

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**

January 2018

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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, 2016 and 2017.

## 2 Investments implemented in electricity sector in 2017

### 2.1 List of participants

During the reporting period, neither (out of 8) operator has reported on implementation of modernization investments in installation of electricity sector.

### 2.2 List of investments

The rest of planned investments in 2018-2020 are shown in Table 1 below:

Table 1: Investment schedule for 2018-2020

| 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  |
|                   |               |             |                         |             |                     |            |                     |                     |  |  |                     |  |
|                   | 3 235 127 272 | 936 957 620 | 1 545 056 354           | 447 479 250 | 64 819 316          | 18 772 972 | 8 051 679           | 129 356             |  |  |                     |  |
| 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  | 12 250 927                                 | 0                   | 0  |
| LT-\$-0003        | 12 700 000    | 3 678 174   |                         |             |                     |            |                     | Postponed to 2017   |  |  |                     |  |
| 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     |                         |             |                     |            |                     |                     |  | Investment cancelled due to changed needs. |                     |  |
| LT-\$-0022        | 150 000 000   | 43 443 003  |                         |             |                     |            | Postponed to 2017   |                     |  |  |                     | Investment removed.                        |
| 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                   | 81 696              | 0  | 0  | 0                   | 2 003 568                                  |
| 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              | 47 660              |  |  |                     | Finished.                                  |
| 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.                                  |

### 2.3 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.

It should be noted that Statement of independent certified auditor about investments made by Lietuvos energijos gamyba, AB in 2015 and 2016, has been added.

### 2.4 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 CO<sub>2</sub>/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 Annex.



## 4 CONCLUSIONS

Out of 37 investments approved in the National Investment Plan, 16 are implemented. During the reporting period of 2017 1 investment has been canceled, 1 removed and 1 investment is ongoing.

According to the allocation plan, total amount of 361.901 EUAs is planned to be allocated in 2017. However, not all the installations were involved in the investment process until 2017 therefore the final allocation for 2017 amounts to 200.379 EUAs (55% of planned in 2017).

**It should be noted that emission allowances, allocated to 2015 and 2016 was updated, according to Lietuvos energijos gamyba, AB audit report on the investment made in 2015 and 2016. Report is correct and does not affect the allocation for 2015 and 2016, provided to Lietuvos energijos gamyba, AB.**

**It should be noted that on March 29, 2017 the operator of installations (ID in the Union registry LT044 and LT045) has been changed, because the concession contract with UAB „Vilniaus energija" has expired.**

## Annex

**Table 3: 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 <sub>2</sub> emissions in electricity production, t/year | Change in emission factor, t CO <sub>2</sub> /TJ |
| LT-S-0039         | Construction of biofuelpower plant | 7.971.399               | -   | -  | 20,92  |

**Table 4: 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 <sub>2</sub> emissions in electricity production, t/year | Change in emission factor, t CO <sub>2</sub> /TJ |
| LT-S-0006         | Reconstruction of transformer station KTP-102 in Alytus RK  | 900.000                 | 260.658   | Compliance with UCTE reliability requirements       |  |  |
| LT-S-0033         | Reconstruction of wastewater handling equipment reducing electricity consumption for managing of technological wastewater | 4.132.313               | 1.196.801 | 62,3  | 14,78 CO <sub>2</sub>  |  |

**Table 5: 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 <sub>2</sub> emissions in electricity production, t/year | Change in emission factor, t CO <sub>2</sub> /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  |  |  |