

Ministry of Energy
of the Republic of Lithuania

**Report on investments
in modernising electricity generation
pursuant to article 10c(1) of directive 2003/87/EC**

March 2016

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1 INTRODUCTION

The Report on investments made in modernisation of electricity generation sector pursuant to article 10c (1) of Directive 2003/87/EC has been prepared in accordance to the provisions of the following legal acts and documents:

- › Article 6.3. of the Communication from the Commission "Guidance document on the optional application of Article 10c of Directive 2003/87/EC";
- › Item 2.4 of the Order of the Minister of Environment and Minister of Energy No. D1-559/1-179 "On transitional free allocation of emission allowances for the electricity producers in 2013-2020", 14 July 2011 (hereinafter - Joint Order);
- › Application of the Republic of Lithuania for transitional free allocation of emission allowances under Article 10c of Directive 2003/87/EC, approved by the COMMISSION DECISION of 23.5.2012 concerning the application pursuant to Article 10c (5) of Directive 2003/87/EC of the European Parliament and of the Council to give transitional free allocation for the modernisation of electricity generation notified by Lithuania (hereinafter – Application).

The Report is based on individual reports and evidence documents submitted by the operators from electricity sector on investments made in 2015.

2 Investments implemented in electricity sector in 2015

2.1 List of participants

During the reporting period, 1 (out of total 8) operator have reported on implementation of modernization investments in 1 (out of 12) installation of electricity sector. The list of operators that implemented investments in 2015 is presented in Table 1 below:

Table 1: List of operators that invested in modernization of electricity sector in 2015

Installation ID in the National Investment Plan	Installation name	Installation ID in the Union registry	Operator	Company group
LT-005	Lietuvos Power plant	LT087	Lietuvos energijos gamyba, AB	Lietuvos energijos gamyba

2.2 List of investments

A list of investments implemented in 2015 and the schedule of planned investments in 2016-2020 are presented in Table 2 and Table 3 accordingly:

Table 2: List of investments 2015

Investment number	Operator	Installation	Installation ID in the National Investment Plan	Installation ID in the Union registry	Description	Investment plan (total amount)		Invested amount in 2015		Comments
						LTL	EUR	LTL	EUR	
TOTAL:									8.051.679	
LT-\$-0035	Lietuvos energijos gamyba	Lietuvos Power plant	LT-005	LT087	Investment in reduction of energy consumption for electricity production	2.350.000	680.607	-	80.280	Ongoing investment: the electrolyser has been changed and the rest of investments should be done in the near future.
LT-\$-0039	Lietuvos energijos gamyba	Lietuvos Power plant	LT-005	LT087	Construction of biofuel power plant	90.000.000	26.065.802	-	7.971.399	Finished investment. The decrease of CO ₂ emissions generated in heat production in 2015 compared to 2014 is 12.787 t. The Company started public procurement procedures for audit services. The auditor's report is expected by the end of June 2016.

The rest of planned investments in 2016-2020 are shown in Table 3 below:

Table 3: Investment schedule for 2016-2020

Investment number	Value		Invested amount in 2013		Investments in 2014		Investments in 2015	Investments in 2016	Investments in 2017	Investments in 2018	Investments in 2019	Investment in 2020
	LT	EUR	LTL	EUR	LTL	EUR	EUR	EUR	EUR	EUR	EUR	EUR
							EUR	EUR	EUR	EUR	EUR	EUR
	3.235.127.272	936.957.620	1.545.056.354	447.479.250	64.819.316	18.772.972	8.051.679	202.734	47.121.177	12.250.927	97.312.326	3.077.603
LT-\$-0001	86.900.000	25.167.980	87.149.205	25.240.154	Finished							
LT-\$-0002	42.300.000	12.250.927				0	0	0	0	12.250.927	0	0
LT-\$-0003	12.700.000	3.678.174		0		0	Postponed to 2017	0	3.678.174	0	0	0
LT-\$-0004	12.000.000	3.475.440	Investment cancelled due to changed needs.									
LT-\$-0005	900.000	260.658	Investment cancelled due to changed needs.									
LT-\$-0006	900.000	260.658		0	893.200	258.689	Finished					
LT-\$-0007	500.000	144.810	698.169	202.204	Finished							
LT-\$-0008	17.166.000	4.971.617	16.345.623	4.734.020	Finished							
LT-\$-0009	45.000.000	13.032.901	Investment cancelled due to changed needs.									
LT-\$-0010	95.000.000	27.513.902	Investment cancelled due to changed needs.									
LT-\$-0011	530.000.000	153.498.610	Investment cancelled due to changed needs.									
LT-\$-0012	600.000	173.772		0		0	0	0	0	0	0	173.772
LT-\$-0013	2.000.000	579.240		0		0	0	0	0	0	0	579.240
LT-\$-0014	500.000	144.810		0		0	0	0	0	0	0	144.810
LT-\$-0015	118.720.000	34.383.689	Investment cancelled due to changed needs.									
LT-\$-0016	50.000.000	14.481.001	Investment cancelled due to changed needs.									
LT-\$-0017	15.500.000	4.489.110	15.701.130	4.547.362	Finished							
LT-\$-0018	50.470.000	14.617.122	47.901.755	13.873.307	Finished							
LT-\$-0020	98.885	28.639	98.885	28.639	Finished							
LT-\$-0021	700.000	202.734		0		0	202.734	0	0	0	0	0
LT-\$-0022	150.000.000	43.443.003		0		0	Postponed to 2017	0	43.443.003	0	0	0
LT-\$-0023	259.000.000	75.011.585	Investment cancelled due to changed needs.									
LT-\$-0024	7.200.000	2.085.264		0		0	0	0	0	0	0	2.085.264
LT-\$-0025	336.000.000	97.312.326		0		0	0	0	0	0	97.312.326	0
LT-\$-0026	2.400.000	695.088	Investment cancelled due to changed needs.									
LT-\$-0027	40.942.000	11.857.623	43.251.838	12.526.598	Finished							
LT-\$-0028	2.721.000	788.056	2.757.961	798.761	Finished							
LT-\$-0029	57.000	16.508	75.628	21.903	Finished							
LT-\$-0030	20.314.000	5.883.341	20.313.813	5.883.287	Finished							
LT-\$-0031	1.226.008.000	355.076.460	1.305.009.902	377.956.992	Finished							
LT-\$-0033	5.269.387	1.526.120	4.132.313	1.196.801	1.137.074	329.319	Finished					
LT-\$-0034	3.000.000	868.860	Postponed to 2015		Investment cancelled due to changed needs.							
LT-\$-0035	2.350.000	680.607	46.700	13.525	1.699.760	492.285	80.280	0	0	0	0	94.517
LT-\$-0036	250.000	72.405	75.000	21.722	Finished							
LT-\$-0037	800.000	231.696	Investment cancelled due to changed needs.									
LT-\$-0038	900.000	260.658	Investment cancelled due to changed needs.									
LT-\$-0039	95.961.000	27.792.227	1.498.432	433.976	61.089.282	17.692.679	7.971.399	Finished. The Company started public procurement procedures for audit services. The auditor's report is expected by the end of June 2016.				

2.1 Evidence documents

According to item 2.4 of the Joint Order, all operators must submit their annual reports together with the Statement of an independent certified auditor or audit company on investments made in improvement of infrastructure, on implementation of environment-friendly technologies that reduce GHG emissions and investment amount in energy sector to the Ministry of Energy. The list of evidence documents submitted by the operators is provided in the Table 4 below:

Table 4: List of documents supporting the investments

Investment number	Operator	Installation	Installation ID in the National Investment Plan	Installation ID in the Union registry	Supporting documents
LT-\$-0035	Lietuvos energijos gamyba	Lietuvos Power plant	LT-005	LT087	1. VAT invoice No 9130047970 and Act on takeover of works, 30 January 2015, (2 pages); 2. VAT invoice No BTA0014631 and Act on takeover of works, 26 January 2015, (2 pages).
LT-\$-0039	Lietuvos energijos gamyba	Lietuvos Power plant	LT-005	LT087	1. Accounting statement No 2015/01-34, 1 January 2015 (1 page); 2. VAT invoice No KERD0003592 (1 page) and Partial interim statement, 16 January 2015 (2 pages); 3. Banking payment under a credit agreement, 30 January 2015 (1 page); 4. Accounting statement No 2015/01-33, 31 January 2015 (1 page); 5. Lietuvos energijos gamyba, AB report, 31 January 2015 (1 page); 6. Accounting statement No 2015/01-25, 31 January 2015 (1 page); 7. Accounting statement No 2015/01-48, 31 January 2015 (1 page); 8. VAT invoice No 005507 (1 page); 9. Banking payment under a credit agreement, 27 February 2015 (1 page); 10. Accounting

					<p>statement No 2014/02-32, 28 February 2015 (1 page); 11. Accounting statement No 2015/03-53, 31 March 2015 (1 page); 12. Banking payment under a credit agreement, 31 March 2015 (1 page); 13. Accounting statement No 2014/03-49, 31 March 2015 (1 page); 14. VAT invoice No 005862 (1 page); 15. VAT invoice No 007473 (2 pages); 16. VAT invoice No 032534 (2 pages); 17. Banking payment under a credit agreement, 30 April 2015 (1 page); 18. Accounting statement No 2014/04-36, 30 April 2015 (1 page); 19. Accounting statement No 2015/04-40, 30 April 2015 (1 page); 20. Accounting statement No 2015/04-51, 30 April 2015 (1 page); 21. VAT invoice No KERD0003873 (1 page) and Partial interim statement, 13 May 2015 (4 pages); 22. VAT invoice No KERD0004347 (1 page) and Final investment report, 22 October 2015 (2 pages); 23. VAT invoice No KERD0004342 (1 page) and Final investment report, 22 October 2015 (2 pages).</p> <p>It should be noted that other costs incurred also are attributable to the investment, such as a bank loan, capitalized earnings, insurance costs and other costs associated with the project. All these costs, including mentioned herein, will be proved and audited by the end of June 2016. Currently the Company started public procurement procedures for audit services.</p>
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Copies of the documents (in Lithuanian language) mentioned in the Table above are available in the Ministry of Energy of the Republic of Lithuania, Division of Renewable energy sources and shall be presented upon request, ref. Sergej Garbar, Sergej.Garbar@enmin.lt

2.1 Compliance indicators

Compliance indicators for the investments set out in the National Plan are the following:

- Comparison of the emission factor of the technology adopted by each installation due to investments undertaken under Article 10c of Directive 2003/87/EC with the emission factor of the technology used before the retrofitting/ upgrading, t CO₂/MWh;
- Expected and implemented decrease in total greenhouse gases emissions generated by electricity production due to investments undertaken under Article 10c (compared to business as usual scenario);
- Expected and implemented efficiency gains in electricity generation process is expressed as the ratio of the electricity produced (in TJ) with the energy input from fuels (in TJ). Efficiency increase is measured as rated difference before and after the investment;
- Efficiency gains in electricity distribution networks shall be determined as a reduction of network losses.

Compliance indicators achieved by the completely implemented investments in modernisation of electricity sector are provided in Table 5 below:

Table 5: Compliance indicators of the finished investments, 2015

Investment number	Description	Invested amount in 2015	Compliance indicators		
		EUR	Increase of efficiency in electricity production, %	Reduction of CO ₂ emissions in electricity production, t/year	Change in emission factor, t CO ₂ /TJ
LT-\$-0039	Construction of biofuelpower plant	7.971.399	-	-	20,92

3 Allocation for 2013-2019 based on investments

According to the provisions of the National investment plan, emission allowances allocated pursuant to Article 10c of the ETS Directive shall be transferred to an operator only after the investment eligible under the National Plan is undertaken. Pursuant to the Part C.2.1 of the Application, if the amount of investment undertaken by an operator is higher than the value of free emission allowances allocated under Article 10c of the ETS Directive, he/she receives the amount of allowances not higher than he/she was allocated in a given year according to the National Plan. The excess value of investments in a given year may be used for compliance with the next years' allocation. Table 6 below shows allocation for 2013 – 2019 based on investments implemented in 2015. Grey cells illustrate the possible allocation in later years after the investments are undertaken by the rest of installations.

Table 6: allocation for installations based on implemented investments in 2015

Installation ID in the National Investment Plan	Installation name	Installation ID in the Union registry	Operator	Actual transitional free allocation (plan)										Allocation equal to total investment value in 2013	Allocation equal to total investment value in 2014	Allocation equal to total investment value in 2015	Allocation based on investments (fact) and adjusted to ATF allocation (plan), EUA										Total surplus / shortage of generated EUA			Sum of costs reported, EUR			Sum of costs used to balance allowances, EUR		
				TOTAL	2013	2014	2015	2016	2017	2018	2019	2020	2013				2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2013	2014	2015	2013	2014	2015			
				0,247	0,228	0,207	0,182	0,154	0,122	0,072	0,000																								
TOTAL numbers:				2.853.624	582.373	536.614	486.698	428.459	361.901	287.027	170.552	0	30.859.705	938.649	0	322.449	297.113	289.475	241.009	253.819	201.599	119.790	0	30.278.265	22.282.298	21.795.600	447.479.250	16.772.971	8.051.679	8.444.409	10.732.280	9.733.960			
LT-001	Noreikiskes boiler house	LT072	Kauno energija	4.078	832	767	696	612	517	410	244	0	0	0	0	0	0	0	0	0	0	0	-832	-1.599	-2.295	0	0	0	12.064	15.340	13.920				
LT-002	Petrasiūnai power plant	LT069	Kauno energija	6.214	1.268	1.169	1.060	933	788	625	371	0	0	0	0	0	0	0	0	0	0	0	-1.268	-2.437	-3.497	0	0	0	18.386	23.380	21.200				
LT-003	Power plant	LT065	Klaipėdos energija	25.170	5.137	4.733	4.293	3.779	3.192	2.532	1.504	0	0	0	0	3.779	3.192	2.532	1.504	0	0	0	-5.137	-9.870	-14.163	0	0	0	74.487	94.660	85.860				
LT-004	Kaunas Power plant	LT068	KTE	396.212	80.860	74.506	67.576	59.490	50.248	39.852	23.680	0	0	0	0	0	50.248	39.852	23.680	0	0	0	-80.860	-155.366	-222.942	0	0	0	1.172.470	1.490.120	1.351.520				
LT-005	Lietuvos Power plant	LT067	Lietuvos elektrinė	1.398.395	285.387	262.963	238.502	209.963	177.347	140.655	83.578	0	27.507.142	925.714	0	285.387	262.963	238.502	209.963	177.347	140.655	83.578	0	27.221.755	20.398.524	20.160.022	398.853.565	18.514.283	8.051.679	4.138.112	5.259.260	4.770.040			
LT-006	Alytus boiler house	LT066	Litesko	28.591	5.835	5.376	4.876	4.293	3.626	2.876	1.709	0	1.740.700	12.934	0	5.835	5.376	4.876	4.293	3.626	2.876	1.709	0	1.734.865	1.265.336	1.260.460	25.240.154	258.688	0	84.608	107.520	97.520			
LT-007	Druškinkai Pramonės boiler house	LT078	Litesko	2.913	595	548	497	437	369	293	174	0	0	0	0	0	0	0	293	174	0	0	-595	-1.143	-1.640	0	0	0	8.628	10.960	9.940				
LT-008	Marijampole boiler house	LT065	Litesko	7.767	1.585	1.461	1.325	1.166	985	781	464	0	13.945	0	0	1.585	1.461	1.325	1.166	985	781	464	0	12.360	7.500	6.175	202.204	0	0	22.983	29.220	26.500			
LT-010	Siauliai Southern boiler house	LT060	Šiaulių energija	9.322	1.903	1.753	1.590	1.400	1.182	938	557	0	958.755	0	0	1.903	1.753	1.590	1.400	1.182	938	557	0	956.852	691.965	690.375	13.901.946	0	0	27.594	35.060	31.800			
LT-011	Utena boiler house	LT067	Utenos ŠT	746	152	140	127	112	95	75	45	0	313.611	0	0	152	140	127	112	95	75	45	0	313.459	227.118	226.991	4.547.362	0	0	2.204	2.800	2.540			
LT-012	CHP No. 2	LT044	Vilniaus energija	135.178	27.587	25.420	23.055	20.296	17.144	13.597	8.079	0	326.484	0	0	27.587	25.420	23.055	20.296	17.144	13.597	8.079	0	298.897	191.280	168.225	4.734.020	0	0	400.012	508.400	461.100			
LT-013	CHP No.3	LT045	Vilniaus energija	839.037	171.232	157.778	143.101	125.978	106.408	84.393	50.147	0	0	0	0	0	0	0	0	0	0	0	0	-171.232	-329.010	-472.111	0	0	0	2.482.864	3.155.560	2.862.020			

4 CONCLUSIONS

Out of 35 investments approved in the National Investment Plan, only 2 have been undertaken during the reporting period of 2015, 6 have been cancelled and 2 postponed to the later year. From all the 2 investments that have taken place during the 2015, 1 investment has been finished and 1 investment is ongoing.

According to the allocation plan, total amount of 486.698 EUAs is planned to be allocated in 2015. However, not all the installations were involved in the investment process until 2015 therefore the final allocation for 2015 amounts to 269.475 EUAs (55% of planned in 2015).

It should be noted that emission allowances, allocated to 2015 does not include cost reported by Lietuvos energijos gamyba, AB in 2015, because it was not audited. All costs reported by Lietuvos energijos gamyba, AB in 2015 will be proved and audited by the end of June 2016. Currently the Company started public procurement procedures for audit services.

Pursuant to the Part C.2.1 of the Application, it should not affect the allocation for 2015, provided to Lietuvos energijos gamyba, AB, because sufficient previous investments have been reported to justify the free allocation for 2015.

Annex I

Table 7: Compliance indicators of the finished investments, 2014

Investment number	Description	Invested amount in 2014		Compliance indicators		
		LTL	EUR	Increase of efficiency in electricity production, %	Reduction of CO ₂ emissions in electricity production, t/year	Change in emission factor, t CO ₂ /TJ
LT-S-0006	Reconstruction of transformer station KTP-102 in Alytus RK	900.000	260.658	Compliance with UCTE reliability requirements		
					14,78 CO ₂	
LT-S-0033	Reconstruction of wastewater handling equipment reducing electricity consumption for managing of technological wastewater	4.132.313	1.196.801	62,3		

Table 8: Compliance indicators of the finished investments, 2013

Investment number	Description	Invested amount in 2013		Compliance indicators		
		LTL	EUR	Increase of efficiency in electricity production, %	Reduction of CO ₂ emissions in electricity production, t/year	Change in emission factor, t CO ₂ /TJ
LT-S-0001	Construction of 5,4 MWe biomass CHP in Alytus RK	87.149.205	25.240.154	4,1	6.357	
LT-S-0007	Reconstruction of 0,4 kV switchyard in Marijampole RK	698.169	202.204	Compliance with UCTE reliability requirements		
LT-S-0008	Reconstruction of 6 kV switchyard of CHP No.2	16.345.623	4.734.020	Compliance with UCTE reliability requirements		
LT-S-0017	Construction of biofuel CHP	15.701.130	4.547.362	14	15.482	
LT-S-0018	Installation of biofuel CHP	47.901.755	13.873.307		5.161	-108,5
LT-S-0020	Optimisation of burning process in steam boiler No. 3	98.885	28.639		240	
LT-S-0027	Plant reconstruction to increase efficiency: more electricity is produced with the same installed capacity in KHE	43.251.838	12.526.598	4		
LT-S-0028	Reconstruction of hydrounits regulation systems to increase efficiency: more electricity is produced with the same installed capacity in KHAE	2.757.961	798.761	Compliance with UCTE reliability requirements		
LT-S-0029	Installation of solar collectors for feeding water preparation. Conservation of electricity in KHAE	75.628	21.903	10		
LT-S-0030	Modernization of managing systems to increase efficiency	20.313.813	5.883.287	0,05		
LT-S-0031	Building of a new 455 MW capacity KCDT block (closing two blocks) to increase electricity production efficiency about 30%	1.305.009.902	377.956.992	93		
LT-S-0036	Reduction of energy consumption for preparation of chemically treated water used for electricity production	75.000	21.722	35,8		