

**OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY  
REGULATORS No 19/2017**

**of 7 November 2017**

**ON THE ENTSO-E RESEARCH AND INNOVATION IMPLEMENTATION  
PLAN 2017-2019**

THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

HAVING REGARD to Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators<sup>1</sup> (hereinafter referred to as the “Agency”), and, in particular, Articles 6(3)(b) and 17(3) thereof,

HAVING REGARD to Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003<sup>2</sup>, and, in particular, Article 9(2) thereof,

HAVING REGARD to the favourable opinion of the Board of Regulators of 18 September 2017, delivered pursuant to Article 15(1) of Regulation (EC) No 713/2009,

WHEREAS:

- (1) In June 2017, the European Network of Transmission System Operators for Electricity (‘ENTSO-E’), pursuant to Article 8(3)(a) of Regulation (EC) No 714/2009, published its Research and Innovation Implementation Plan 2017-2019<sup>3</sup> (“R&I IP”) and submitted it to the Agency on 13 July 2017.
- (2) Pursuant to Article 6(3)(b) of Regulation (EC) No 713/2009, the Agency has to provide an opinion to ENTSO-E, in accordance with the first subparagraph of Article 9(2) of Regulation (EC) No 714/2009, on relevant documents referred to in Article 8(3) of Regulation (EC) No 714/2009. Point (a) of Article 8(3) of Regulation (EC) No 714/2009 refers to ‘research plans’ to be adopted by ENTSO-E.

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<sup>1</sup> OJ L 211, 14.8.2009, p.1.

<sup>2</sup> OJ L 211, 14.8.2009, p.15.

<sup>3</sup> [https://www.entsoe.eu/Documents/Publications/RDC%20publications/entso-e\\_RI\\_IP\\_2017\\_2019\\_web.pdf](https://www.entsoe.eu/Documents/Publications/RDC%20publications/entso-e_RI_IP_2017_2019_web.pdf).

## HAS ADOPTED THIS OPINION:

### 1. General Remarks

As stated in the R&I IP<sup>4</sup>, the implementation plan is one of the key planning instruments for coordinating TSOs' efforts in Research and Innovation (R&I). It presents the R&I topics to be started in the period from 2017 to 2019, building on the ENTSO-E R&I Roadmap 2017-2026<sup>5</sup>. According to ENTSO-E, R&I topics were identified according to a balanced mix of those originating from EU funded calls and those proposed by the TSOs themselves. Although the criteria for the prioritisation of these topics are stated<sup>6</sup>, no description is given on how topics were assessed and later prioritised using these criteria. To help increase transparency of the selection and prioritisation process, the Agency proposes to include more information on the assessment process, including arguments used to score specific topics higher than other ones.

The Agency reiterates its proposal that ENTSO-E better explain the challenges associated with R&I and quantify them where possible. The identification and quantification of these challenges would help clarify the need for R&I, potentially also enabling the quantification of project-specific benefits, providing decision makers the needed information to support it.

The Agency deems that the R&I IP meets the objective of non-discrimination, effective competition and the efficient and secure functioning of the internal market in electricity<sup>7</sup>. More specifically, the non-discrimination objective is adequately covered by the open consultation procedure used for forming the R&I IP; by the assignment of a significant part of R&I activity to the research community through open calls for R&I project proposals and by the publicity and dissemination of results of R&I projects. The objectives of effective competition and efficient and secure functioning of the internal market are covered through the inclusion of research areas (clusters) on the topic of flexible market design, as well as for power system modernisation, security and system stability.

### 2. Specific remarks

#### 2.1 Funding, resources and regulatory framework

On the one hand, the R&I IP estimates<sup>8</sup> a budget of 100 million euros for topics starting in 2017, which is to be more precisely established when concrete projects are proposed. On the other hand, the sum of all budget estimates for topics foreseen to start in 2017, is 111 million euros, not counting topics lacking a budget estimation (topics 18, 20 and 21). The Agency reiterates<sup>9</sup> the request that ENTSO-E provides the assumptions underpinning the budget estimates. In addition, since this R&I IP was published at the end of the first half of 2017, the Agency expects the budget for 2017 already to be mature enough to be presented with more accuracy. The foreseen split of activities between 2017, 2018 and 2019, with the majority of

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<sup>4</sup> R&I IP, p.5.

<sup>5</sup> [http://riroadmap.entsoe.eu/wp-content/uploads/2016/06/entsoe\\_ri\\_roadmap\\_2017-2026.pdf](http://riroadmap.entsoe.eu/wp-content/uploads/2016/06/entsoe_ri_roadmap_2017-2026.pdf).

<sup>6</sup> R&I IP, p.5.

<sup>7</sup> Article 6(3)(b) of Regulation (EC) No 713/2009.

<sup>8</sup> R&I IP, p.5.

<sup>9</sup> Opinions No 11/2013 and No 11/2016.

the budget attributed to topics expected to start in 2017, most likely needs to be revised as postponement of topics seems imminent.

Regarding the potential lack of incentive to conduct R&I claimed by ENTSO-E, the Agency conducted a survey amongst NRAs, which provided valuable insight into the status of financing of R&I activities. The results of the questionnaires are presented in Annex 1.

The Agency concludes that although the large majority of the regulatory frameworks do not limit R&I activities, potential improvements of the regulatory frameworks in some Member States could be investigated in order to stimulate TSOs to perform R&I activities with the goal of optimising their operation.

The Agency encourages ENTSO-E to promote monetisation and quantification of specific R&I project benefits, which would help NRAs in considering the possible role of further incentives for such activities.

## **2.2 Assessing results of R&D activities**

ENTSO-E has presented, within its RD&I Application Report 2016<sup>10</sup> (“the Report”), the outcomes of concluded or ongoing work for 20 projects. The Report focuses on presenting the application of projects’ results, enabling a clear insight into concrete achievements of these R&I projects. The Agency welcomes this approach and invites ENTSO-E further to improve it, especially through focusing on quantified and if possible, monetised benefits. To present the need for such R&I activities in a better way, ENTSO-E should already aim to quantify future system requirements, needing new technologies or innovative improvements. The quantification of both needs and later also of project specific results, which address these needs, would help guide future R&I activities.

The presentation of outcomes also shows that for most, if not all projects, only the directly involved TSOs potentially apply the results of their R&I activities. The Agency would like ENTSO-E further to encourage and promote knowledge sharing amongst the TSO community, in order for the results of an individual project, if successful, to be applied on a wider scale throughout Europe. Such sharing of best practices and acquired knowledge would not only help focus R&I efforts, but also reduce redundancy of some R&I activities, thus optimising R&I expenditures.

Done at Ljubljana on 7 November 2017.

For the Agency:

  
Alberto Pototschnig  
Director

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<sup>10</sup> [http://rdiapplication.entsoe.eu/wp-content/uploads/2017/06/ENTSO-E\\_RDI\\_Application\\_Report\\_2016.pdf](http://rdiapplication.entsoe.eu/wp-content/uploads/2017/06/ENTSO-E_RDI_Application_Report_2016.pdf).

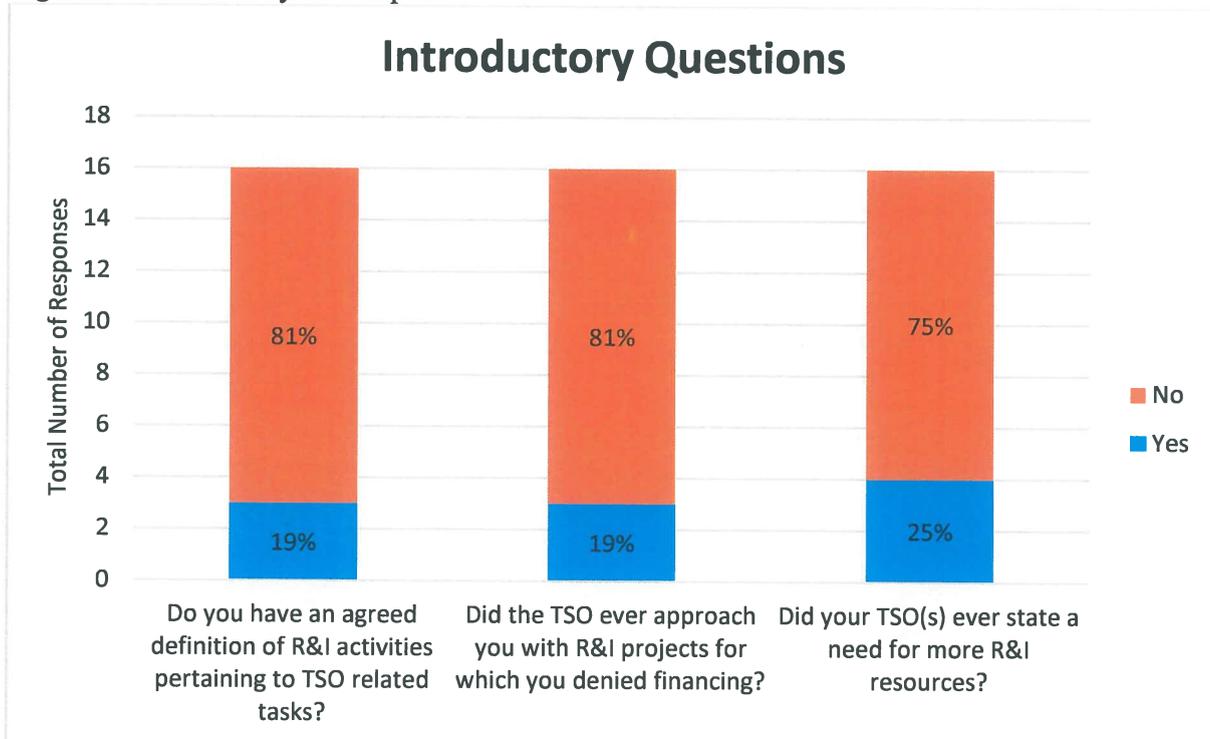
## ANNEX 1

### 1. Introduction

The following are the main aspects concluded from the questionnaires received:

- Overall, there seems to be a clear lack of an aligned definitions for R&I activities pertaining to TSO-related tasks.
- According to the ENTSO-E Research and Innovation Roadmap 2017-2026, in most cases TSOs experience a lack of incentive to conduct R&I. This lack of incentive is considered by ENTSO-E the result of national regulatory policies, which supposedly hinder R&I through non-stimulating tariff structures.
- In addition, the Roadmap affirms the strong need for self-financing and adjustment of regulatory policies to alleviate the financeability issues, as TSOs may be forced to postpone or cancel their R&I programmes.
- However, as presented in Figure 1, contrary to these beliefs, 81% of NRAs never denied financing when TSOs approached them seeking financing for R&I projects.
- Further, in 12 cases TSOs never stated a need for additional financial resources while only 4 TSOs indicated the need for more resources.

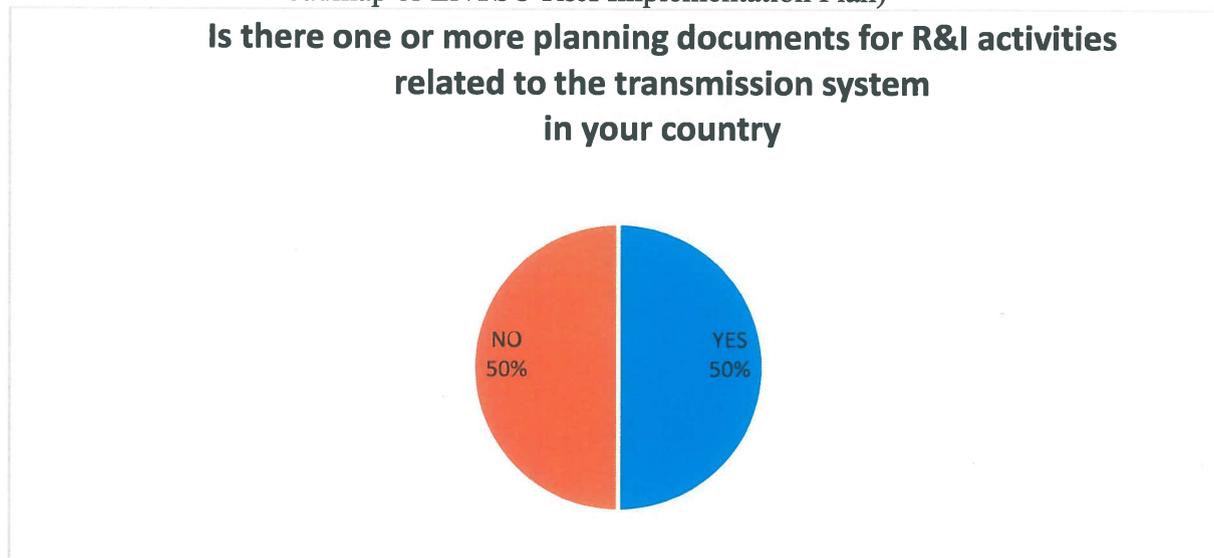
Figure 1: Introductory set of questions based on NRA interviews



## 2. Role and involvement of NRAs in transmission Research and Innovation programmes

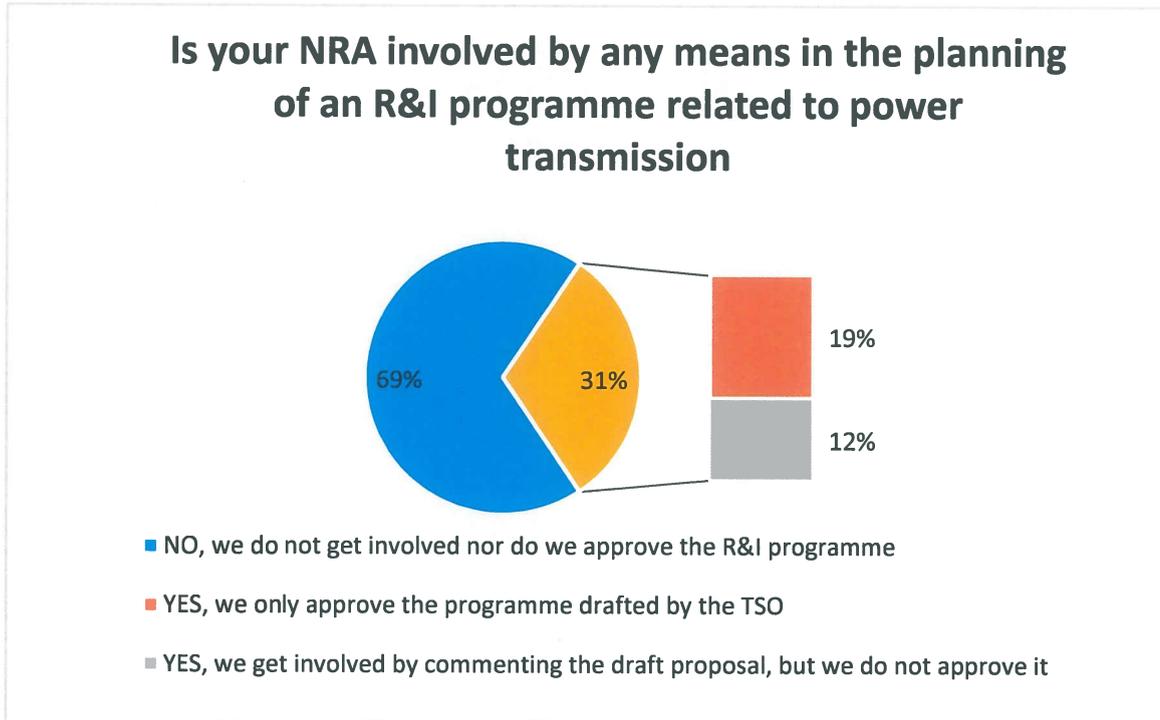
- An overview of R&I plans at national level is presented in Figure 2.
  - As much as half of the countries interviewed do not produce any document for R&I activities related to the transmission system in their country.
  - Furthermore, of the NRAs who indicated having one or more planning documents for R&I activities, half of them indicated that the time horizon for the R&I programmes is limited to only 3 years.

Figure 2: Planning documents for R&I activities related to the transmission system (similar to the ENTSO-E R&I Roadmap or ENTSO R&I Implementation Plan)



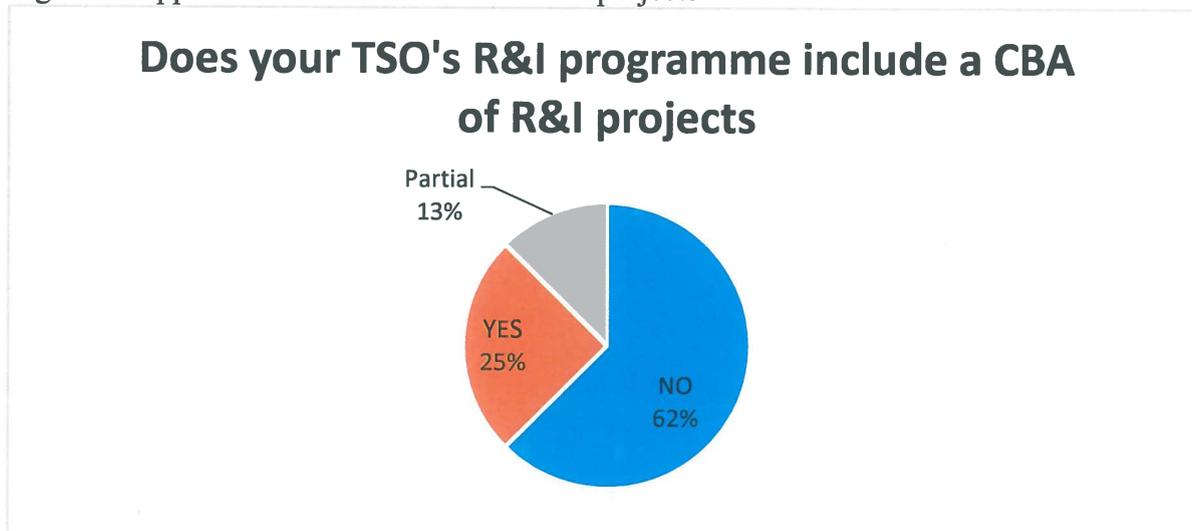
- The involvement of NRAs in R&I programmes related to power transmission is presented in Figure 3.
  - Nearly 70% of NRAs do not get involved in or approve R&I programmes.
  - While the other 30% only partially get involved in either commenting on the proposal, but do not approve it, or just approving the programme.

Figure 3: NRAs involvement in the planning of R&I programmes related to power transmission



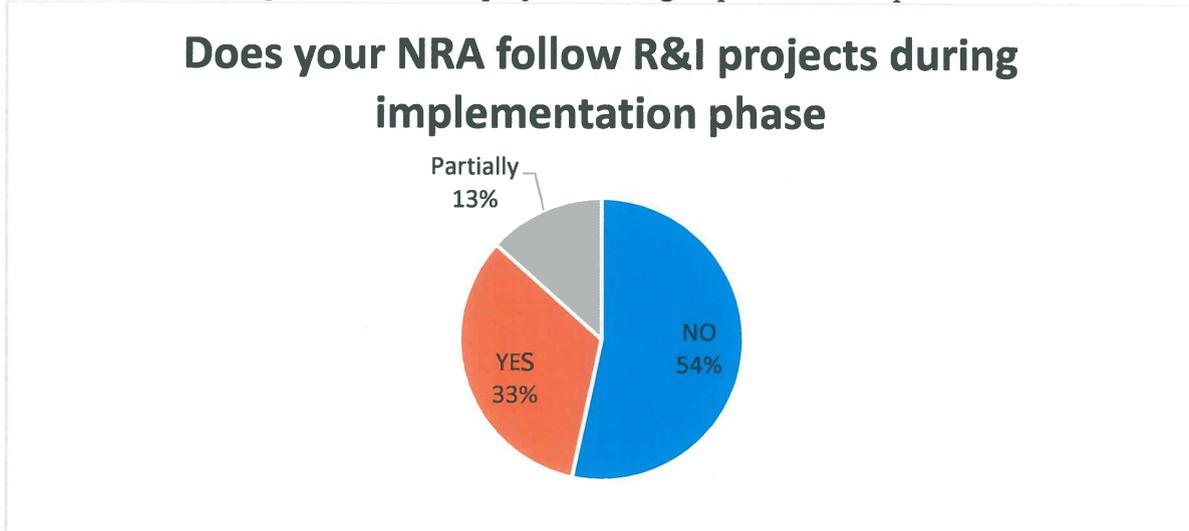
- The potential costs and benefits of R&I projects are not always assessed by TSOs as presented in Figure 4.
  - Based on the responses from NRAs, 62% of TSOs do not apply a cost-benefit analysis (CBA) for any R&I related project.
  - A smaller percentage of TSOs apply a CBA, and in some cases only partially apply a CBA for certain projects such as in one instance pilot projects for electrical storage.

Figure 4: Application of CBA to R&I related projects



- The degree of monitoring of R&I-related projects during their implementation phase by NRAs is presented in Figure 5.
  - Based on the results, 8 NRAs do not follow R&I projects during their implementation phase while 7 NRAs follow or partially follow R&I projects through their implementation phase.

Figure 5: Monitoring of R&I related projects during implementation phase



- Who carries out research and innovation projects as a whole is presented in Figure 6.
  - Being central in the power system, TSOs mostly rely on both external researchers and in-house staff to help integrate the next generation of innovation.

Figure 6: How TSOs conduct R&I related projects

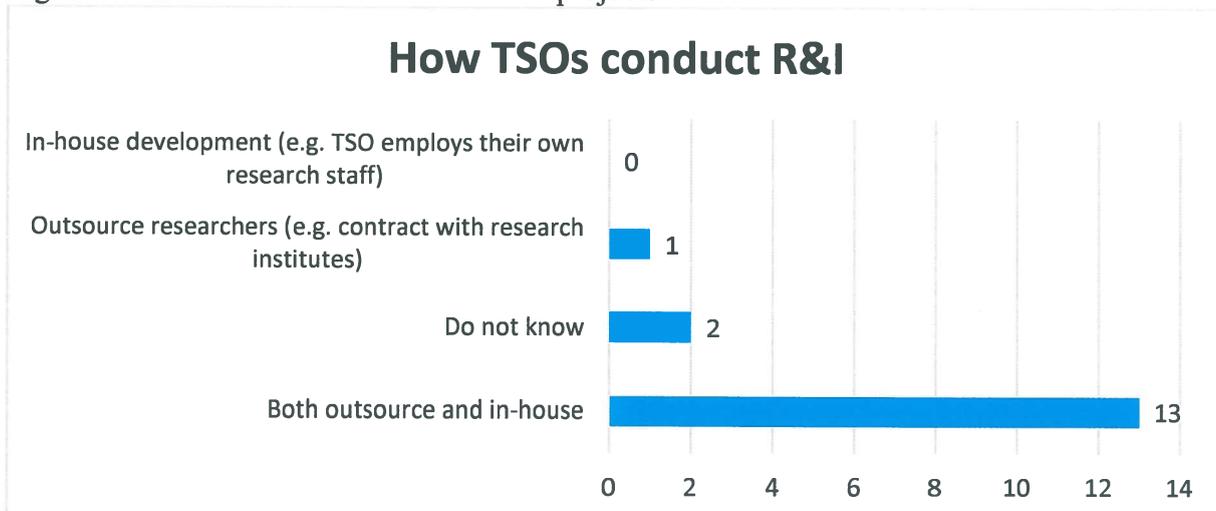


Figure 7: How NRAs monitor R&I expenditure

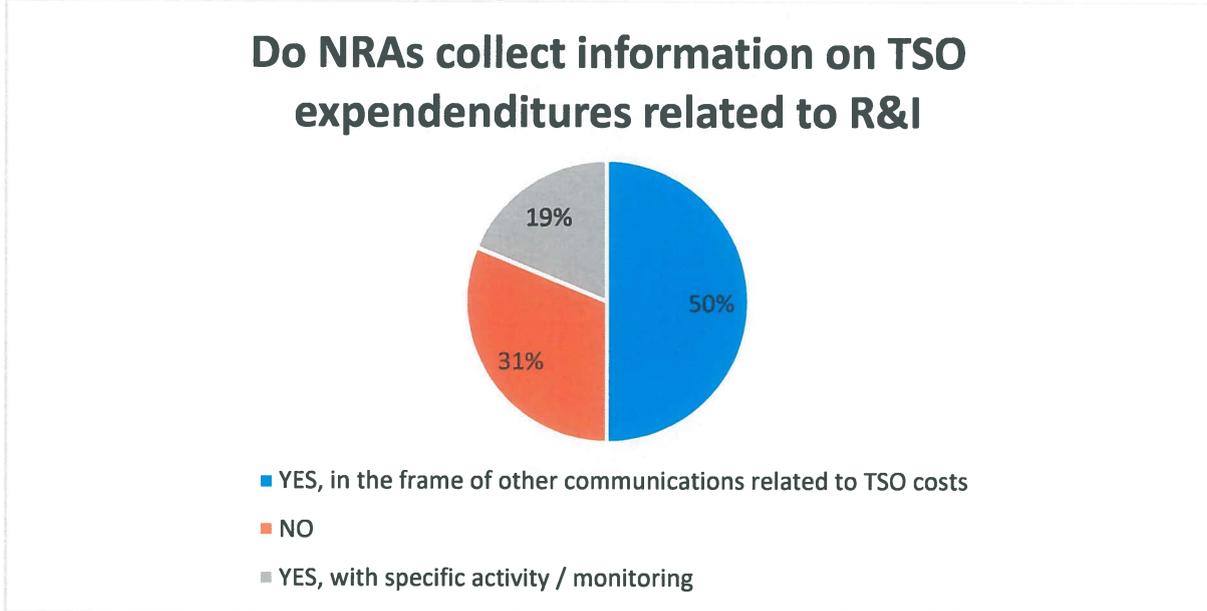


Figure 8: Control of TSO R&I activity

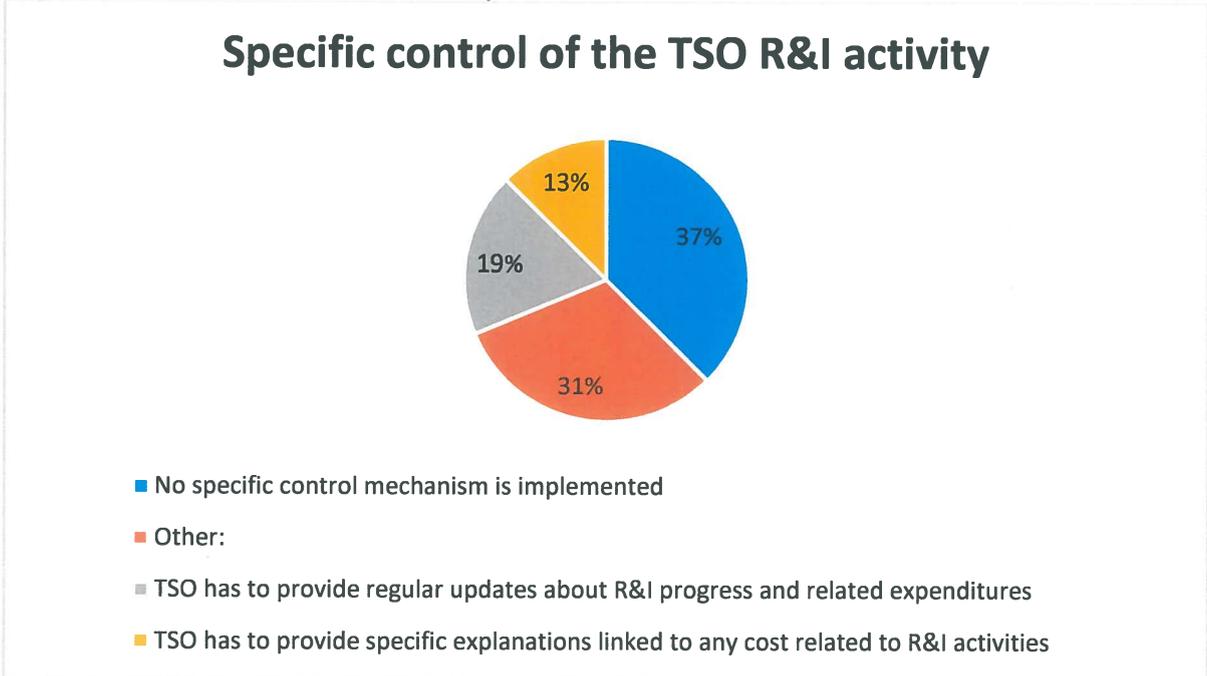


Figure 9: Regulatory treatment of TSO's R&I activities

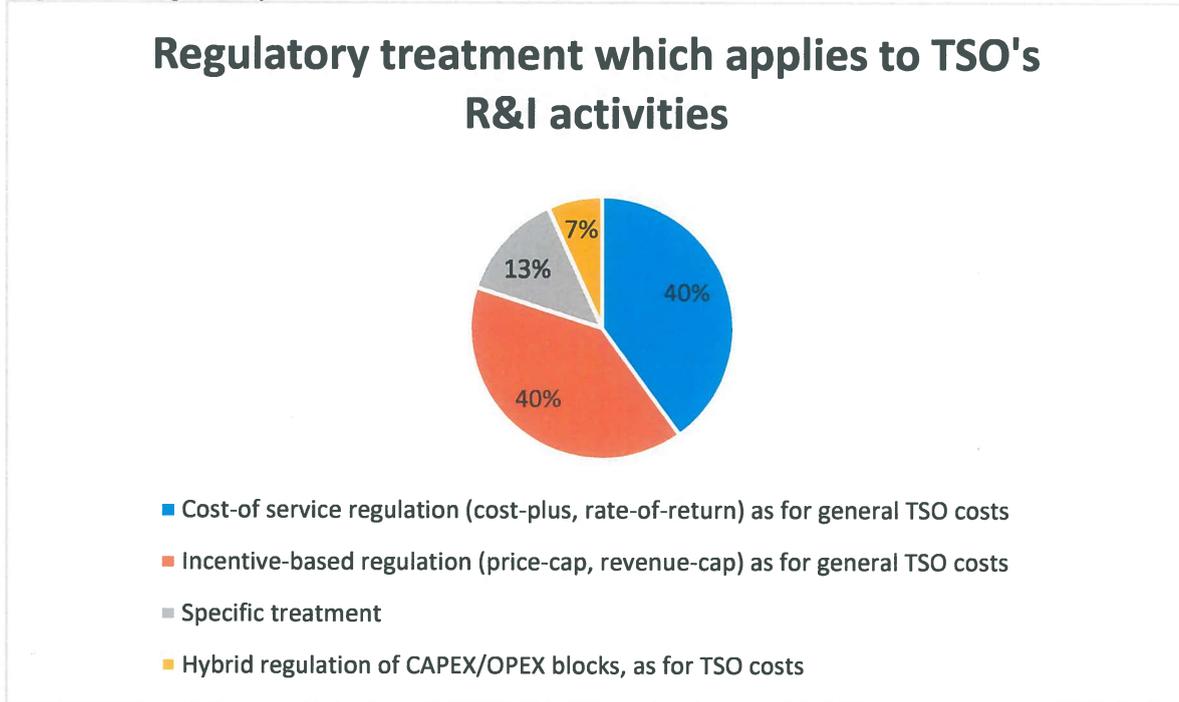


Figure 10: Specific regulatory treatment

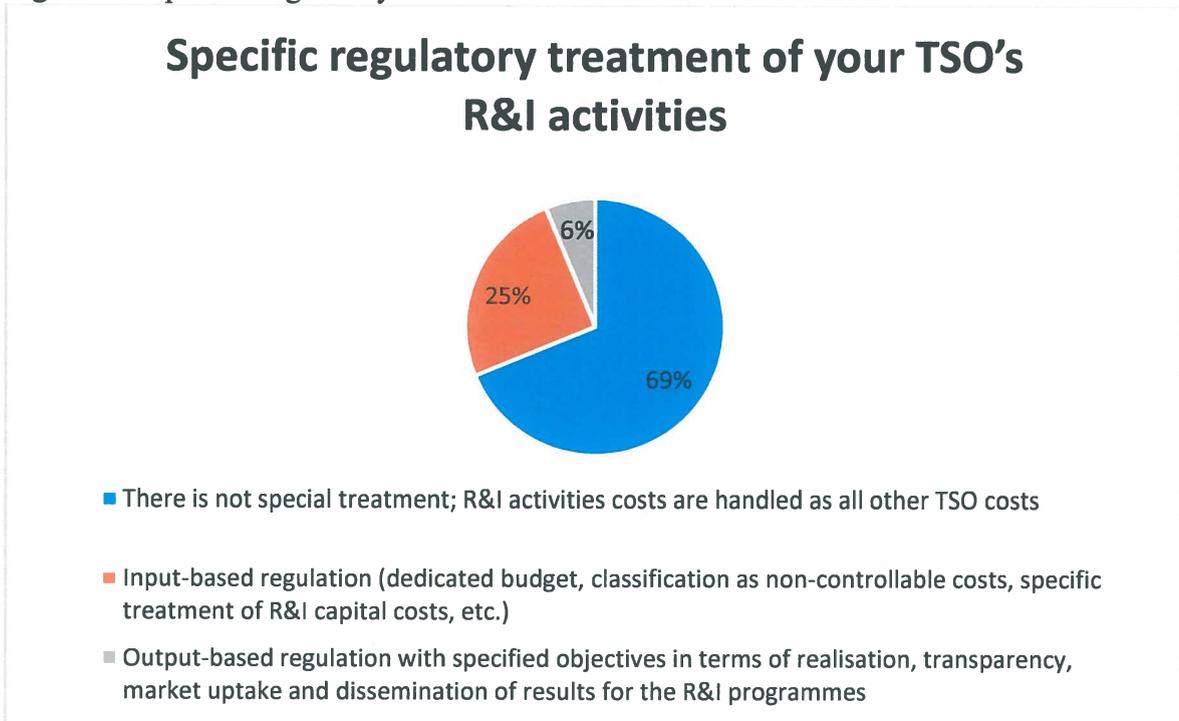


Figure 11: Reasoning for treatment of R&I costs

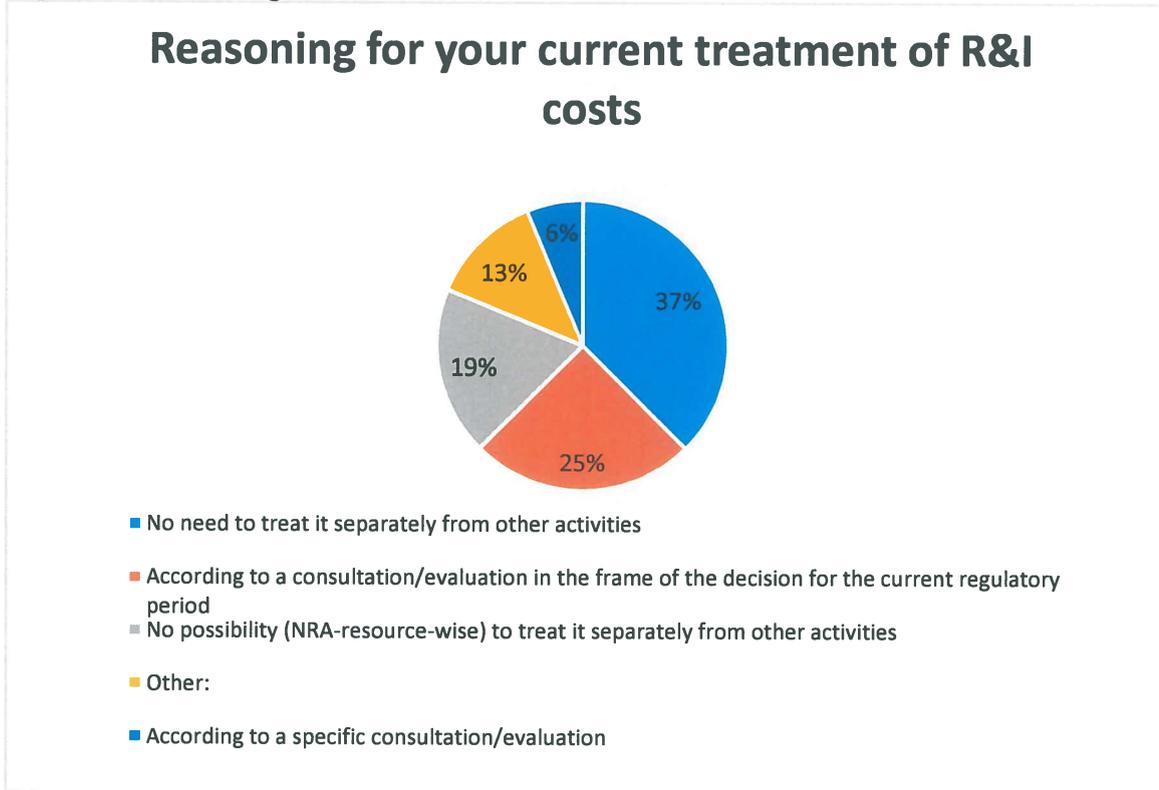
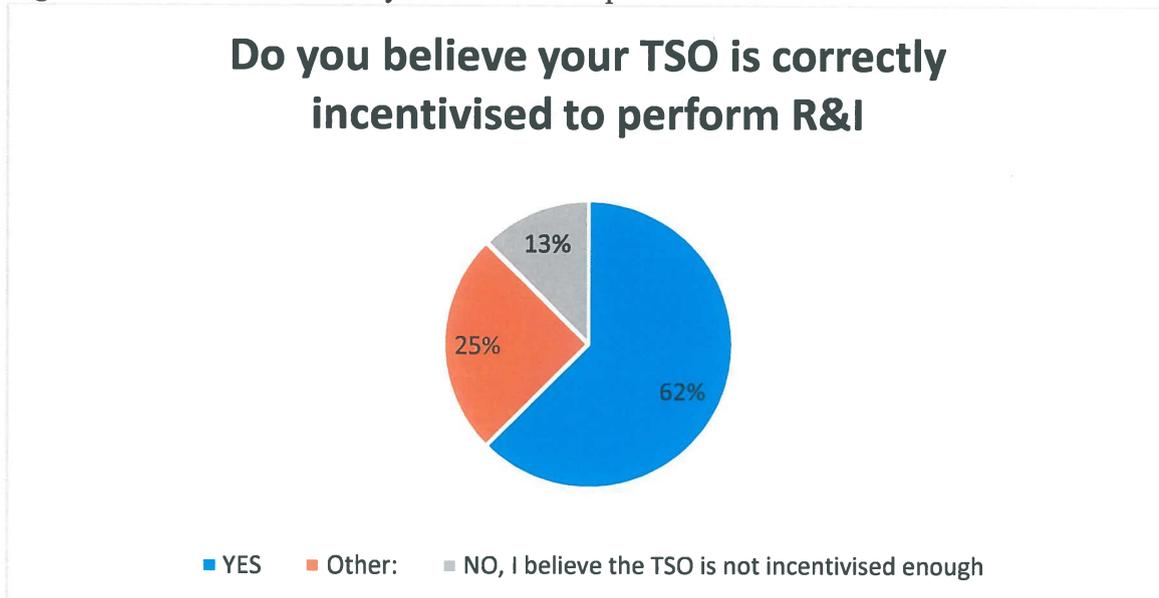


Figure 12: Are TSOs correctly incentivised to perform R&I?



Most NRAs (62%) believe their respective TSOs are sufficiently incentivised to perform R&I activities. From the NRAs explanations under the answer “other”, we can conclude that the question is difficult to answer since the volume of R&I projects is relatively low and the NRAs did not have sufficient contact with TSOs to assess the appropriateness of the incentives.