT enhancement implementation plan, as the projects are technically interlinked and the schedule assumes that bi-directional flow would be available Q4/2017.*

Although the financing uncertainty in the past has not allowed the project promoters to make the FID, licencing procedures have been started on all the sections of the Balticconnector. In order to start the expropriation (in Finland, Estonian land questions already solved) and the construction, financing uncertainties need to be resolved as soon as possible in order start procurements and to complete the pipeline by the end of 2019.

The project promoters also present an assessment of the critical and risk factors for the project and the risk mitigation measures adopted in the relation to those factors which could have the most negative impact.

1.3 Preliminary investment decision

The project promoters have provided information to be considered as preliminary investment decision and the following is an extract of this information:

The Prime Ministers of Estonia and Finland have agreed on immediate start of the Balticconnector project in their Communique dating back to 24th of November 2014¹¹. The Communique states that the project should be commissioned in 2019.

The Finnish and Estonian promoters (Baltic Connector Oy and Elering AS) have agreed to cooperate under the Cooperation Contract signed 23.03.2016.

1.4 Permitting process

The project promoters have provided description of the status of the project permitting process in all hosting countries, including a detailed schedule and corresponding evidence.

1.5 Project maturity

Costs and benefits

The following is an extract of information on costs and benefits provided by the project promoters:

The cost estimates and factors of the sections are based on:

- *Project promoters' experience from previous pipeline projects and references taken from similar projects.*
- *In Finland, the construction cost is much higher due to soil conditions, where granite makes up for the majority of the soil on the pipeline route taking the cost up to 1,08 MEUR/km. This is also in line with the project promoters experience from previous projects.*
- *The project promoters have conducted an extensive study on cost of the offshore part and compressor project and are aware of the variables that influence the expenditure to materials.*
- *The project promoters evaluate that the risk uncertainty level compared to the baseline total investment is between +5% and -5%.*
- *The cost estimates take into account the limiting factors arising from environmental factors.*

The benefits of the project for the Baltic States and Finland are analysed in the CBA.

Over the first two years of operations (2020-2021), the Balticconnector is expected to have revenues arising from the capacity booking, while from the third year of operations (2022), within the adoption of a single entry-exit model, there will be no booking revenues. With the estimated CAPEX and OPEX values the revenues are evaluated in the Financial analysis.

The project promoters have also provided cost break-down of the project parts.

Permitting

The project promoters have provided information on permitting procedures being started in all hosting countries.

Commissioning

The project promoters have presented information on the expected date of the commissioning. The following is an extract of this information:

If financing for the whole project is granted and final investment decision can be made in 09/2016, then expected date of the commissioning is 12/2019.

Maturity

The project promoters have provided information on the maturity of the projects. The following is an extract of this information:

In December 2001 it was decided by the Finnish gas transmission system operator Gasum Oy and Estonian gas transmission system operator Eesti Gaas AS that the companies will investigate the possibilities to connect the Baltic and Finnish natural gas transmission grids.

From 2005 to 2012 the (former) project promoters prepared several studies on the onshore sections for the route selection and planning of the pipelines. The necessary procedures for the licensing of the pipeline were started.

On 29.08.2014 the pre-FEED design for the offshore pipeline was completed.

On 1.1.2016 the Balticconnector Project passed from Gasum Oy to Baltic Connector Oy and Baltic Connector Oy procured the project management services and the project expert services from Gasum Oy by contracting the Balticconnector organisation of Gasum.

On 11.3.2016 the FEED engineering was completed for the Offshore part of the Balticconnector project.

The project promoters have conducted many studies and currently several licencing, land right-of way and procurement procedures for the pipeline are ongoing.

The project promoters have compared the maturity of the Balticconnector to other projects in the region and stated that the Balticconnector is further developed compared to projects that already have received a positive funding decision from Connecting Europe Facility (CEF).

1.6 TSO consultations and regional cooperation

The project promoters have provided information on TSO consultations and the results of the consultations. Consultation responses from Finnish and Lithuanian TSO are provided. The Finnish TSO made comments on the CBA methodology and assumptions. The project promoters have indicated having considered the comments and, where appropriate, having taken the comments into account and updated the CBA. The project promoters have also provided answers to all the comments from the Finnish TSO. The response from Latvian TSO was pending at the time of the investment request.

On 21 April 2016, the project promoters provided further concrete information on cooperation regarding the infrastructure development and market integration in the region.

1.7 Cost-benefit analysis (CBA)

The project promoters have presented that the CBA of the projects is based on the ENTSOG methodology of Energy System Wide Cost Benefits Analysis (ESW-CBA). The integrated ESW-CBA methodology is composed of the TYNDP-Step, providing an overall assessment of European gas system under different level of development of infrastructure and the Project-Specific Step, providing an individual assessment of project impact on the European gas system based on common dataset defined through the Ten-Year Network Development Plan step (TYNDP-Step) and project specific data.

The assessment of the project is carried out on the years n , $n+5$, $n+10$, $n+15$ and $n+20$ (n being the year of analysis), therefore, the period is covering years 2016, 2021, 2026, 2031 and 2036. In calculations of the Economic and Financial Performance Indicators, the extended time horizon is used. This covers the period from the year of the analysis until the 20th full year of operations. In the ESW-CBA three gas demand scenarios are modelled: Grey, Green and Additional. Grey and Green scenarios are from ENTSOG TYNDP 2015 and the Additional scenario is developed by the promoters of the project. The Additional scenario is a more conservative scenario in terms of gas demand in the East-Baltic region taking into account weak gas demand in the past couple of years.

An assumption of single entry-exit zone is used in the CBA as this was identified as the most beneficial solution in Finnish-Baltic regional gas market study and an estimate of reaching the single entry-exit zone in 2022 is used.

The project promoters have stated that there is still uncertainty about potential regional gas market development, but the CBA has been developed to reflect most realistic assumptions for quantification of benefits from Balticconnector and Estonia-Latvia enhancement projects.

The CBA analysis is performed compiling Balticconnector and Estonia-Latvia enhancement PCI's together, because these projects are closely interlinked and their direct benefits cannot be separated.

The project promoters have presented that a number of the benefits from the projects are identified in the CBA and efforts are made to monetise as many benefits as possible.

For the purpose of the monetisation part, the project with FID status, and additionally GIPL project, have been considered which has received EU funding and is an integral part of connecting the Baltic States and Finland to the European internal gas markets.

1.8 Financial analysis

The project promoters have presented that over the first 2 years of operations (2020-2021), the Balticconnector and EST-LAT Enhancement will operate in the framework of capacity booking and revenues will be generated from operating the interconnectors. The size of the transmission charges during the period of capacity booking are set at the level to cover the OPEX of the particular period. From 2022 onwards, the Balticconnector and Estonia-Latvia Enhancement are expected to be given to the market use in the framework of Finnish-Baltic single entry-exit zone and costs (mainly OPEX and financing expenses) would be recovered by TSO tariffs.

The investment to the Balticconnector and Estonia-Latvia Enhancement is foreseen to be financed by the promoters and EU funds. The EU co-financing is excluded from the regulated asset base for the tariff calculation. The Finnish share of the investment not covered by the EU funding will be invested by the state as equity up to 30 MEUR.

Table 1 presents the expected tariff impacts provided by the project promoters at different levels of EU funding.

Table 1. Tariff impact from Balticconnector and Latvia-Estonia Enhancement investments at different EU funding levels

Country	Allowed revenue 2015 (MEUR)	Demand 2020 (additional scenario) (TWh)	Projects impact to allowed revenues 2020 (MEUR)	Prognosed tariff without projects (EUR/MWh)	Prognosed tariff with projects (EUR/MWh) (no grant)	Tariff impact (no grant)	Tariff impact (25% grant)	Tariff impact (50% grant)	Tariff impact (75% grant)
Finland	87,00	29,33	9,12	2,97	3,28	10,5%	7,8%	4,7%	1,7%
Estonia	9,50	5,17	14,49	1,84	4,64	152,5%	124,1%	91,5%	58,9%
Latvia	30,50	13,35	-	2,29	2,29	0,0%	0,0%	0,0%	0,0%

Assumption: allowed revenues 2015 stays constant

Market test results

The project promoters have provided information on the results of a market test. Estonian, Latvian, Lithuanian and Finnish gas market participants were consulted via a non-binding market test letter. Twelve market participants from Finland, Estonia, Latvia and Lithuania replied to the market test letter.

The market test results indicate that the estimated annual capacity demand on the Balticconnector varies from 6.401 GWh (23,7% utilization) to 10.408 GWh (38,5% utilization) during a twenty year period after commissioning the project. Peak capacity demand during the same period is anticipated to be within the range of 17.552 MWh per day (23,4% utilization) and 29.769 MWh per day (39,7% utilization).

The market test results indicate that estimated annual capacity demand on the Estonia-Latvia Enhancement varies from 1.706 GWh (5,0% utilization) to 8.543 GWh (25,2% utilization) during a twenty year period after commissioning the project. Peak capacity demand during the same period is anticipated to be within the range of 9.355 MWh per day (10,0% utilization) and 25.407 MWh per day (27,0% utilization).

The project promoters have assumed in the calculation of capacity booking revenues that approx. 20 % of Balticconnector and approx. 10 % of Estonia – Latvia enhancement utilisation would be achieved during capacity booking period (2020-2021).

Costs

The project promoters have provided the cost components and the planned investment years. Table 2 presents the total investment costs of the projects.

Table 2. Balticconnector and enhancement of Estonia-Latvia interconnection investment costs

Title	Units	Estonia	Finland	Total
CAPEX (total)	M€	168,00	119,25	285,0
Balticconnector	M€	130,75	119,25	250,0
EST-LAT enhancement	M€	37,25	0,0	37,25

Financial performance indicators (FPI)

The project promoters have provided the financial performance indicators at different levels of EU funding as the indicators are sensitive to the funding level. In the calculation of financial performance indicators for Finland at the 25% and 50% EU co-funding levels it is assumed that the investment not covered by the EU co-funding and the state investment (30 MEUR) would be included into the regulated asset base. Calculating the revenues from tariffs the same methodology applied as for Estonia (reasonable return and depreciation are calculated only for the investment part included into the regulated asset base). For Finland, after-tax WACC of 6,41% has been used (based on the anticipated assumptions to be used in the methodology starting from 2016 and available data from 2014).

Table 2. Financial performance indicators at different EU funding levels

EU funding level	FNPV MEUR	FIRR %	FB/C %
Estonia			
25%	-9,1	-0,8	93,6
50%	-4,3	-0,6	95,9
75%	0,6	0,2	100,8
Finland			
25%	-30,1	-5,0	67,1
50%	-27,2	-7,3	58,6
75%	-23,7	N/A	40,3

1.9 Economic analysis

In the investment request, the economic analysis is divided into two parts, where firstly, an overview of various security of supply indicators is provided and secondly economic performance indicators and their sensitivity analysis are presented.

Security of supply indicators

The project promoters have used the N-1 indicator in the analysed scenarios (two ENTSOG scenarios: Grey and Green, additional scenario prepared by the project promoters and two infrastructure scenarios: Low and High). The project promoters have stated that as the incremental changes of the indicator are positive in all cases, this indicates that Balticconnector and Estonia-Latvia enhancement will improve the security of supply.

The project promoters have presented impact of Balticconnector and Estonia-Latvia enhancement projects on the IRD indicator in case of Low and High infrastructure scenarios. The project promoters have stated that as the incremental changes are negative in all cases, this indicates that Balticconnector and Estonia-Latvia enhancement will improve the security of supply.

The project promoters have also provided the values for Bi-directional indicator (BDI), Remaining Flexibility (RF), Disrupted Demand, Cooperative Supply Source Dependence (CSSD), Supply Source Price Diversification (SSPD_i), Supply Source Price Dependence

(SSPDe). Project promoters have stated that these values indicate that the maximum value representing the firm technical capacity in both directions of interconnection (Balticconnector) will be reached, Balticconnector and Estonia-Latvia enhancement projects will improve resilience, Balticconnector will decrease the disrupted demand, Balticconnector under cooperative scenario will help to decrease Finland's dependence on Russian natural gas, Balticconnector will have positive impact on source price diversification and dependence.

Economic performance indicators (EPI)

The project promoters have provided economic performance indicators. The indicators are calculated from identified and monetised benefits and costs. For discounting the social discount rate of 4% has been applied.

The project promoters have used the same assumptions for the cost as for Financial Performance Indicators.

The project promoters have monetised the following benefits:

- saved cost of gas;
- security of supply (technical);
- energy security;
- CO2 emission reduction;
- residual value;

The project promoters have presented that for the **saved cost of gas** benefit historical price differences have been analysed. Based on the estimated monthly wholesale price difference between Estonian and Finnish price as well as between Latvian and Finnish prices in period January 2013 - December 2015 and standard deviation, normal distributions for the prices difference are found, indicating the potential price differences of 5,57 EUR/MWh and 2,32 EUR/MWh, respectively. Project promoters have assumed that Balticconnector would create price convergence benefit from the first year of operations until the end of 2021. In addition, the project promoters have presented that Balticconnector and Estonia-Latvia enhancement together with the Latvian UGS enhancement will allow Finland to reduce fluctuations in gas price by storing gas in the Latvian UGS.

Benefit from avoided disruption consist of two components: technical security of supply benefit and energy security benefit.

The project promoters have presented the **security of supply (technical)** benefit by the value of the avoided demand disruption due to the existence of Balticconnector (for Estonia and Finland) and Estonia-Latvia enhancement (for Latvia and Estonia). The project promoters have assumed disruption duration of 14 days, while considering that 45,9% of total Finnish gas consumers (heat and power generators) has the access to the alternative fuel stocks (where it is assumed to take from a few hours to 1 day to switch to). This means that for 50% of this part of the gas consumers, no security of supply benefit is calculated and for the rest 50%, the disruption duration is considered to be 1 day.

The project promoters have presented the **energy security** benefit from the Balticconnector. The benefit has been calculated by assuming disruption duration of 30 days with the frequency of the disruption occurrence of 1 in 45 years (2,22%), while considering that 45,9% of total

Finnish gas consumers (heat and power generators) has access to the alternative fuel stocks, meaning no benefit for this group of gas consumers.

The project promoters have presented the **residual value** benefit being estimated using the cash flow of the last year in the time horizon and the social discount rate (4%) suggested by ENTSOG.

The project promoters have presented the **CO2 cost savings** benefit. The benefit is calculated where Balticconnector would add capacity needed to cover the maximum daily and 14-day demand (only in Green scenario), which would otherwise be substituted with other sources of power/heat generation with higher CO2 emissions. CO2 emission price is assumed to grow from 16,4 EUR per ton in 2020 to 31,9 EUR per ton in 2039 and 50% of savings in CO2 costs is assumed from to Balticconnector.

The project promoters have presented costs and benefits for Estonia, Finland and Latvia and national net impacts when considering the above mentioned costs and benefits as well as the expected revenues related to capacity bookings. Table 3 presents the national net impacts as provided by the project promoters.

Table 3. National net impacts

Country	ENPV MEUR	Revenues from capacity bookings MEUR	National net impacts MEUR
Estonia	-11,4	5,6	-5,8
Finland	139,0	2,4	141,4
Latvia	17,6	0	17,6
Total	145,2	8,0	153,2

Sensitivity analysis of EPIs

The project promoters have presented a sensitivity analysis for the economic performance indicators. According to the promoters, one of the key sensitivity items is the duration of the price convergence benefit, which could potentially vary between 1 to 3 years. Another important assumption is Finnish gas price swing, for which project promoters present the results with $\pm 20\%$ change to the base case assumption.

The project promoters have also presented the economic performance indicators with 20% reduction in the reserve holding benefit for Finland, 10% and 20% changes in CAPEX and OPEX as well project delay up to 3 years.

1.10 Qualitative analysis

The project promoters have presented a qualitative analysis of benefits could not monetised with sufficient certainty. These benefits include market integration, of which have been partially monetized in the saved cost of gas benefit. As regards to further market integration benefits, the projects support the aim interconnect the separate energy markets of Europe into one single integrated European energy market. The projects would allow market based investments to additional supply sources, namely LNG terminals, but also an access to global LNG sourcing and other sources in Europe and thus diversify the supply opportunities for gas, which will lead

to improvements in gas competitiveness on a regional level. In terms of sustainability, the projects support of biogas transportation and biogas market development as well as contributes to emission reduction.

The project promoters have presented an assessment of environmental impacts and mitigation measures.

The project promoters have presented the benefits having synergies with other sectors including transport sector, where biogas as a key to meeting the EU 2020 goals for transport sector renewable fuel share.

1.11 Business plan

The project promoters have presented that to promote market integration and competition, it is envisioned that the Balticconnector and Estonia-Latvia interconnection will be given to market use in the framework of Finnish-Baltic single entry-exit model (excluding the first two years of operation (2020-2021), when the revenues will come from capacity booking until full market integration is achieved in 2022). This means that the regulated business model, as opposed to merchant model, is chosen for the projects. The regulated business model is preferred in order to maximise the market use and consequently socio-economic benefits arising from the project.

On the Estonian side, the Balticconnector and Estonia-Latvia Enhancement share not covered by EU grant will be included in the Estonian TSO's regulated asset base. On the Finnish side, the share not covered by EU grant up to 30 MEUR will be included in the balance of state owned Baltic Connector Oy. The EU co-financing is excluded from the regulated asset base for the tariff calculation. During the investment period, half of the yearly investment is included in the regulated asset base in Estonia.

1.12 Financing strategy

The project promoters have presented that the investment to the Balticconnector and Estonia-Latvia Enhancement is foreseen to be financed partially by EU funds and the remaining part by the project promoters. To demonstrate the financial need of the EU funding, 'the fund gap method' is used, where actual EU's project co-financing contribution for each country is determined by multiplying eligible costs by the 'funding gap rate'. The TSO tariff is viewed as socialisation of the project costs, therefore, it is excluded from the calculations of the funding gap.

The Finnish promoter's part of the investment (25% from CAPEX allocated to Finland) up to 30 MEUR will be financed by capitalized funds (equity) provided by the State of Finland. Therefore, a limited amount of debt is projected with a temporary project time funding and a possible working capital loan after commissioning. The Estonian TSO's part of the investment will be financed by debt and equity. Debt and equity proportion and cost of debt assumptions are based on the latest regulated WACC assumptions (D/E ratio of 100% and cost of debt 3,76%).

1.13 Cross-border cost allocation (CBCA) proposal

According to the geographical location, the Estonian costs are 130,75 MEUR and Finnish costs 119,25 MEUR for Balticconnector (50%-50% division of offshore costs) and Estonian costs 37,25 MEUR for Estonia-Latvia enhancement.

The project promoters have presented that OPEX and interest rate are excluded based on the ACER Recommendation and only CAPEX is taken into account. As OPEX and interest expense are excluded from costs, the promoters have assumed the benefit to be lower by the same amount, i.e., to avoid overestimation of the benefits.

Table 4 present the compensations to be provided by net beneficiaries to net cost bearers calculated by the project promoters.

Table 4. Compensations to be provided by net beneficiaries to net cost bearers

Country	Net benefit MEUR	Benefit over 10% MEUR	Benefit contribution %	Value of financial revenues MEUR	Compensation after financial revenues MEUR	Cross-border cost allocation MEUR
Estonia	-11,38			5,55	5,83	
Finland	138,99	123,33	98,43	2,41		5,74
Latvia	17,63	1,97	1,57			0,09

The project promoters have presented that according to the CBA, Finland and Latvia have positive net benefits, while Estonia has negative net benefits. The project promoters have proposed that Finland will compensate the net negative benefit of Estonia. Although Latvian benefit is slightly over the 10% significance threshold, project promoters have not found it reasonable to allocate any costs to Latvia. The project promoters have presented that due to the very small share of Latvian benefit in total benefits, the costs allocated to Latvia according to the ACER Recommendation would be around 0,09 MEUR. The project promoters argue that as ACER has suggested the significance threshold in order to avoid "...significant negotiation and administrative costs", not allocating costs to Latvia is justified in order to avoid costs from delaying projects. Therefore, project promoters have proposed a CBCA, where Finland and Estonia compensate the Latvian part proportionally to the project investment costs. Proportional cost allocation would be 0,05 MEUR to Estonia and 0,04 MEUR to Finland.

While considering the above, **the project promoters have proposed a CBCA compensation from Finland to Estonia amounting to 5,7 MEUR.**

2 ASSESSMENT OF THE INVESTMENT REQUESTS

The investment requests were submitted to all the NRAs concerned pursuant to Article 12(3) of Regulation 347/2013. The concerned NRAs were firstly established by the project promoters by submitting the investment requests the Finnish, Estonian and Latvian NRAs i.e. the project promoters foresee that these Member States could have a significant net positive impact from the project.

After reviewing and assessing the investment requests as presented in the following, the concerned NRAs do not consider justified to allocate costs due to very small share of Latvian benefit in total benefit. Latvian NRA Public Utilities Commission considers not to be in position to sign the NRA agreement but supports Balticconnector and EST-LAT interconnection enhancement projects and regards them to be of regional significance as expressed in their letter to Finnish and Estonian NRAs on 21 April 2016.

2.1 Admissibility

The concerned NRAs find that all required documents as per Article 12(3) of Regulation 347/2013, namely a project-specific cost-benefit analysis (CBA), a business plan including the results of market testing are presented and complete. The investment requests also include a substantiated proposal for cross-border cost allocation (CBCA) as agreed by the project promoters.

Article 12(3) of Regulation 347/2013 contains two admissibility criteria, which project promoters need to meet for submitting a valid investment request and which require assessment by the NRAs: (i) a prior consultation of the TSOs from the Member States to which the project provides a significant net positive impact; and (ii) the project having reached sufficient maturity.

2.2 Evidence on TSO consultations

The Finnish, Estonian, Latvian and Lithuanian TSOs have been analysing in co-operation the technical impacts of the developed infrastructure in the region. Based on evidence provided by the project promoters, namely the consultation documentation sent to the Finnish, Latvian and Lithuanian TSOs and the responses received from the Finnish and Lithuanian TSOs as well as based on further concrete information on cooperation regarding the infrastructure development and market integration in the region provided by the project promoters, the concerned NRAs find that the project promoters have consulted the concerned TSOs in line with Article 12(3) of Regulation (EU) No 347/2013.

2.3 Maturity

The concerned NRAs have considered the maturity of the projects pursuant to the ACER Recommendation, namely in terms of:

- a) sufficient certainty about the costs assessed by the project-specific CBA
- b) good knowledge of the factors affecting expected costs and their ranges
- c) a cost uncertainty range
- d) reasonable foresight of the benefits assessed by the project-specific CBA
- e) reasonable knowledge of factors affecting benefits and their ranges, also with regard to different scenarios and sensitivity analyses
- f) permitting procedures having started in all hosting countries
- g) commissioning to be achieved indicatively within 60 months from the date of submission of the investment request

The concerned NRAs find that the investment requests demonstrate sufficient certainty about the costs and good knowledge of the factors affecting expected costs as well as presents a cost uncertainty range. These are based on experience from previous pipeline projects and references from similar projects while considering particular soil conditions and the results of extensive study on the costs of the offshore section and compressors.

The concerned NRAs find in their assessment of the project-specific CBA that the CBA demonstrates reasonable foresight of the benefits and that there is reasonable knowledge of

factors affecting benefits and their ranges, also with regard to different scenarios and sensitivity analyses.

The concerned NRAs find that the permitting have started in all hosting countries and that expected commissioning of the projects are within 60 months from the date of submission of the investment request.

Thus, the NRAs conclude that the projects have reached sufficient maturity for NRA decision.

2.4 Completeness of the investment request

The concerned NRAs have assessed the completeness of the investment requests while taking particular note on the ACER Recommendation. The Agency has recommended that an investment request submitted by project promoters should provide the following information and, where appropriate, supporting evidence:

1. a detailed technical description of the project;
2. a detailed implementation plan of the project
3. a preliminary investment decision on the investment(s), if applicable;
4. a short description of the status of the project permitting process in all hosting; countries;
5. information about the sufficient maturity of the project;
6. information on TSO consultations and the results of the consultations;
7. a project-specific CBA;
8. a business plan including a description of the chosen financial solution;
9. a substantiated proposal for cross-border cost allocation (if agreed by the project promoters).

The concerned NRAs find that the investment requests are complete and include all the above mentioned information and, where appropriate, supporting evidence.

2.5 Assessment of CBA

The basis of concerned NRAs' assessment of CBA

The concerned NRAs have assessed the project-specific CBA while taking particular note on the ACER Recommendation. In order to be basis for proper cross-border allocation decision, the CBA needs to be comprehensive and comprehensible, and use comparable and monetised information on costs and benefits and other cross-border monetary flows, disaggregated per country. It is of utmost importance that input, assumptions etc. used to derive the CBA of a project for different purposes (i.e. TYNDP, PCI selection, TSO consultation, investment request) are identical unless there exists a reasoned justification.

The project-specific CBA (submitted by the project promoters to TSOs during the TSO consultation, as well as submitted to NRAs as part of an investment request) needs to comply with principles laid down in Annex V of Regulation No 347/2013 and be consistent with the rules and indicators set out in its Annex IV. In addition, the Agency recommends that the project-specific CBA should comprise the following:

- a) information on input data and assumptions;
- b) details underlying cost estimations;
- c) details underlying benefit determination;
- d) details underlying estimations of other cross-border monetary flows;

- e) detailed calculations in spreadsheet format (for calculation of national net impacts);
- f) summary of results (disaggregated by country)
- g) sensitivity analysis

Projects be may considered complementary if the aggregated benefits of a joint development of the relevant PCIs are higher than the sum of projects' benefits estimated on a stand-alone basis for each project.

The Agency has recommended that the benefit results per country for the various ENTSOG's TYNDP scenarios are provided in all investment request. The project promoters may also provide additional scenarios, which they deem plausible, and the associated results.

The Agency has recommended that at least the following categories of benefits are monetised and separately presented per country, including the methodology used for valuations and the underlying assumptions:

- a) market integration;
- b) competition;
- c) security of supply;
- d) sustainability.

Annex V(1) on Regulation No 347/2013 defines the "n+20" time horizon of the input and output data on a 5 year basis. Within CBA, a standardised social discount rate (4% real) should be used for the calculation of discounted national net impacts.

General assessment of CBA

The concerned NRAs find that the project-specific CBA demonstrates the above mentioned expectations to be considered as basis for proper cross-border allocation decision. The provided CBA shows continuity in respect of different purposes of a CBA from TYNDP to investment request and complies with the requirements and principles of the Regulation No 347/2013. Specifically, the CBA comprises of information on input data and assumptions, details of costs and benefits and detailed spreadsheet calculations of there as well as summary of disaggregated results and sensitivity analysis.

The project promoters have provided the project-specific CBA for two the complementary projects. The concerned NRAs find that the projects are complementary with respect to the above mentioned principle and the project promoters' CBA follows this expectation.

The CBA results are provided in ENTSOG's Green and Gray scenarios as well as in additional scenario prepared by the project promoters. The project promoters present that the additional scenario is a more conservative scenario in terms of gas demand in the East-Baltic region taking into account weak gas demand in the past couple of years. Given the recent developments in the gas demand in the region, the concerned NRAs find as presented in the following section that assessing an additional scenario, besides the ENTSOG's is justified and the combination of these three scenarios constitute a reasonable basis for assessing the projects.

The concerned NRAs find that the above mentioned categories of benefits, namely market integration, competition, security of supply and sustainability, are monetised and separately presented per country, including the methodology used for valuations and the underlying assumptions.

The concerned NRAs find that the CBA is consistent with the Regulation No 347/2013 in terms of time horizon of the input and output data on a 5 year basis. Also, the concerned NRAs find that the recommended standardised social discount rate is used by the project promoters in the CBA.

Detailed assessment of the assumptions in CBA

The concerned NRAs have assessed the assumptions used in the CBA while considering the comments made by the TSOs in the region as well as views presented by the project promoters in addition to the explanation presented in the investment request.

The views of the Finnish TSO to the CBA:

The Finnish TSO states in its consultation response to project promoters on 29 March 2016 and to NRAs on 20 April 2016 comments to the CBA methodology and assumptions, which are referred in the following:

1. Volume scenarios
 - The ENTSOG Green and Grey scenarios are outdated and should not be used
 - The additional scenario prepared by project promoters shows higher gas consumption volumes than indicated by the Finnish TSO and should be adjusted to lower level.
2. Market model
 - Assumption to form a single entry-exit zone in Baltics and Finland is not feasible.
 - A separate CBA for a single entry-exit zone should be done.
3. Saved cost of gas
 - Gas price to Finland (from Russia) will be most likely harmonised with other Russian pipeline gas exports to Baltic region i.e. to increase at higher level upon the market integration and at this cost for Finland should be taken into account in the CBA.
 - There is a case for derogation from third party access even after market opening due to take-or-pay obligations. Possibility to apply limited market opening by NRA decision should be taken into account.
 - The Finnish TSO states that gas price fluctuations are caused by the changes in gas pricing indexes (mainly oil and coal) and that using UGS for short term market based fluctuations is not efficient but instead the gas users use instead price hedging of oil and coal indexes.
 - The assumption of using UGS does not take into account the availability of storage capacity and the costs if capacity needs to be increased.
4. Security of supply and energy security
 - The calculation of security of supply benefit cannot be considered appropriate as the results are the same in each of the scenarios.
 - The calculated disruption cost is not appropriate as value of this interruption is based on gas' share in the energy mix and total GDP in Finland.
 - The calculation does not take into account not obligated gas supply interruption mitigation means. The fuel switching possibilities are not properly considered.

- There has never been gas supply disruption in the range of 14 or 30 days in Finland.
 - The two LNG terminals currently under construction in Finland are seemingly not taken into consideration.
5. CO₂ cost savings
- ENTSOG green scenario is obsolete and there are no bottlenecks in the Finnish gas transmission network at the moment.

The views presented by the project promoters:

1. Volume scenarios
 - The use of ENTSOG TYNDP scenarios is line with ACER Recommendation. The additional scenario was based on demand data provided by TSOs to a regional consult study. The Finnish data was provided by the Finnish TSO in Sep 2015. Taking into account comments and the decreased consumption in 2015, an adjusted scenario has been used in the CBA.
2. Market model
 - According to a regional consult study preparations for single entry-zone would take 3-4 years implying that the single-entry exit could start with commissioning of Balticconnector. As conservative assumption additional two years are added in the CBA. Even without the single zone, the socio-economically beneficial solution would be to have zero tariff on the pipeline in order to minimize dead-band of trading.
3. Saved cost of gas
 - Balticconnector will grant access for Finland to sources, which may reduce the gas price. For the two years of Balticconnector's operation, Finnish gas price is assumed lower (as today) and Estonia will receive some benefit from gas price reduction. The drivers for gas prices in Finland is the competition by other fuels, which does not change due to Balticconnector, and that lower gas prices of Poland and the European gas hubs will influence also in gas prices in Finland.
 - No derogations due to take-or-pay contracts have been applied in Finland.
 - Gas price fluctuations are magnified on an open gas market with several sources, and using UGS will bring benefits – this is the case in developed gas markets in Europe. UGS capacity is sufficient as part of the benefit comes from over-night and short term gas storage, which is used when sufficient capacity is available. Moreover, it is observed that the utilization of Incukalns for Russian gas has decreased over time.
4. Security of supply and energy security
 - As total gas value should increase with higher levels of total gas consumption, it was opted to adjust gas share in country's energy mix based on the forecasted gas demand. This has an implication that the value of 1 gas unit is the same regardless the forecasted annual gas demand. Holding avoided demand disruption constant, value of disrupted demand is the same for each projected gas demand scenario.
 - The methodology used in the CBA is well known. Inputs received from National Emergency Supply Agency and Finnish Ministry of Employment and Economy. European Commission Gas Stress Test methodology is used.

- The two LNG terminals under construction are off grid terminals and have limited possibilities to support pipeline gas market.
 - The new Government Decision on the Objectives for National Emergency Supply (857/2013) which entered into force in December 2013 has changed the obligations for alternative fuel stocks for industrial purposes. This change has been adopted for the basis of the CBA.
5. CO2 cost savings
- Finland has potential disrupted demand in normal operating conditions in ENTSOG Green scenario.

The concerned NRAs' assessment of volume scenarios used in the CBA:

The project promoters have used ENTSOG Green and Grey **scenarios** but also an additional scenario prepared by the promoters. The additional scenario is a more conservative scenario in terms of gas demand in the East-Baltic region taking into account weak gas demand in the past couple of years. The concerned NRAs consider that the project-specific CBA should use the ENTSOG assumptions used in the PCI selection as these have been commonly discussed but also to avoid possible incentive to distort the project benefits during the process from PCI selection to cost-allocation. However, additional plausible scenarios may be presented but need to be properly justified. The NRAs find that recent developments in the gas demand constitute such justification to prepare an additional scenario based on more recent data. The NRAs find the additional scenario prepared by the project promoters plausible. In this respect, the NRAs find that the project promoters' approach to model the ENTSOG scenarios but also the additional scenario strikes a balance of sufficient continuity and commonly established data while also considering the recent market developments.

The concerned NRAs' assessment of assumptions in the calculation of monetised benefits:

The project promoters have analysed historical gas price differences in their assessment of **saved cost of gas** benefit. The concerned NRAs find the assumptions made by the project promoters in calculating this benefit reasonable. Specifically, the NRAs consider it plausible that there is price convergence benefit (to Estonia) before full market integration and particularly feasible, without prejudice to the possibility of limited market opening, that after market opening gas prices would converge in the region and eventually towards Europe.

The project promoters have calculated the benefit in reducing fluctuations in gas price by using gas storage. The concerned NRAs share project promoters' view that in developed market using gas storages can bring price benefits, and find it plausible that there would be capacity in UGS especially for the over-night and short terms gas storage. Thus, in this respect, the NRAs find the presented calculation reasonable.

The project promoters have presented that the **security of supply (technical)** benefit is represented by the value of the avoided demand disruption due to the existence of Balticconnector (for Estonia and Finland) and Estonia-Latvia enhancement. The project promoters have assessed the benefit through GDP and the share of natural gas in the energy mix while considering that some of the gas consumers has the access to the alternative fuel stocks. The concerned NRAs consider that assumptions presented by the project promoters in calculating the security of supply (technical) benefit are reasonable and the disruption mitigation measures as in the use of alternative fuel stock are taken into account.

In addition to the technical security of supply benefit, the project promoters have also presented an **energy security** benefit. The benefit is calculated by assessing the impact of a prolonged supply disruption, a complete halt of Russian gas imports. The concerned NRAs consider that mitigation of such scenarios can contribute significantly in justifying development infrastructure at national level while being particularly difficult to assess in monetised or even quantified terms. The NRAs find that the project promoters' assessment is reasonable and note that the assessment of the benefit is based on European Gas Stress Test exercise.

The concerned NRAs find that the **residual value** benefit is presented in accordance with ACER Recommendation.

The project promoters have presented that the **CO₂ cost savings** benefit is calculated where Balticconnector would add capacity needed to cover the maximum daily and 14-day demand (only in Green scenario), which would otherwise be substituted with other sources of power/heat generation with higher CO₂ emissions. The concerned NRAs find that the project promoters' assumptions in assessing the benefit and the calculation of the benefit is reasonable and presents the benefit in the relevant scenario.

The concerned NRAs' assessment of other assumptions:

The project promoters have made the assumption of **single entry-exit zone** in the Baltics and Finland. The concerned NRAs find that even though, at the date of the investment request, there is no decision to establish a single entry-exit zone in the Baltic and Finnish region, it is a reasonable to assumption to be made in order to fully capture the possible benefits of integrating the markets in the region. Commissioning of the Balticconnector and Estonia-Latvia enhancement projects is a prerequisite of developing the gas markets in the region and further market integration towards Europe. In this respect, the NRAs consider that the assumption of a single entry-exit zone is justified in the context of infrastructure CBA when considering that the projects in question are specifically motivated by the aim to integrate the gas markets. The NRAs find the conservative assumption of two year transition period after the project commission reasonable.

Considering the above, **the concerned NRAs find that the project promoters' assumptions and calculations of economic benefits in the CBA are appropriate and presents the projects' net impacts to relevant member states.**

2.6 Assessment of the business plan and financing strategy

The project promoters have presented that to promote market integration and competition, it is envisioned that the Balticconnector and Estonia-Latvia interconnection will be given to market use in the framework of Finnish-Baltic single entry-exit model (excluding the first two years of operation (2020-2021), when the revenues will come from capacity booking until full market integration is achieved in 2022). The concerned NRAs share the project promoters' view that the envisioned approach give the developed infrastructure to market with single entry-exit model would be the model with the highest socio-economic benefits arising from the projects. The concerned NRAs find that achieving this model after two years of operation reasonably considers the transition period of market opening while ensuring the financeability during this transition by generating revenues from capacity booking. The concerned NRAs find that the calculated revenues from capacity booking are reasonably presented and reflect the non-binding market test results.

The project promoters have presented that the investment to the Balticconnector and Estonia-Latvia Enhancement is foreseen to be financed partially by EU funds and the remaining part by the project promoters. The concerned NRAs consider that as the project promoters' financing strategy relies partly on EU funds, the realisation of this co-funding as foreseen by the promoters constitutes a significant risk to the project financing and development.

2.7 Financial assessment

The project promoters have presented separately calculated financial performance indicators for Estonia and Finland with several assumptions.

The concerned NRA notes that financial performance calculation is carried out in line with the current regulatory framework and the methodology makes appropriate assumptions. However, the analysis submitted by the project promoters is dependent on many assumptions for example the Balticconnector's average annual capacity bookings and tariffs.

2.8 Impact on Network Tariffs

The concerned NRAs have assessed the project promoters' tariff calculation while considering the comments made by the Finnish TSO in its consultation response to project promoters on 29 March 2016 and to NRAs on 20 April 2016.

The project promoters have stated that over the first two years of operation (2020 - 2021) the size of transmission charges are set at the level to cover the OPEX of the particular period. Revenues from capacity booking on the Balticconnector are distributed equally between Finland and Estonia.

From 2022 the Balticconnector and Estonia-Latvia Enhancement are expected to be given to the market use in the framework of Finnish-Baltic single entry-exit zone. The costs will be socialized in the TSO tariffs.

The share of the investment financed by the project promoters will be included in the TSO tariffs in Estonia and in Finland, where a single TSO-model or two TSO model will be applied.

The Finnish part of the investment will be financed by the state equity (part not covered by EU funding) and the tariff will be set at the level of OPEX and financing expenses.

The Estonian tariff calculation will be approved by the Estonian regulator. The tariff consist of OPEX, reasonable return and depreciation. During the investment period half of the reasonable return is included into the tariff. Reasonable return will be calculated based on regulated asset base and latest available level of WACC is used. Investment costs are divided between Estonia and Finland.

The project promoters have demonstrated the financial need of the EU Funding using 'the fund gap method' where EU's co-financing contribution for each country was determined by multiplying eligible costs by the gap rate and by the anticipated 75% EU co-financing rate.

Tariff per MWh is calculated by dividing the tariff peak impact with average gas consumption in the peak year 2020 at different levels of EU funding. The EU co-financing is excluded from the regulated asset base for the tariff calculation. In case of lower EU financing rate tariff impacts are even higher. Tariff peak impact in Estonia at the first year of operation with 75% EU Funding level is 5,6 MEUR (58,84%) and in Finland 1,50 MEUR (1,72%).

In Finnish regulatory framework components funded with subsidies are not included in adjusted net present value of the network assets and no reasonable return is obtained on them. Finnish regulatory framework has investment incentive mechanism where components funded with subsidies are taken into account in the adjusted replacement values of the network assets when calculating adjusted straight-line depreciations of the networks assets and this incentive mechanism has some impacts on network tariffs.

In case of lower EU co-Financing rate, part of the Finnish investment not covered by EU co-financing and state investment would be included in the regulated asset base and tariff impact would be significant. For Finland after-tax WACC of 6,41% has been used in calculation. According to regulatory methods nominal post-tax WACC will be 6,54% in 2016.

The concerned NRAs find that tariff impact for Estonia is notable in all EU co-financing levels and the increase in network tariffs will have effects on competitiveness on gas in both countries. Finnish gas sector is functioning in relatively competitive markets and there are alternative energy sources to gas. Competitiveness level of gas has been low in recent years and as a result even small increase in gas network tariffs may have significant effects. For the same reasons it is possible that TSO is not able to collect the full amount of allowed regulatory earnings.

The concerned NRA notes that tariff calculation is carried out in line with the current regulatory framework and methodology makes appropriate assumptions that takes into account existing costs and potential future costs. At the same time the outcome of tariffs analysis submitted by the project promoters is dependent on many assumptions for example the Balticconnector's average annual capacity bookings, gas demand and gas prices in Finland and Baltic States.

Calculated revenues from the capacity booking are based on market test results and analysis that in year 2020 total expected annual volume of Balticconnector and Estonia-Latvia Enhancement will be 5750 GWh and utilization rate 21,3%. As stated above, these analysis are dependent on many assumptions for example the quantity of stored and consumed gas and that Finland is assumed to use from the Latvian UGS.

Considering the above, **the concerned NRAs find that the project promoters' tariff calculation is carried out in line with the current regulatory framework and**, while is being subject to several assumptions, **appropriately presents the possible tariff impacts.**

2.9 Regional and EU-Wide Positive Externalities of the Project

The concerned NRAs note that the projects are essential elements in ending the Finnish gas isolation, and in first stage connecting Finland to the Baltic gas market and later to European gas market development. Thus, the projects generate positive externalities in terms of enhancement of competition and market integration, security of gas supply and sustainability in the Finnish-Baltic region, and contributes to the European energy policy goals.

2.10 Cross-border cost allocation

The project promoters have proposed a CBCA compensation from Finland to Estonia amounting to 5,7 MEUR.

After reviewing and assessing the investment requests, the concerned NRAs find that justifications behind the CBCA proposal are reasonable. The concerned NRAs do not consider it justified to allocate costs to Latvia due to very small share of Latvian benefit in total benefit.

**COMPETITION AUTHORITY (ESTONIA) AND ENERGY AUTHORITY (FINLAND)
HAVE AGREED TO ADOPT THE FOLLOWING IN THEIR NATIONAL
DECISIONS:**

Article 1

Lump-sum payment of 5,7 MEUR shall be provided by the Baltic Connector Oy, to the Estonian TSO, Elering AS, to the extent not covered by EU funding.

Article 2

The lump-sum payment referred to in Article 1 is due on the day following the commissioning date of the projects.

In the event that actual investment costs are below the costs indicated in the investment request, the compensation payment indicated in Article 1 shall be adjusted according the ratio between the actual investment costs of the projects in nominal terms and the expected costs of the projects in nominal terms. No adjustment of compensation payment shall be carried out in case the actual investment cost as of the commissioning date exceeds the cost indicated.

In case the commissioning date of the projects occurs after 1 January 2020, the compensation payment indicated in Article 1 shall be adjusted for actual inflation for the Euro area as reported by Eurostat for the year of 2019 and for each subsequent year, pro rata for each day between 1 January 2020 and the commissioning date of the projects. No adjustment of compensation payments for inflation shall be carried out if the projects date of commissioning occurs in 2019.

Article 3

In case of upwards deviation of the capacity bookings and/or tariffs for capacity bookings for Balticconnector from the levels assumed by the project promoters in the investment request, the additional revenue resulting from such deviation(s) shall be distributed by the relevant system operators taking into account paid contribution and monitored by NRAs.

No re-distribution of the compensation payment is to be made in case of annual downwards deviation of the revenues from capacity booking levels from the levels assumed by the project promoters in the investment requests.

Article 4

Pursuant to Article 12(1) of Regulation (EU) No 347/2013, the investment costs borne by the Estonian TSO, insofar as they are efficiently incurred, shall be taken into account in the regulatory asset base when network tariffs are fixed or approved.

Pursuant to Article 12(1) of Regulation (EU) No 347/2013, the investment costs borne by the Finnish project promoter, insofar as they are efficiently incurred, shall be taken into account in the regulatory asset base of the system operator for the developed infrastructure when network tariffs are fixed or approved.

Article 5

This cross-border cost allocation agreement replaces the Cross-Border Cost Allocation Agreement between the Estonian Competition Authority and Energy Authority of Finland dated 12 October 2015.

Article 6

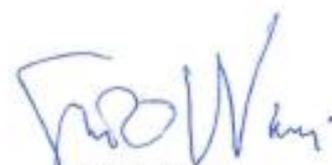
This cross-border cost allocation agreement is addressed to the following project promoters:

Promoter	Country	Contact details
Elering AS (TSO)	Estonia	Address: Laki 24, 12915 Tallinn, Estonia Phone: +372 7151222 Fax: +372 7151200 E-mail: info@elering.ee
Baltic Connector Oy	Finland	Address: c/o Ministry of Employment and the Economy, P.O. Box 32, Government, FI-00023, Finland Phone: +358 50 462 0788

Tallinn, 22 April 2016



Märt Ots
Director General
Competition Authority



Simo Nurmi
Director General
Energy Authority