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**Report to the European Commission
on the implementation of
the ITC mechanism in 2016**

December 2017

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1 Introduction

Pursuant to point 1.4 of Annex Part A of Commission Regulation (EU) No 838/2010 on laying down guidelines relating to the inter-transmission system operator compensation mechanism and a common regulatory approach to transmission charging¹ (the “Regulation”), the Agency for the Cooperation of Energy Regulators (the “Agency”) is responsible, since 2012, for preparing a yearly monitoring report on the implementation of the Inter-Transmission System Operator Compensation (“ITC”) mechanism and the management of the ITC Fund. The data and information used for compiling this Report² were provided by the European Network of Transmission System Operators for Electricity (“ENTSO-E”) and by the National Regulatory Authorities (“NRAs”) of the Member States participating in the ITC mechanism, as well as those non-EU Member State countries who are participating in the Agency’s working structures and the ITC mechanism (i.e. Norway and Switzerland).

The ITC scheme, defined by the Regulation, was implemented on 3 March 2011. Under the Regulation, the ITC Fund was established by the ENTSO-E for the purpose of compensating transmission system operators (“TSOs”) for the costs incurred on national transmission systems due to the hosting of cross-border flows of electricity (“transits”). The ITC Fund consists of two parts, which are aimed at covering, respectively, the costs of the incurred transmission losses and the costs of making infrastructure available. TSOs participating in the ITC mechanism (“ITC Parties”) receive compensation from the ITC Fund based on the transits they carry, and contribute to the ITC Fund based on their net import and export flows. Non-participating countries connected to the ITC Parties (“Perimeter countries”³) pay a transmission system use fee for their scheduled imports from and scheduled exports to the ITC Parties’ networks.

The implementation of the provisions of the Regulation regarding the ITC mechanism and the management of the ITC Fund is carried out by ENTSO-E through the legal framework of the ITC Clearing and Settlement Multi-Year Agreement (“ITC Agreement”) concluded on 9 February 2011 and currently comprises 35 ITC Parties⁴. The ITC Agreement contractually sets out ENTSO-E’s and ITC Parties’ duties and entitlements. It also sets out detailed ITC procedures, including the submission, audit and validation of data, calculation of compensation and contribution amounts, and the clearing and settlement of the ITC Fund.

The Agency has reviewed the implementation of the ITC mechanism and the management of the ITC fund in 2016 based on:

- The ITC Agreement and its amendments;
- Relevant data and information from ENTSO-E in relation to the implementation of the ITC mechanism in 2016;
- NRAs’ criteria for the valuation of transmission losses for the purpose of calculating the losses’ compensation amount in the ITC mechanism.

¹ OJ L 250, 24.9.2010, p.5

² The previous ACER ITC Monitoring Reports (regarding ITC implementation in years 2011-2015) are available at the Agency’s website: http://www.acer.europa.eu/Official_documents/Publications/Pages/Publication.aspx

³ Belarus, Moldova, Morocco, Russian Federation, Turkey and Ukraine

⁴ All EU Member States including Northern Ireland (as a separate ITC party) except Cyprus and Malta and the following third countries: Albania, Bosnia and Herzegovina, Kosovo, FYR of Macedonia, Montenegro, Norway, Serbia and Switzerland

2 Review of the 2016 ITC implementation

2.1 Alignment between the 2016 ITC implementation and the Regulation

As a major change compared to previous year, the TSO of Kosovo (KOSTT) participated for the first time in the ITC mechanism. Since no other major amendments to the ITC Agreement were introduced in 2016⁵, the Agency concludes that the general arrangements are still in line with the guidelines set out in the Regulation.

2.2 Accuracy of data

Through the ITC Agreement, ENTSO-E appointed two TSOs (Amprion GmbH and Swissgrid ag) as 'ITC Data Administrators' to manage relevant data and to carry out the clearing and settlement. The ITC Agreement includes yearly and monthly data audits and/or validation procedures involving all ITC Parties. The internal audit on the 2016 data submitted by the ITC Parties for the preliminary settlements did not detect the need for further corrections of the monthly results.

In a letter dated 28 July 2017, ENTSO-E submitted to the Agency data relating to the implementation of the ITC mechanism in 2016, marked as preliminary data, as well as some relevant descriptive information⁶. In this letter, ENTSO-E informed the Agency that one ITC Party requested on 1 March 2017 to correct the final settlements for the period April-July 2016 due to error in data provision by the same ITC Party⁷. However, as the request for correction by the ITC Party was made after the final settlements for the given time period were validated and signed by all ITC Parties, (i.e. after the settlements became binding pursuant to the ITC Agreement), no change was made in the final settlements for the period April-July 2016. Further, the Agency was informed by ENTSO-E that the netted final settlement for July-December had not been signed by the concerned ITC Party.

The Agency regards that the self-governance arrangement in the operation of the ITC mechanism is in principle an appropriate approach and ought to be sufficient for assuring the accuracy of the operation of the ITC mechanism. Therefore, the Agency does not consider it necessary for its own review to conduct a detailed audit or validation of all the input and intermediate data used in the operation of the 2016 ITC mechanism. The above revealed error in data provision and the claim to correct it, might indicate that there is scope for strengthening the quality assurance process in the ITC settlement process and, possibly,

⁵ Amendments in the ITC Agreement were made for: Updated schedules due to results of the last ITC audit and yearly updates; Schedule O (Ex-Ante Financial Spreadsheet), Schedule P (ENTSO-E convention on Business Day), Schedule S (Contact details), Schedule T (List of yearly Vertical Loads), Schedule U (List of lines and measurement points) and Schedule X (Table of losses costs); Technical amendments taken pursuant to Article 7.4.2 of the ITC Agreement and adopted by means of a written notice of the Data Administrators.

⁶ ENTSO-E provided explanations or description of the results for: the calculation of the perimeter country fee; transit reduction and explanations regarding each border where transits are reduced due to the allocation of capacity on interconnections which is not compatible with point 2 of the guidelines of Annex 1 of Regulation 714/2009 (ref. clause 1.6); results of the yearly audit process in terms of identified errors and measures taken for their correction; and the amendments of the ITC Agreement; information on the decisions on value of losses in non-EU countries.

⁷ Based on the information provided by ENTSO-E, ITC Party Svenska Kraftnät (SvK) requested correction in the ITC settlements due to errors in data in snapshots provided by SvK. Due to these errors SvK received from the ITC Fund approximately 5 million EUR less compared to the amount which would have resulted if the data provided had been correct.

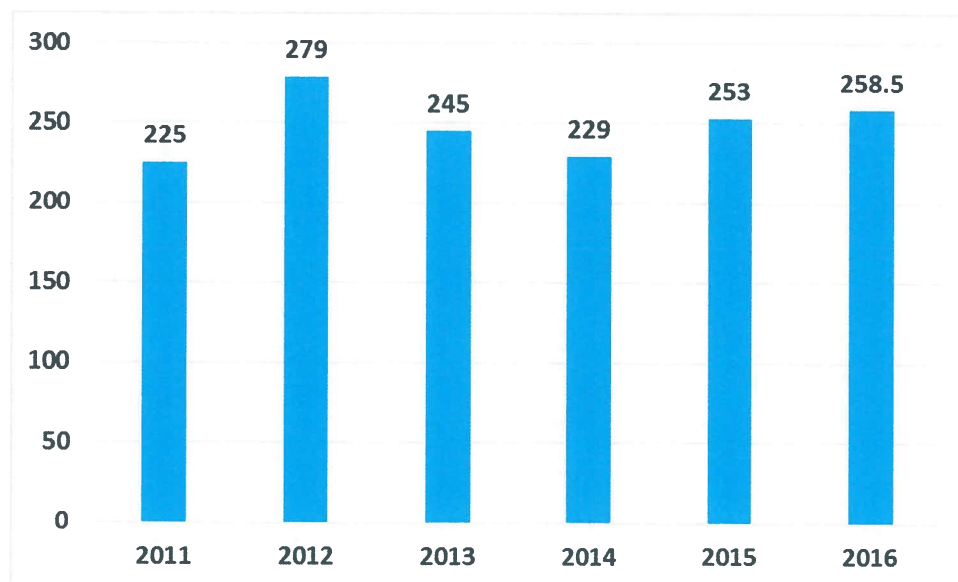
explicitly to address the issue of correction in data after the signed settlements. The Agency recommends ENTSO-E promptly to provide all due information pursuant to point 1.4 of Annex Part of the Regulation, should ENTSO-E decide to take any actions for amending the ITC rules in this regard.

2.3 ITC fund in 2016

In 2016, the ITC fund amounted to €258.5 million, consisting of €100 million related to costs of transmission infrastructure which is made available for transits and €158.5 million related to the costs of incurred transmission losses due to transits. Of the total ITC Fund, €247.2 million were recovered through contributions from the ITC Parties and the remaining €11.3 million through the Perimeter countries' fees.

As shown in Figure 1, the downward trend of the ITC fund amount observed in 2013 and in 2014 stopped in 2015. In 2016, the ITC fund further increased by 2.17% compared to 2015 due to the rise of the losses component of the ITC.

Figure 1. Amount of the ITC fund (2011-2016) in € million



An overview of the compensations drawn from, and contributions made to the 2016 ITC Fund by the ITC Parties is provided in Table 5 in the Annex. It also shows the contributions from Perimeter countries collected through their directly-connected ITC Parties.

2.4 Reduction of transits

Under the Regulation, the transits of electricity carried by an ITC Party are a key input for the determination of the compensation amount the ITC Party is entitled to receive from the ITC Fund (see more details in Sections 2.5 of this Report). Point 1.6 of Annex Part A of the Regulation requires that, for the purpose of calculating transits, the amount of imports and exports at each interconnection between the ITC Parties is reduced in proportion to the

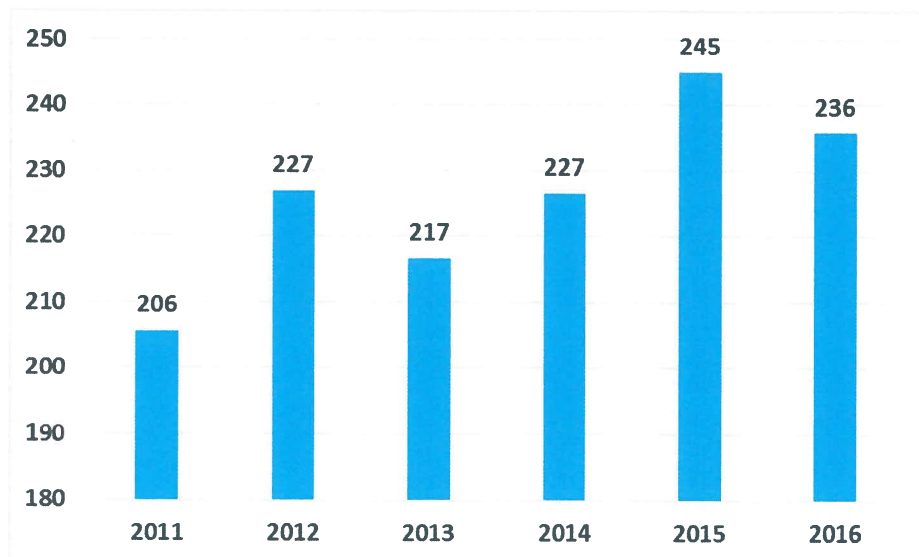
share of capacity allocated in a manner which is not compatible with the congestion management methods set out in Point 2 of Annex I of Regulation (EC) No 714/2009⁸.

The Agency notes that ENTSO-E took the following steps in line with the definition in the Regulation related to transits reduction:

- The affected ITC Parties indicated, for each concerned border, the overall exports and imports, as well as the schedules allocated in a manner which is not compatible with point 2 of the Guidelines on congestion management set out in Annex I of Regulation (EC) No 714/2009;
- The ITC Data Administrators translated this information into the amount by which the relevant transit needs to be reduced; and
- The reduced transit represented the basis for calculating the compensation amounts relating to both the infrastructure and the losses parts of the ITC Fund.

Table 1 in the Annex provides a summary of the transits through each ITC Party’s network before and after such reductions. In 2016, two borders (France - Switzerland and Switzerland - Italy) were affected by the reduced transit⁹, due to the existence of long-term priority contracts. Besides a slight decrease of the capacity which is not allocated in a manner compatible with the congestion management methods in the direction from France to Switzerland (about 50 MW) due to a partly expired long-term contract in 2015, there have been no changes regarding the borders affected by reduced transit. The deducted amount from the transit, however, significantly decreased (from 5.4 TWh in 2015 to 3.9 TWh in 2016) mainly due to the reduction of export flows from France to Switzerland. In 2016, the amount of transit after reduction is 236 TWh, the amount of reduction represents 2% of the transits before reduction.

Figure 2. Amount of transit after reduction (2011-2016) in TWh



⁸ OJ L 211, 14.8.2009, p.15, Regulation (EC) No 714/2009 of the European Parliament and of the Council on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003. Point 2.1 of Annex I of Regulation (EC) No 714/2009 stipulates that “capacity shall be allocated only by means of explicit (capacity) or implicit (capacity and energy) auctions”.

⁹ In the direction France to Switzerland, around 80% of the capacity is allocated in a manner which is not compatible with Point 2 of the guidelines on congestion management set out in Annex I of Regulation (EC) No 714/2009. This percentage amounts to 100% in the direction Switzerland to France and 20% in the direction Switzerland to Italy.

2.5 Compensation for transmission losses

Point 4 of Annex Part A of the Regulation defines the key steps for calculating the amount of compensation to be received by an ITC Party for transmission losses incurred by carrying cross-border flows of electricity. These are summarised below:

- a) The physical amount of the relevant losses must be calculated by ENTSO-E based on the difference between actual losses with transits and estimated losses without transits on the ITC Party's network; and
- b) The value of losses incurred by a national system as a result of transits shall be calculated on the same basis as those approved by the respective NRA in respect of all losses on the national transmission system. Where the relevant NRA has not approved the basis for the calculation of losses, ENTSO-E is required to estimate the value of losses for the purpose of the ITC mechanism.

ENTSO-E sets out the detailed method for the calculation of the volume of losses in the ITC Agreement. Based on the review of the ITC Agreement and the dataset submitted by ENTSO-E, the Agency is able to confirm that this aspect of the implementation of the ITC mechanism is in line with the definition in the Regulation.

Table 2 in the Annex provides a summary of the volume of annual losses in the ITC Parties' networks due to transits, the values of losses adopted by them, and the compensation received from the ITC fund in 2016.

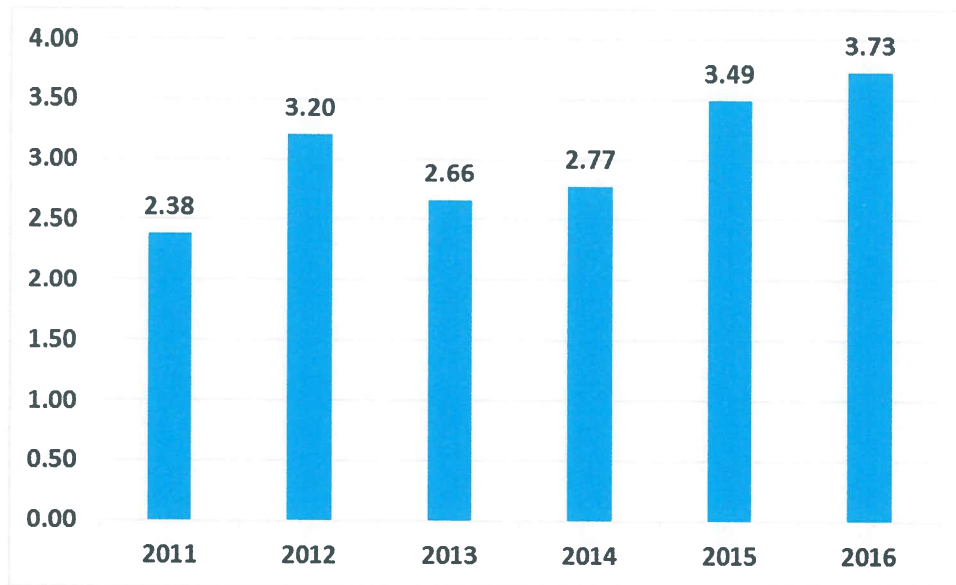
The Regulation requires ENTSO-E to publish the calculation of the volume of losses and its method. The Agency notes that, on 26 September 2017, ENTSO-E published the calculation method and the results for 2016¹⁰.

In 2016, the losses component of the ITC Fund further increased slightly to €158.5 million (by 3.6% compared to 2015), mainly due to the increase by 7% of the volume of transmission losses due to transits (from ca. 3.49 TWh in 2015 to ca. 3.73 TWh in 2016 as shown in Figure 3).

Figure 3. Volume of transmission losses due to transit (2011-2016) in TWh

¹⁰ ITC Transit Losses Data Report 2016

[https://www.entsoe.eu/Documents/MC%20documents/ITC Transit Losses Data/170926 ITC Transit Losses Data Report%202016.pdf?Web=1](https://www.entsoe.eu/Documents/MC%20documents/ITC%20Transit%20Losses%20Data/170926%20ITC%20Transit%20Losses%20Data%20Report%202016.pdf?Web=1)



The impact of transits on the volume of losses (MWh) for each of the 35 ITC Parties including 27 ITC Parties from 26 EU Member States (“EU ITC Parties”) is shown in Table 2 in the Annex.

2.6 Criteria for valuing losses and its approval

Pursuant to point 4 of Annex Part A of the Regulation, the value of losses incurred by a national transmission system as a result of the cross-border flows of electricity shall be calculated on the same basis as that approved by the regulatory authority in respect of all losses on the national transmission system. The Agency shall verify the criteria for the valuation of losses at national level taking particular account that losses are valued in a fair and non-discriminatory way.

The Agency received information about the criteria for valuing losses from all NRAs of EU ITC Parties, as well as from the NRAs of Norway and Switzerland. The Agency also required NRAs to verify how the fair and non-discriminatory treatment is ensured.

The Agency notes that when calculating the value of losses for the 2016 ITC mechanism, 25 out of 27 EU ITC Party, as well as Norway and Switzerland, applied the same basis as the one used for valuing the losses at national level. The ITC Parties of Belgium and France applied at least partially different bases for the valuation of losses for the 2016 ITC mechanism than those used for national purposes. For further details regarding these differences, which continue to be monitored by the Agency, please refer to Table 6 in the Annex.

As shown in Table 6 in the Annex, the NRA is responsible for approving the basis for the calculation of the value of losses in 2016 in 21 EU Member States plus Norway and Switzerland. In 5 Member States, however, there is no explicit NRA approval.

- In Finland, according to the Finnish electricity market legislation, the Energy Authority has no power to approve *ex-ante* any methodology for network operators to calculate/evaluate network losses. The TSO sets the basis for the calculation, whereas the Energy Authority is only able to supervise calculation methods and costs of losses *ex-post*.
- In Denmark, the Danish Energy Regulatory Authority (DERA) does not approve the basis for the valuation of losses, but assesses whether the method defined by the TSO meets certain high-level principles, such as being objective, reasonable, non-discriminatory and transparent.
- In Luxemburg, the criteria for valuing losses are already set in the national law
- In Spain, the treatment of losses, including its valuation, is defined in operational codes approved by the Government.
- In Italy, the NRA does not approve the basis used for calculating the value of losses, but only defines a standard level of losses which needs to be procured directly by the suppliers. The difference between the actual and standard losses is purchased or sold by the TSO in the balancing market. Therefore, the value of losses is set by the wholesale market.

The Agency notes that the power exchange (PX) prices/pool prices and auctions (or their combinations) are the most frequently used criteria for assigning a value to losses. In total, 13 NRAs apply criteria based only on PX prices/pool prices¹¹, 4 NRAs perform auctions/tenders. 7 NRAs use a combination of PX prices, auctions and/or bilateral contracts. Apart from these, there are various different combination of the tools: two NRAs (Croatia and Sweden) applies PX prices and bilateral contracts with added insurance or risk premium. Two NRAs (France and Slovenia) use an approach based on a combination of market tools (PX prices or auctions) and regulated prices, whilst one NRA (Bulgaria) uses a regulated price only¹².

A summary of the criteria for valuing losses is shown per country in the Annex. The evolution of the criteria for valuing losses over the years 2011-2015 is presented in the Agency's previous ITC monitoring report¹³. The website links to the relevant national documents regarding losses valuation are shown in Table 8 in Annex.

2.7 Values of Losses

The differences of energy prices for different products in different markets and from auctions and bilateral contracts resulted in a broad range of values of losses for the EU ITC Parties. However, the difference between the lowest and highest value (28.8 €/MWh in Denmark and 60 €/MWh in Greece) decreased compared to 2015 (from 15.34 €/MWh in Bulgaria to 64 €/MWh in Greece). The average value of losses of EU ITC Parties, weighted by the volumes of losses, was 42.13 €/MWh, which is slightly lower than in 2015 (i.e. 43.34 €/MWh).

¹¹ For the purpose of this report this criteria (i.e. PX prices/ pool prices) also includes balancing markets where applicable.

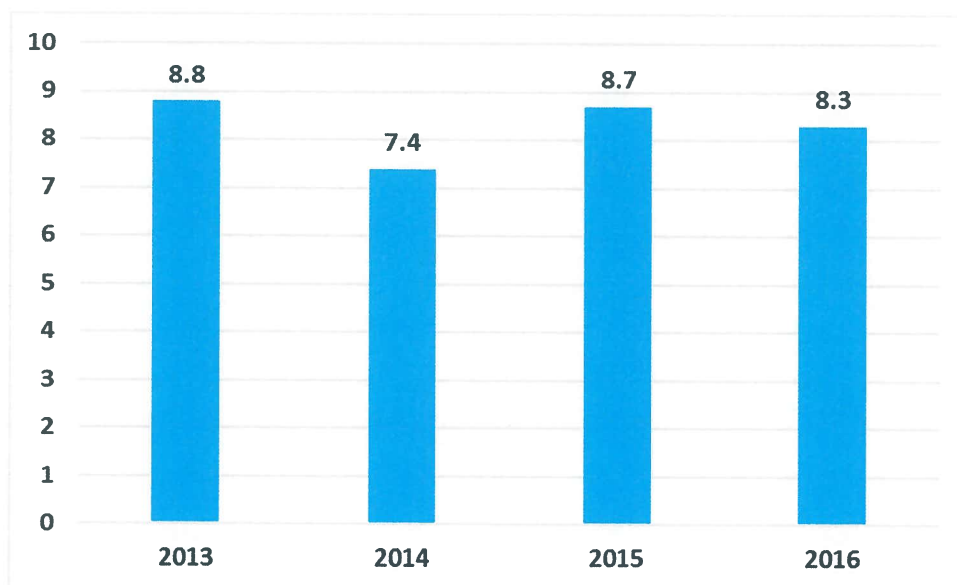
¹² In Bulgaria, the losses are covered by the Nuclear Power Plant "Kozloduy" at a regulated price which is set by the NRA.

¹³

http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ITC%20Monitoring%20Report%202016.pdf

As shown in Table 7 in the Annex, for the majority of the EU ITC Parties (15 out of 27), a higher value of losses was provided for the purpose of the 2016 ITC implementation compared to the actual 2016 value registered at national level (on average, these values are 15%, or 5.76€/MWh, higher); in 7 cases the same value was used for the 2016 ITC mechanism and for national purposes; and in 4 cases the value was lower (on average they were 2% lower)¹⁴ In one instance the actual 2016 value was not provided. The Agency notes that had the actual value of losses been used, this would have led to a € 8.3 million decrease in the compensation for losses in 2016. These findings are similar to the ones regarding the implementation of the ITC mechanism in 2015.

Figure 4. Decrease of ITC compensation by using actual losses values (2013-2016) in € million



The Agency also reviewed ENTSO-E’s approach for setting the relevant values for the ITC Parties from third countries. ENTSO-E used the losses values received in the annual ITC data submission. The Agency notes that, in 2016, the weighted average value of losses for ITC Parties from third countries (non-EU ITC Parties) was 48.43 €/MWh¹⁵, which is 15% higher than the weighted average value for the EU ITC Parties, and led to an increase of the difference of this value between the EU and non-EU ITC Parties¹⁶.

In 2016, the weighted average value of losses for all ITC Parties was 42.46 €/MWh, which was the lowest figure of the weighted average value of losses registered in the last six years as shown in Figure 5.

Figure 5. Volume-weighted average value of losses for all ITC Parties (2011-2016) in €/MWh

¹⁴ The highest difference (€16.7) is calculated for Greece.

¹⁵ This value is very similar to the 2015 value (i.e. 48.07 €/MWh).

¹⁶ In 2015, the weighted average value for the non-EU ITC parties was 11% higher than the weighted average value for the EU ITC parties.

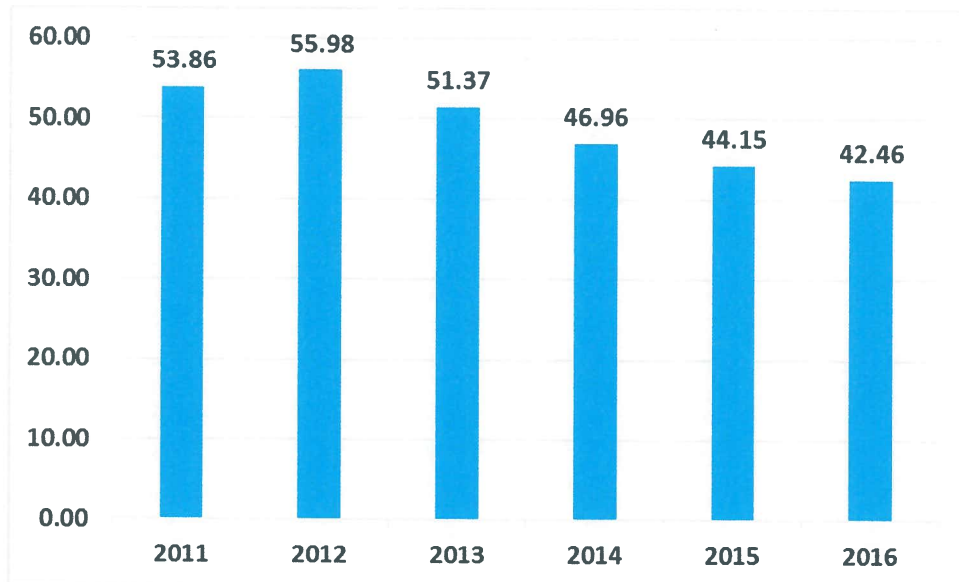
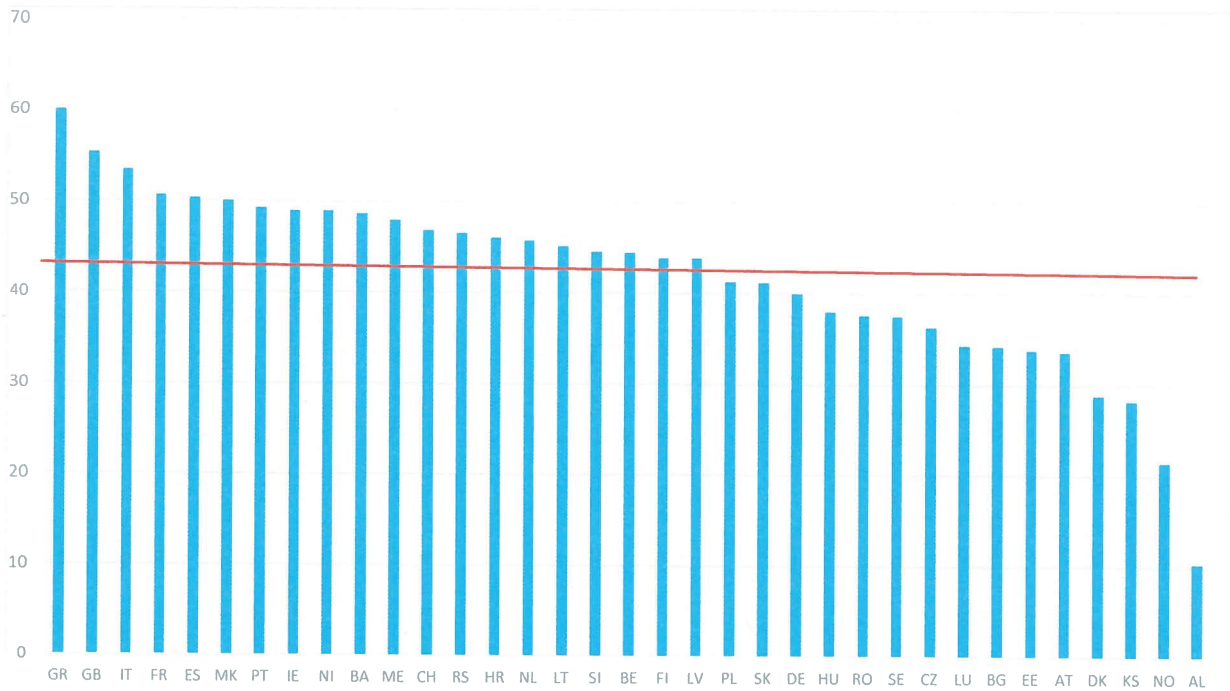


Figure 6 shows the losses' values used for the 2016 ITC mechanism for each ITC Party. The Agency notes that Albania's value of losses of 10.35 €/MWh is still significantly lower than the values provided by other ITC Parties.

Further, the Agency positively notes that the value of losses for Bulgaria used for the 2016 ITC mechanism appears to be more aligned with market reality with an increased value of losses of 34.17 €/MWh (compared to 15.34 €/MWh in 2015, which was remarkably low compared to the other EU ITC parties)¹⁷.

¹⁷ The Bulgarian NRA decided to compensate the public supplier (NEK) for additional fee to TSO and DSOs electricity purchase for covering losses.

Figure 6. Losses' values (used for the ITC mechanism 2016) per country (€/MWh)



Note: the red line shows the simple average of the value of losses of all ITC Parties equal to 42.84 €/MWh

2.8 Compensation for cross-border infrastructure

Point 5 of Annex Part A of the Regulation defines the key parameters for calculating the amount of compensation that an ITC Party should receive for the provision of infrastructures to carry cross-border flows of electricity. These are summarised below:

- a) The annual cross-border infrastructure sum is set at €100 million until determined otherwise by the European Commission; and
- b) The Transit Factor and Load Factor are used to apportion the above sum to each ITC Party. Transit Factor refers to the amount of transits carried by an ITC Party as a proportion of the total transits carried by all ITC Parties. Load Factor refers to the relative amount of transits measured by the square of transits divided by the level of the load plus transits in proportion to the relative amount of transits for all ITC Parties. In apportioning the infrastructure compensation amount for an ITC Party, the Transit Factor has a weighting of 75% and the Load Factor of 25%.

Based on the review of the ITC Agreement and the final dataset submitted by ENTSO-E, the Agency is able to confirm that the compensation amounts relating to the provision of cross-border infrastructures were derived according to the above requirements.

Table 3 in the Annex provides a summary of the annual amount each ITC Party received in 2016 based on their Transit Factors and Load Factors.

2.9 Contributions to the ITC fund

Point 6 of Annex Part A of the Regulation sets out that each ITC Party shall contribute to the ITC Fund based on its share of the total absolute amount of Net Imports and Net Exports of all ITC Parties.

Point 7 of Annex Part A of the Regulation sets out that an ITC Party shall levy a transmission system use fee on all scheduled imports and exports between its national transmission system and that of a Perimeter country. ENTSO-E is required to calculate this Perimeter countries' fee each year in advance based on projected flows for the relevant year¹⁸.

Based on the review of the ITC Agreement and the dataset submitted by ENTSO-E, the Agency is able to confirm that the ITC Parties' contribution amounts were derived according to the requirements of points 6 and 7 of Annex Part A of the Regulation. The relevant ITC Parties also collected contributions from Perimeter countries with which they have direct connections.

ENTSO-E's calculation of the Perimeter countries' fee was based on the equivalent losses and infrastructure compensation for historical flows of the previous year¹⁹. According to ENTSO-E, this is the best possible projection for flows in the subsequent year. The Agency notes that the Perimeter countries' fee further decreased to 0.5 €/MWh in 2016²⁰. The reduction of the Perimeter countries' fee compared to 2015 can be explained by the fact that, while the size of the ITC Fund has remained relatively stable, the volumes of import and exports flows have partially increased.

Table 4 in the Annex provides a summary of the annual Net Import, Net Export and the contribution amount each ITC Party paid into the ITC Fund in 2016, including the contribution it made on behalf of Perimeter countries it had a direct connection with. The Agency notes that the contribution by Perimeter countries further decreased between 2015 and 2016 both in terms of value, from €13 million to €11.24 million, and in terms of share to the ITC Fund, from 5% to ca. 4%.

¹⁸ The collection of the Perimeter Contributions is governed by a series of bilateral contracts, renewed annually in most cases. There is a need to calculate the Perimeter Fee on an ex-ante basis. This value is produced in January each year based on losses costs and vertical load data collected from ITC parties during the audit process.

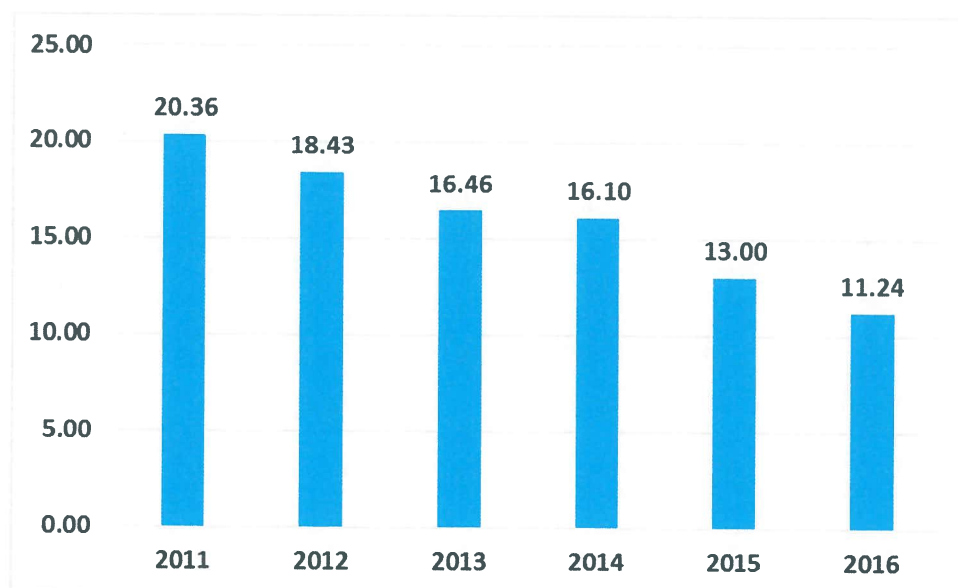
¹⁹ The perimeter fee has two elements; a loss-related component and a framework fund component, which are summed and round to a single decimal place to create the perimeter fee:

- the losses-related fee is calculated by dividing the WWT(With and Without Transit) Fund size by the sum of scheduled import and export flows, net import and net export flows; and
- the framework fund related fee is calculated by dividing the total contribution (100 million at present) by the sum of scheduled import and export flows, net import and net export flows.

The Perimeter fee is calculated on the basis of audited data and it is rounded to a single decimal.

²⁰ The perimeter country fee was 0.6 €/MWh in 2015, 0.7 €/MWh in 2014 and 2013, 0.8 €/MWh in 2012 and 2011).

Figure 7. Contributions to the ITC fund by Perimeter countries (2011-2016) in million €



2.10 Treatment of third countries

The Agency notes that the ITC Agreement has not changed regarding the treatment of ITC Parties, thus the former findings of the Agency are still valid. In 2012, the Agency noted that the ITC Agreement makes no distinction between categories of ITC Parties, whether participating on a compulsory or voluntary basis under point 2 or through voluntary multi-party agreements under point 3. Therefore, the Agency concluded that the requirements of points 3.2 and 3.4 of Annex Part A of the Regulation are met.

3 Summary of the findings

The Agency concludes that the implementation of the ITC mechanism and the management of the ITC Fund in 2016 continues to be in line with the requirements set out in the Regulation.

With regard to specific aspects of the ITC implementation in 2016, the major findings include the following:

- After the previous year's 19% increase, the losses component of the ITC Fund slightly further increased by 3.6% (to reach €158.5 million) compared to 2015.
- The increase of the losses component was mainly triggered by the increase (7%) in the volume of losses due to transits.
- For the vast majority of EU ITC Parties, the criteria to calculate the value of losses were still market-based and approved by the respective NRA.
- The weighted average value of losses for the 2016 ITC mechanism (42.46 €/MWh) was the lowest figure registered over the last six years.
- Regarding the majority of the EU ITC Parties, the actual 2016 value of losses is still lower compared to the values used for the 2016 ITC mechanism
- In 2016, the Perimeter countries' fee decreased to 0.5 €/MWh, (against 0.6 €/MWh in 2015). Both the absolute and relative contribution of the Perimeter countries to the ITC Fund decreased compared to 2015.

Annex – Tables and Figures

Please note that while the actual ITC settlement is in Euro cents, the tables below present all monetary values in millions of Euros rounded to three decimal places.

Table 1 Reduction in Transits

ITC Party	Transit before adjustment (MWh)	Reduction due to non-auctioned interconnection capacity (MWh)	Transit after reduction (MWh)
Albania / AL	734,978	0	734,978
Austria / AT	17,418,436	0	17,418,436
Belgium / BE	7,076,860	0	7,076,860
Bosnia / BA	3,001,135	0	3,001,135
Bulgaria / BG	4,568,063	0	4,568,063
Croatia / HR	6,015,274	0	6,015,274
Czech Rep. / CZ	13,366,967	0	13,366,967
Denmark / DK	7,960,963	0	7,960,963
Finland / FI	3,458,798	0	3,458,798
France / FR	16,473,356	396,076	16,077,280
Germany / DE	24,976,080	0	24,976,080
Great Britain / GB	1,990,444	0	1,990,444
Greece / GR	801,169	0	801,169
Hungary / HU	5,234,949	0	5,234,949
Ireland / IE	267,618	0	267,618
Italy / IT	3,779,157	25,053	3,754,105
Estonia / EE	3,210,371	0	3,210,371
Kosovo / KS	1,737,207	0	1,737,207
Latvia / LV	3,201,885	0	3,201,885
Lithuania / LT	2,831,429	0	2,831,429
Luxembourg/LU	573	0	573
FYROM / MK	3,149,801	0	3,149,801
Montenegro / ME	2,163,780	0	2,163,780
Netherlands / NL	16,508,652	0	16,508,652
Northern Ireland / NI	456,613	0	456,613
Norway / NO	2,703,892	0	2,703,892
Poland / PL	10,096,254	0	10,096,254
Portugal / PT	2,777,306	0	2,777,306
Romania / RO	1,641,306	0	1,641,306
Serbia / RS	4,340,382	0	4,340,382
Slovakia / SK	10,205,932	0	10,205,932
Slovenia / SI	7,646,988	0	7,646,988
Spain / ES	10,488,366	0	10,488,366
Sweden / SE	15,587,827	0	15,587,827
Switzerland / CH	23,867,511	3,521,865	20,345,646
TOTAL	239,740,322	3,942,994	235,797,328

Table 2 Derivation of compensation for transmission losses

ITC Party	2015			2016		
	Impact of Transit on losses volume (MWh)	Value of losses (€/MWh)	Compensation (€ million)	Impact of Transit on losses volume (MWh)	Value of losses (€/MWh)	Compensation (€ million)
Albania / AL	-2,917	10.35	-0.030	-1,073	10.35	-0.011
Austria / AT	166,379	37.57	6.251	153,091	33.64	5.150
Belgium / BE	28,464	62.24	1.772	120,140	44.44	5.339
Bosnia / BA	45,482	46.63	2.121	35,302	48.60	1.716
Bulgaria / BG	47,799	15.34	0.733	58,315	34.17	1.993
Croatia / HR	62,670	51.51	3.228	88,064	46.07	4.057
Czech Rep. / CZ	218,848	39.26	8.592	209,794	36.25	7.605
Denmark / DK	296,314	38.00	11.260	270,387	28.80	7.787
Estonia / EE	144,928	44.10	6.391	105,910	33.85	3.585
Finland / FI	248,456	46.48	11.548	175,991	43.88	7.722
France / FR	136,293	51.44	7.011	534,145	50.61	27.033
Germany / DE	370,682	40.00	14.827	379,401	40.00	15.176
Great Britain / GB	-33,501	63.02	-2.111	40,605	55.30	2.245
Greece / GR	19,757	64.00	1.264	14,515	60.00	0.871
Hungary / HU	27,248	39.25	1.069	33,028	38.01	1.255
Ireland / IE	1,415	60.74	0.086	-49	48.92	-0.002
Italy / IT	-32,118	51.06	-1.640	-2,686	53.43	-0.143
Kosovo / KS				18,100	28.24	0.511
Latvia / LV	53,617	51.54	2.763	57,123	43.81	2.503
Lithuania / LT	5,410	55.52	0.300	110,913	45.20	5.013
Luxembourg/LU	0	37.22	0.000	0	34.27	0.000
FYROM / MK	17,058	62.00	1.058	18,956	50.00	0.948
Montenegro / ME	4,775	50.03	0.239	3,327	47.92	0.159
Netherlands / NL	197,420	45.60	9.002	102,404	45.75	4.685
Northern Ireland / NI	777	60.74	0.047	1,797	48.92	0.088
Norway / NO	122,547	33.17	4.065	30,636	21.48	0.658
Poland / PL	305,899	41.87	12.808	194,358	41.28	8.023
Portugal / PT	59,711	50.49	3.015	40,832	49.22	2.010
Romania / RO	-17,147	39.59	-0.679	-14,776	37.61	-0.556
Serbia / RS	75,387	48.05	3.622	58,323	46.53	2.714
Slovakia / SK	78,706	46.86	3.688	55,500	41.13	2.283
Slovenia / SI	60,788	56.22	3.418	62,761	44.60	2.799
Spain / ES	96,307	43.65	4.204	255,176	50.37	12.853
Sweden / SE	321,668	42.58	13.697	201,468	37.46	7.547
Switzerland / CH	361,697	52.92	19.141	316,570	46.88	14.841
TOTAL	3,490,818	N/A	152.760	3,728,349	N/A	158.457

Table 3 Derivation of compensation for cross-border infrastructure

ITC Party	Transit (MWh)	Load* (GWh)	Transit Factor based compensation (€million)	Load Factor based compensation (€million)	Total Infrastructure compensation (€million)
Albania / AL	734,978	7,250	0.234	0.037	0.271
Austria / AT	17,418,436	31,430	5.540	3.434	8.975
Belgium / BE	7,076,860	69,579	2.251	0.361	2.612
Bosnia / BA	3,001,135	11,379	0.955	0.346	1.301
Bulgaria / BG	4,568,063	29,433	1.453	0.339	1.792
Croatia / HR	6,015,274	16,196	1.913	0.901	2.814
Czech Rep. / CZ	13,366,967	34,347	4.252	2.071	6.322
Denmark / DK	7,960,963	21,887	2.532	1.174	3.706
Finland / FI	3,458,798	63,271	1.100	0.099	1.199
France / FR	16,077,280	416,418	5.114	0.330	5.444
Germany / DE	24,976,080	288,964	7.944	1.099	9.043
Great Britain / GB	1,990,444	292,500	0.633	0.007	0.641
Greece / GR	801,169	45,954	0.255	0.008	0.262
Hungary / HU	5,234,949	31,914	1.665	0.408	2.073
Ireland / IE	267,618	25,731	0.085	0.002	0.087
Italy / IT	3,754,105	237,325	1.194	0.032	1.226
Estonia / EE	3,210,371	7,473	1.021	0.533	1.555
Kosovo / KS	1,737,207	5,356	0.553	0.235	0.788
Latvia / LV	3,201,885	5,802	1.018	0.630	1.648
Lithuania / LT	2,831,429	9,412	0.901	0.362	1.263
Luxembourg/LU	573	4,106	0.000	0.000	0.000
FYROM / MK	3,149,801	7,843	1.002	0.499	1.501
Montenegro / ME	2,163,780	3,161	0.688	0.486	1.174
Netherlands / NL	16,508,652	71,410	5.251	1.714	6.965
Northern Ireland / NI	456,613	8,818	0.145	0.012	0.158
Norway / NO	2,703,892	89,552	0.860	0.044	0.904
Poland / PL	10,096,254	90,548	3.211	0.560	3.771
Portugal / PT	2,777,306	34,763	0.883	0.114	0.997
Romania / RO	1,641,306	33,338	0.522	0.043	0.565
Serbia / RS	4,340,382	26,974	1.381	0.333	1.713
Slovakia / SK	10,205,932	17,440	3.246	2.083	5.329
Slovenia / SI	7,646,988	12,226	2.432	1.627	4.059
Spain / ES	10,488,366	182,291	3.336	0.316	3.652
Sweden / SE	15,587,827	87,020	4.958	1.309	6.267
Switzerland / CH	20,345,646	45,977	6.471	3.451	9.922
TOTAL	235,797,328	2,367,087	75.000	25.000	100.000

* This is the total amount of electricity which exits the national transmission system to distribution systems and to end consumers directly connected to the transmission system, as well as to electricity producers for their consumption in the generation of electricity.

Table 4 Derivation of contributions to the ITC Fund

ITC Party	Net Import (MWh)	Net Export (MWh)	Contribution to infrastructure (€million)		Contribution to losses (€million)	
			Perimeter countries	ITC Party	Perimeter countries	ITC Party
Albania / AL	1,091,775	1,133,628	0.000	0.572	0.000	0.926
Austria / AT	10,748,946	2,019,267	0.000	3.283	0.000	5.316
Belgium / BE	7,688,815	1,164,932	0.000	2.276	0.000	3.686
Bosnia / BA	82,444	3,839,692	0.000	1.008	0.000	1.633
Bulgaria / BG	70	2,134,606	0.720	0.549	0.720	0.889
Croatia / HR	6,381,369	26,672	0.000	1.647	0.000	2.668
Czech Rep. / CZ	72,639	11,034,736	0.000	2.856	0.000	4.624
Denmark / DK	7,144,043	1,888,186	0.000	2.322	0.000	3.760
Finland / FI	13,207,964	0	1.457	3.396	1.457	5.499
France / FR	2,757,696	42,396,190	0.000	11.608	0.000	18.799
Germany / DE	639,449	53,849,690	0.000	14.008	0.000	22.685
Great Britain / GB	18,705,271	471,666	0.000	4.930	0.000	7.984
Greece / GR	7,650,633	226,168	0.233	2.025	0.233	3.279
Hungary / HU	8,449,512	4,740	0.835	2.173	0.835	3.520
Ireland / IE	554,364	1,304,166	0.000	0.478	0.000	0.774
Italy / IT	39,392,478	170,334	0.000	10.171	0.000	16.471
Estonia / EE	361,483	1,546,996	0.000	0.491	0.000	0.795
Kosovo / KS	550,845	1,043,576	0.000	0.410	0.000	0.664
Latvia / LV	940,847	580,347	0.000	0.391	0.000	0.633
Lithuania / LT	4,798,252	34	0.795	1.234	0.795	1.998
Luxembourg/LU	4,313,666	0	0.000	1.109	0.000	1.796
FYROM / MK	2,002,870	6,132	0.000	0.516	0.000	0.836
Montenegro / ME	795,277	437,312	0.000	0.317	0.000	0.513
Netherlands / NL	7,748,546	2,829,810	0.000	2.720	0.000	4.404
Northern Ireland / NI	670,853	494,472	0.000	0.300	0.000	0.485
Norway / NO	2,892,264	18,381,396	0.015	5.469	0.015	8.857
Poland / PL	2,864,205	1,545,300	0.241	1.134	0.241	1.836
Portugal / PT	1,838,203	6,924,301	0.000	2.253	0.000	3.648
Romania / RO	225,293	5,285,846	0.011	1.417	0.011	2.294
Serbia / RS	721,595	2,554,193	0.000	0.842	0.000	1.364
Slovakia / SK	3,000,197	202,157	0.079	0.823	0.079	1.333
Slovenia / SI	711,668	1,771,689	0.000	0.638	0.000	1.034
Spain / ES	11,353,859	2,095,650	1.238	3.458	1.238	5.599
Sweden / SE	1,088,771	13,474,912	0.000	3.744	0.000	6.063
Switzerland / CH	9,612,226	5,199,885	0.000	3.808	0.000	6.167
TOTAL	181,058,385	186,038,681	100.000		158.457	

Table 5 Overview of compensation and contribution to the ITC Fund

(All figures in € million)	Compensation		Contribution on behalf of Perimeter countries		Contribution ITC Party		Final net position
	losses	infrastructure	losses	infrastructure	losses	infrastructure	
Albania / AL	-0.011	0.271	0.000	0.000	0.926	0.572	-1.239
Austria / AT	5.150	8.975	0.000	0.000	5.316	3.283	5.526
Belgium / BE	5.339	2.612	0.000	0.000	3.686	2.276	1.989
Bosnia / BA	1.716	1.301	0.000	0.000	1.633	1.008	0.375
Bulgaria / BG	1.993	1.792	0.720	0.720	0.889	0.549	0.907
Croatia / HR	4.057	2.814	0.000	0.000	2.668	1.647	2.556
Czech Rep. / CZ	7.605	6.322	0.000	0.000	4.624	2.856	6.447
Denmark / DK	7.787	3.706	0.000	0.000	3.760	2.322	5.411
Finland / FI	7.722	1.199	1.457	1.457	5.499	3.396	-2.886
France / FR	27.033	5.444	0.000	0.000	18.799	11.608	2.070
Germany / DE	15.176	9.043	0.000	0.000	22.685	14.008	-12.475
Great Britain / GB	2.245	0.641	0.000	0.000	7.984	4.930	-10.028
Greece / GR	0.871	0.262	0.233	0.233	3.279	2.025	-4.637
Hungary / HU	1.255	2.073	0.835	0.835	3.520	2.173	-4.034
Ireland / IE	-0.002	0.087	0.000	0.000	0.774	0.478	-1.167
Italy / IT	-0.143	1.226	0.000	0.000	16.471	10.171	-25.559
Estonia / EE	3.585	1.555	0.000	0.000	0.795	0.491	3.854
Kosovo / KS	0.511	0.788	0.000	0.000	0.664	0.410	0.225
Latvia / LV	2.503	1.648	0.000	0.000	0.633	0.391	3.126
Lithuania / LT	5.013	1.263	0.795	0.795	1.998	1.234	1.454
Luxembourg/ LU	0.000	0.000	0.000	0.000	1.796	1.109	-2.905
FYROM / MK	0.948	1.501	0.000	0.000	0.836	0.516	1.096
Montenegro / ME	0.159	1.174	0.000	0.000	0.513	0.317	0.504
Netherlands / NL	4.685	6.965	0.000	0.000	4.404	2.720	4.526
Northern Ireland / NI	0.088	0.158	0.000	0.000	0.485	0.300	-0.539
Norway / NO	0.658	0.904	0.015	0.015	8.857	5.469	-12.794
Poland / PL	8.023	3.771	0.241	0.241	1.836	1.134	8.342
Portugal / PT	2.010	0.997	0.000	0.000	3.648	2.253	-2.894
Romania / RO	-0.556	0.565	0.011	0.011	2.294	1.417	-3.725
Serbia / RS	2.714	1.713	0.000	0.000	1.364	0.842	2.221
Slovakia / SK	2.283	5.329	0.079	0.079	1.333	0.823	5.298
Slovenia / SI	2.799	4.059	0.000	0.000	1.034	0.638	5.186
Spain / ES	12.853	3.652	1.238	1.238	5.599	3.458	4.972
Sweden / SE	7.547	6.267	0.000	0.000	6.063	3.744	4.007
Switzerland / CH	14.841	9.922	0.000	0.000	6.167	3.808	14.789
TOTAL	158.457	100.000	5.624	5.624	152.833	94.376	0.000

Table 6 Summary of criteria for valuing losses at national level (2016)

Country	Approval of the basis for the valuation of losses	Criteria used for assigning value to losses	Further description of the criteria used	Is the same basis applied for the valuation of losses for the ITC 2016	NRA approval of the value of losses for the ITC 2016	Change compared to 2015
AT	NRA	Auctions / tenders	The TSO buys yearly (up to 2 years in advance), monthly and daily products through auctions according to the predicted required quantities in a regular process (weekly products). The average price of these procurements becomes the value of losses.	Yes	Yes	No change
BE	NRA	Auctions / tenders	The value of losses is computed based on average prices received through several tenders for various products and time horizons.	No ²¹	Yes	No change
BG	NRA	Regulated prices	The price for procurement of electricity for covering grid losses is fixed on a yearly basis by the Bulgarian regulatory authority (EWRC) pursuant to the national legislation. Losses' values are calculated based on generators' weighted average price.	Yes	No	EWRC decided to compensate public supplier (NEK) for additional fee to TSO and DSOs purchase electricity for covering losses
CH	NRA	PX prices / pool prices; Auctions / tenders	Losses' values are calculated based on monthly tenders and Day-ahead and Intraday prices.	Yes	Partially ²²	No change

²¹ The 2016 value of losses introduced by Elia in the ITC mechanism is the value of losses approved by CREG for the tariff period 2016-2019. The price was calculated on the basis of estimated forward prices of electricity (estimations made by IHS CERA) for the period 2016 – 2019, as well as on the real procurement price for the share of volumes that were already procured for the period 2016 – 2019 at the time of estimation.

²² Indirect approval by monitoring the functioning of the market-based allocation and by intervention if the market-based allocation is disturbed.

CZ	NRA	PX prices / pool prices	The value of losses is calculated based on electricity purchased through electronic auctions (annual, quarterly, monthly, day ahead or intraday basis), on the balancing market and on market data of the futures products of Power Exchange Central Europe (PXE).	Yes	Yes	No change
DE	NRA	PX prices / pool prices	The reference price is calculated taking into account exchange prices for a 12-month period from 1 July (t-2) to 30 June (t-1).	Yes	No	No change
DK	NRA does not approve the basis, but defines the principles for the calculation	PX prices / pool prices	Losses' values are calculated on a weighted average of Nasdaq commodities OMX forward prices plus price of the EPAD contracts and balancing costs.	Yes	No	No change
EE	NRA	PX prices / pool prices	Losses' values are calculated as weighted average of PX prices adjusted by balancing price.	Yes	Yes	No change
ES	Defined in operational codes approved by the Government	PX prices / pool prices	Losses are valued according to a weighted average of day ahead market price for all acquisition units.	Yes	Yes	No change
FI	TSO sets the basis for the calculation, whereas the Energy Authority is only able to supervise calculation methods and costs of losses ex-post	PX prices / pool prices	Losses' values are calculated by the TSO based on the power-exchange prices. ²³	Yes	No	No change

²³The estimated total cost of losses is calculated by grid losses x (system price + SYS-FI area price difference) + half of the estimated losses on the FI-SE interconnectors x (system price + SYS-SE area price difference) + hedged volume x (hedged price - system price), where system price, SYS-FI&SYS-SE area price differences are based on Nasdaq's forward prices at the time of budgeting; SYS-SE price difference = average of SYS-SE1 and SYS-SE3 prices; hedged price does not include SYS-FI area price difference; resolution is one month (yearly cost is sum of monthly costs).

FR	NRA	Auctions / tenders; Bilateral contracts; Regulated prices	Losses' values are calculated based on forward products and hourly adjustments with spot products and balancing market prices and regulated prices of ARENH mechanism - the regulated access to EDF's incumbent nuclear electricity.	Partially	No	The TSO introduced an adjustment for the value of losses used for the ITC mechanism, which was determined based solely on forecasted value of losses ²⁴ .
GB	NRA	PX prices / pool prices	Losses' values are calculated based on forward market prices, quarterly weighted.	Yes	No	No change
GR	NRA	PX prices / pool prices	Losses' values are estimated based on weighted average Day-ahead market prices. ²⁵	Yes	Yes	No change
HR	NRA	PX prices / pool prices; Other	Forward market price (HUPX PhF), with added insurance premium and weighted average price of cross-border transmission capacity (HU->HR)	Yes	Yes	No change
HU	NRA	PX prices / pool prices; Auctions / tenders;	Losses are calculated based on the weighted average market purchase price.	Yes	Yes	No change

²⁴ Before 2016, the value of losses used by the TSO for the ITC mechanism was determined on the basis of the forecasted value of losses for the respective year considered in the tariff decision. In line with the Agency's recommendation in its report to the European Commission on the implementation of the ITC mechanism in 2014, which strongly encouraged ITC Parties to strive towards improving their estimates of the value of losses, in 2016, the value of losses used for the ITC mechanism is the forecasted value of losses for 2016 considered in the tariff decision minus the observed difference between realised value and forecast in 2014

²⁵ The expected System Marginal Price (SMP) was used as the basis for the value of losses in 2016, following the proposal made by IPTO (the Greek TSO). According to the market and grid codes for the Hellenic System, losses are paid by the market participants who inject energy into the Day-Ahead market, which is a compulsory Pool. For a given load level and depending on the area where the energy is injected, there are pre-specified generation loss factors, which are applied to injection. Consequently, for each hour, the losses are calculated and paid according to the SMP (weighted). Since the SMP determines the losses value in the Greek System only ex-post, an estimation should be taken into account for the determination of losses value of the year ahead. Moreover, since there is no forward power market operating in Greece, the only available forecast for the SMP is the yearly average SMP estimated by LAGIE (the Greek Market Operator) and published in his monthly report.

IE	NRA	Bilateral contracts; Auctions / tenders	Losses' values are calculated based on the average Directed Contracts (DC) price for the same period. DC auctions are held quarterly.	Yes	Yes	No change
IT	No approval (A regulatory order defines how losses are managed. The market sets the basis.)	PX prices / pool prices	Losses' values are calculated by the TSO as the weighted average wholesale market price. ²⁶	Yes	No	No change
LT	NRA	PX prices / pool prices; Bilateral contracts;	The value of losses is calculated taking into account forecast of bilateral contract prices, prices in the spot market, forecasted balancing costs.	Yes	No	
LU	Set in the national law	Auctions / tenders	Value of losses is based on yearly tender for transmission and distribution losses (subdivided in 3 batches having each a different offer deadline)	Yes	No	No change
LV	The TSO is free to set the basis for the calculations of the value of losses. Nevertheless, when setting the use of system tariffs, the costs are approved by the NRA.	PX prices / pool prices	Losses value are calculated as weighted average of Nord Pool Spot prices of the Latvian trading area adjusted by balancing price.	Yes	No	No change
NI	NRA	Bilateral contracts; Auction / tenders	Losses' values are calculated based on the average Directed Contracts (DC) price for the same period. DC auctions are held quarterly.	Yes	Yes	No change

²⁶ The energy covering losses is directly procured by suppliers. The corresponding volume is estimated as a ratio of the energy withdrawn by their own customers. AEEGSI defines the standard percentage of losses over the withdrawn volumes, which is differentiated according to the voltage level of the connection points. These percentages represent adjustment factors to fictitiously increase the energy withdrawals attributed to each supplier. In real time, the difference between the actual and the standard losses is purchased (or sold) by the TSO according to the market spot price (balancing market price). The relevant costs (or revenues) are then shared among all customers (through the uplift component to the transmission tariff).

NL	Defined in the "Meetcode elektriciteit" adopted by the NRA and defined in international accounting standards and in "Regulatorische Accounting Regels (RAR)", which are additional TSO-specific accounting instructions	Auction / tenders	Losses' values are calculated based on yearly tenders. ²⁷ For the interconnector DC cable to Norway (NorNed), the market coupling algorithm covers the network losses through a constraint (with a standard quantity of losses of 3.2%). The remainder of the net losses is obtained through a separate tender process.	Yes	No	No change.
NO	NRA	PX prices / pool prices	The NRA uses the volume weighted monthly electricity price from NordPool Spot plus a markup covering risk and expenses of 11 NOK / MWh when setting the revenue cap for the TSO. As the final prices are not known until after the end of the year, NVE uses forward prices for the relevant year - as an estimate for the reference price – in the pre-calculation of the revenue cap. This estimate is based on volume weighted quarterly system prices as they are listed at Nasdaq OMX in addition to the markup covering risk and expenses of 11 NOK/MWh.	Yes	No	No change
PL	NRA	PX prices / pool prices; Bilateral contracts;	The basis of calculation the value of losses is approved during the process of approving the tariff. The value of losses calculation is based on the forward	Yes	No	No change

²⁷ For 2016 (part of regulatory period 2014 – 2016), the TSO receives an ex-ante budget for the costs of net losses within the national grid (i.e. not cross-border). Ex-post, a no-claims bonus system is applied on the difference between actual costs and the budget.

- Ex-ante for EHV the budget is based on the actual costs of 2012 with a CPI-correction until 2016.
- Ex-post ('t-2', or the annual tariff decision two years after) TenneT receives a bonus or has to pay a penalty of 25% on the first 20%-difference between actual costs and the budget. The TSO is compensated for the remainder of the difference.

PT	NRA	PX prices / pool prices	electricity prices, prices of bilateral contracts for next year and historical prices. Losses' values are calculated based on the weighted average hourly price for day ahead energy market – MIBEL - for the whole year and for the Portuguese area.	Yes	Yes	No change
RO	NRA	PX prices / pool prices; Bilateral contracts;	Losses' values are calculated based on annual average price established on Centralised Market for Bilateral Contracts, Day-Ahead Market, Intraday Market and Balancing Market. ²⁸	Yes	No	No change
SE	NRA	PX prices / pool prices; Bilateral contracts; Other	Losses' values calculated by the TSO as an annual mean price for Sweden. In addition, the TSO includes costs for hedging (purchase, risk costs and administrative costs for hedging), according to the TSO's risk.	Yes	Yes	No change
SI	NRA ²⁹	PX prices / pool prices; Regulated prices	Losses' values are calculated based on average price of peak (30 %) and base load (70 %) futures price from HUPX.	Yes	No	In past regulatory period, NRA used the EEX as relevant PX, but in regulatory period 2016-2018 the HUPX future prices are used.
SK	NRA	PX prices / pool prices	Losses' values are calculated based on Average PXE stock Exchange electricity price with adjustments.	Yes	Yes	No change

²⁸ The losses value recognised by ANRE for the year t is the annual price without exceeding the weighted average price calculated by taking into consideration the average price established on the Centralised Electricity Market for Bilateral Contracts to 80% and that on the day-ahead electricity market to 20%.

²⁹ The NRA approves ex ante the eligible costs for losses on transmission grid for the regulatory period.

Table 7 Losses' values used in ITC mechanism and actual Losses' values for years 2013-2016 (€/MWh)

	Losses' values used in ITC mechanism 2013	Actual losses' values in 2013	Difference between ITC and actual figures	Losses' values used in ITC mechanism 2014	Actual losses' values in 2014	Difference between ITC and actual figures	Losses' values used in ITC mechanism 2015	Actual losses' values in 2015	Difference between ITC and actual figures	Losses' values used in ITC mechanism 2016	Actual losses' values in 2016	Difference between ITC and actual figures
AT	56.07	56.07	0	47.96	47.96	0	37.57	37.57	0	33.64	27.88	5.76
BE	60.32	53.91	6.41	61.34	46.83	14.51	62.24	49.60	12.64	44.44	41.16	3.28
BG	50.66	45.10	5.56	51.35	34.80	16.55	15.34	23.32	-7.98	34.17	34.17	0
CH										46.88	43.20	3.68
CZ	57.60	48.24	9.36	42.41	39.93	2.48	39.26	39.22	0.04	36.25	37.7	-1.45
DE	53.42	52.69	0.73	44.79	44.39	0.4	40.00	36.21	3.79	40.00	40	0
DK	43.69	35.00	8.69	41.30	30.00	11.3	38.00	24.40	13.60	28.8	27.11	1.69
EE	40.67	45.03	-4.36	44.04	39.45	4.59	44.10	32.74	11.36	33.85	35.3	-1.45
ES	50.33	45.58	4.75	43.02	42.93	0.09	43.65	51.28	-7.63	50.37	40.26	10.11
FI	52.13	51.23	0.9	48.58	50.99	-2.41	46.48	48.22	-1.74	43.88	44.13	-0.25
FR	69.44	55.97	13.47	51.44	48.94	2.5	51.44	43.70	7.74	50.61	46.79	3.82
GB	63.96	58.20	5.76	61.69	59.07	2.62	63.02	55.14	7.88	55.30	Not provided	N/A
GR	68.12	45.30	22.82	65.00	60.20	4.8	64.00	54.40	9.6	60.00	43.3	16.7
HR	63.38	57.67	5.71	51.80	44.87	6.93	51.51	43.16	8.35	46.07	38.67	7.4
HU	54.48	53.87	0.61	43.14	40.35	2.79	39.25	42.93	-3.68	38.01	38.01	0
IE	66.51	65.59	0.92	64.53	63.76	0.77	60.74	48.92	11.82	48.92	41.4	7.52
IT	75.50	65.15	10.35	62.40	53.96	8.44	51.06	54.31	-3.25	53.43	44.36	9.07
LT	50.10	55.52	-5.42	55.00	53.74	1.26	55.52	44.85	10.67	45.20	45.2	0
LU	54.47	54.47	0	42.32	42.32	0	37.22	37.22	0	34.27	34.27	0
LV	45.84	51.01	-5.17	47.00	54.10	-7.1	51.54	42.48	9.06	43.81	37.84	5.97
NI	66.51	65.59	0.92	64.53	63.76	0.77	60.74	48.92	11.82	48.92	41.4	7.52
NL	62.70	65.05	-2.35	49.20	48.32	0.88	45.60	44.90	0.7	45.75	42.19	3.56
NO										21.1	21.88	-0.78
PL	46.38	43.74	2.64	41.10	39.33	1.77	41.87	42.71	-0.84	41.28	38.19	3.09
PT	57.60	44.81	12.79	53.50	42.45	11.05	50.49	51.18	-0.69	49.22	39.44	9.78
RO	50.22	45.40	4.82	45.84	39.60	6.24	39.59	37.80	1.79	37.61	34.96	2.65

SE	51.38	48.67	2.71	44.30	44.74	-0.44	42.58	41.50	1.08	37.46	37.8	-0.34
SI	55.51	47.39	8.12	55.73	45.54	10.19	56.22	46.68	9.54	44.60	44.60	0
SK	63.66	52.80	10.86	55.77	40.59	15.18	46.86	46.86	0	41.13	41.13	0

Source: ENTSO-E provided the losses' values used in ITC mechanism; NRAs provided the actual losses' value

Table 8 Website links of the relevant documents for losses valuation

Country	Website links of the relevant documents for losses valuation
AT	Not (publicly) available
BE	Not (publicly) available
BG	http://www.dker.bg/files/DOWNLOAD/res_c-35_15.pdf
CH	https://www.swissgrid.ch/swissgrid/en/home/experts/topics/ancillary_services/tenders.html
	https://www.swissgrid.ch/dam/swissgrid/experts/ancillary_services/Dokumente/D170214_AS-Products_V9R2_en.pdf
CZ	https://www.eru.cz/documents/10540/462862/Zasady-cenove-regulace-IV-RO.pdf/e438802a-b956-4df7-8353-89ccfd72a1ae
DE	https://www.bundesnetzagentur.de/cdn_1431/DE/Service-Funktionen/Beschlusskammern/1BK-Geschaeftszeichen-Datenbank/BK8-GZ/2014/2014_0001bis0999/2014_200bis299/BK8-14-260_450_502_772/BK8-14-0260_0450_0502_0772-91_Beschl%C3%BCsse.html;jsessionid=B44899DCB1B6BB519A026ABA615DF278?nn=269902
DK	Not (publicly) available
EE	http://www.konkurentsiamet.ee/index.php?id=15429
ES	http://www.boe.es/boe/dias/2015/12/19/pdfs/BOE-A-2015-13875.pdf
FI	Not (publicly) available
FR	http://www.cre.fr/en/documents/deliberations/decision/turpe-4-htb2
GB	Not (publicly) available
GR	https://yperdiavgeia.gr/decisions/view/17553459
HR	https://www.hera.hr/hr/docs/2016/Odluka_2016-01-29_03.pdf
HU	http://www.mekh.hu/download/7/1a/2000/modszertani_utmutato_villamos_energia_ii.pdf
IE	Not (publicly) available
IT	http://www.autorita.energia.it/allegati/docs/16/TIS_2016.pdf
LT	https://www.e-tar.lt/portai/lt/legal/Act/Oe1684709cc31e48dcdcae4eb2005eaf/AyBASukAJt
LU	https://assets.ilr.lu/energie/Documents/ILRLU-1685561960-150.pdf
LV	http://www.creos-net.lu/fournisseurs/electricite/appeal-doffres.html
NI	Not (publicly) available
NL	https://www.acm.nl/nl/onderwerpen/energie/codes-energie/overzicht-codes-energie/ https://www.acm.nl/nl/publicaties/publicatie/1_1999/Methodebesluit-TenneT-transport-2014-2016 https://www.acm.nl/nl/publicaties/publicatie/1_5474/Mijziging-Methodebesluit-TenneT-2014-2016-Transport
NO	http://webfileservice.nve.no/API/PublishedFiles/Download/201500380/1612107
PL	http://bip.ure.gov.pl/bip/taryfy-i-inne-decyzje/zalozenia-dla-kalkulac-2299,Zalozenia-do-kalkulacji-taryf-OSD-na-rok-2016.html

PT	http://www.erse.pt/pt/electricidade/regulamentos/acessoasredesaasinterligacoes/Documents/FARI%202014%20SE.pdf http://www.erse.pt/pt/electricidade/regulamentos/acessoasredesaasinterligacoes/Documents/Anexo%201%20%C3%A0%20Diretiva%20202-2017.xls
RO	www.anre.ro/electricenergy/legislation/methodologies/transmission and system services
SE	https://www.svk.se/siteassets/aktorsportalen/elmarknad/tariff/stamnatstariff-2016.pdf
SI	https://www.agen-rs.si/elektricna-energija3 http://www.pisrs.si/Pis.web/pregledPredpisa?id=AKT_944
SK	http://www.urso.gov.sk/sites/default/files/vyh1_221-2013.pdf



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