METHODOLOGY AND CRITERIA FOR EVALUATING INVESTMENTS IN ELECTRICITY AND GAS INFRASTRUCTURE PROJECTS
(ARTICLE 13(6) INFRASTRUCTURE REGULATION¹)

Unofficial and non-binding English translation

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¹ Regulation (EU) No 347/2013 on guidelines for trans-European energy infrastructure (Infrastructure Regulation).
CONTENTS

1 PRELIMINANRY NOTE ............................................................................................................ 1

2 EVALUATION OF INVESTMENTS IN ELECTRICITY AND GAS INFRASTRUCTURES ............................................................................................................ 3

3 RISK MITIGATION MEASURES ............................................................................................. 5

  3.1 Brief overview for electricity and gas TSO regulatory methodology ................................ 5

  3.2 Risk mitigating measures applied to the TSO of the electricity sector ............................ 6

  3.3 Risk mitigating measures applied to TSO and high pressure gas infrastructures........... 8
1 PRELIMINARY NOTE

Following article 13(6) of the Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013, each national regulatory authority shall publish its methodology and the criteria used to evaluate investments in electricity and gas infrastructure projects and the higher risks incurred by them.

On June 27, 2014 ACER published its recommendation on incentives for projects of common interest and on a common methodology for risk evaluation in allowance with the provision of the the article 13(5) of the Regulation.

Before developing these two topics, it is important to highlight that in Portugal the responsibility for the decision about investments in electricity and natural gas sectors is taken by the Government, and ERSE is not directly responsible for it. Every two years, ERSE has to issue a considered opinion on the National Ten-Year Network Development and Investment Plan (NTYNDP), based on a TSO proposal, and sends it to the Government. Following that, the Government has to express its final decision. This procedure applies both for electricity and gas sectors and, the proposals of NTYNDP are submitted by the TSO in odd years.

Moreover, it has to be clearly referred that ERSE’s regulatory practice tackles almost all the risk related to network investments. This principle is materialized into the calculation of the assets’ rate of return, since this rate corresponds to the weighted average cost of capital (WACC), which considers on the one hand the systematic risk of the activity and on the other hand the financing costs. Furthermore, this remuneration is indexed to the financial conditions of the market through annual adjustments. Once again, this applies both for electricity and gas sectors.

Besides this regulatory practice, the costs of those investments included in the NTYNDP approved by the Government shall be recovered through the network access tariffs, whereas ERSE’s statutes\(^1\) oblige to warrant a financial equilibrium of regulated activities as long as they are efficiently managed.

\(^1\) Article 3 (2 b) of the Decree-Law 84/2013 of 25 June.
2 EVALUATION OF INVESTMENTS IN ELECTRICITY AND GAS INFRASTRUCTURES

For both electricity and gas sectors, all investments projects have to be included in the national ten-year network development plan to be approved by the competent Government body responsible for electricity and natural gas sectors.

The Decree-Law no. 172/2006, reviewed by the Decree-Law no. 215-B/2012, of October 8, which transposed the Directive 2009/72/EC, frames the development and application of NTYNDP for the electricity sector. In what concerns natural gas sector, the NTYNDP is framed by the Decree Law no. 140/2006, reviewed by the Decree-Law no. 231/2012, of 26 October, which transposed into Portuguese law the Directive 2009/73/EC.

The preparation and application of the NTYNDP are continuous processes. Every two years, each TSO shall draw a proposal of NTYNDP, coordinated with the Regional and pan-European TYNDP. Beforehand, TSOs shall identify all network needs and select those investment projects which better fulfill those needs. The NTYNDP shall follow the provisions of Decree-Law no. 215-B/2012 for electric sector and Decree-Law no. 231/2012 for natural gas sector. Both for the electric sector and the gas sector, the proposals of NTYNDP are submitted by the TSO in odd years. Subsequently, the Government has to express its decision on these investment plans.

In a first step, for both electricity and gas sectors, the TSO shall submit its proposal of NTYNDP to the Directorate General for Energy and Geology (DGEG), who analyzes it and if necessary determines amendments to the plan.

Afterwards, DGEG sends this proposal to ERSE, who has the responsibility to promote a public consultation, with a maximum duration of 30 working days. After the end of the public consultation, ERSE has to issue a considered opinion on the NTYNDP within 30 days. During the public consultation, ERSE will collect data and comments from consulted stakeholders (consumers, utilities and other interested parties). Based on these comments and framed by its statutes, ERSE may determine additional changes to the proposal of NTYNDP in order to: i) ensure that investments needs are met ii) analyze potential impact of the NTYNDP on access tariffs and end user tariffs, iii) promote competition, iv) ensure the consistency with the pan-European TYNDP.

ERSE’s considered opinion on the NTYNDP for each sector shall be published and submitted to DGEG and concerned TSO. TSOs have then one month to amend the proposal in order to comply with ERSE’s requests and send it afterwards, for final approval by the Ministry responsible for the energy sector. Finally, Government will approve the NTYNDP or not, shall it not comply with the amendments determined by DGEG or by ERSE.
After approval of NTYNDP, the recovery of investment costs through the access tariffs is ensured by ERSE in accordance with its statutes, whereas the activity is efficiently managed, as it will be shown in the next section.
3 RISK MITIGATION MEASURES

3.1 BRIEF OVERVIEW FOR ELECTRICITY AND GAS TSO REGULATORY METHODOLOGY

Once investments proposed by electricity or gas TSOs are included in a NTYNDP approved by the Government, costs related to those investments have to be considered during the calculation of the network access tariffs. Those costs can be separated into Capital Expenditures (CAPEX) and Operational Expenditures (OPEX).

The regulatory schemes are similar for electricity and gas TSOs. In both cases, incentive based regulatory schemes are applied to OPEX in order to decrease costs over time. For CAPEX, a pure rate of return regulation is applied to gas, whilst standard investment costs are considered when setting rate of return for electricity investments.

In what concerns the regulation of OPEX for electricity and gas TSOs, before the end of each regulatory period, the TSO performance in achieving the goals in terms of operational efficiency is evaluated.

This analysis also allows determining the effectiveness of the regulatory methodology applied during the regulatory period and the need to eventually review this methodology. The adherence between actual costs and allowed revenues is assessed. From this analysis, it follows the definition of a set of regulatory parameters: i) the level of OPEX to be recovered by the network access tariffs during the next regulatory period, ii) the efficiency targets applied to these costs, iii) the cost drivers. Since the regulatory periods are three years long, the potential risk for the TSO due to a wrong calibration of these parameters is mitigated.

Regarding CAPEX, regulatory methodologies are different. In the natural gas sector a rate of return methodology is applied to the Regulatory Asset Base (RAB) evaluated in historical costs. This regulatory methodology ensures the recovery of investment costs, i.e. the depreciations and the return on assets net of depreciations and subsidies. In the case of the electricity sector, the regulatory methodology is based on the consideration of standard costs upon which efficiency targets are applied.

However, for both electricity and natural gas sector the RAB’s rate of return is set for each regulatory period, considering the risk of the activity, as well as its financial costs. For both sectors, due to the financial and macroeconomic uncertain current context that registers Portugal, the rate of return is annually updated, taking into account the evolution of the yields of the Portuguese treasury bonds.

The next two sections detail the risk mitigation measures applied to the electricity sector and to the gas sector.
3.2 RISK MITIGATING MEASURES APPLIED TO THE TSO OF THE ELECTRICITY SECTOR

The costs of an investment included in the electricity NTYNDP approved by the Government is taken into account in the calculation process of the access tariffs. Due to the importance of CAPEX, the regulatory treatment of this cost item is analyzed in more detail below. The overall effect of the current regulatory framework on investment risk is presented at the end of this section.

REGULATORY TREATMENT OF CAPEX

Since 2009, the regulatory methodology applied to the CAPEX of the transmission activity is based on the consideration of standard costs. In order to decrease investment costs, efficiency targets are applied upon these costs. However, the consideration of standard costs does not imply a major risk for the company, given that for regulatory purpose investments are not evaluated based on standard costs if the investment costs are higher, by 10%, than the standard costs...

Moreover, in order to offset any potential risk, a premium is added to the asset remuneration whenever standard costs are considered.

The rate of return is set to reflect both the risk of the activity, as the risk of the financial and economic current environment. Thus, the rate of return on assets corresponds to the Weighted Average Cost of Capital, WACC, which considers the company's cost of debt and cost of equity. The cost of debt reflects the company's financing costs. The cost of equity is calculated using the Capital Asset Pricing Model (CAPM) that reflects the systematic risk of the activity. Finally, the rate of return is indexed to the financial conditions of the country. Between 2012 and 2014, the rate of return was indexed to the average value of the five years Credit Default Swap (CDS) contracts for the Portuguese Republic's bonds.

From 2015, the rate of return will be indexed to the yields of the 10 years Treasury Bonds of the Portuguese Republic. In order to control the potential risk associated with a full indexation of the rate of return on regulated assets, the assets' rate of return is limited by a cap and a floor.

Notwithstanding the review of the regulatory scheme, since the new regulatory period begin in 2015, the principle of linking the asset remuneration to the national financial context will be kept. This principle allows mitigating the risk of liquidity than can occur due to any financial turmoil.

Besides those, further measures applied by the regulator allow tackling the main remaining risks:

1) Risk of time overruns

The accrued financial costs that can be due to any time overrun of the investment are considered as investment costs to be recovered through network access tariffs. However, the investment costs are only remunerated after the investment has entered into service.
2) Risk of stranded asset

Once the investments go into operation they become part of the RAB and considered for CAPEX calculations until they are fully depreciated, even if those assumptions that serve as ground for investment selection no longer apply.

3) Risk of not considering the anticipatory investments

In the process of setting network access tariffs for the next year, the budgeted values of investments that are foreseen to enter into operation in this year are included in the regulatory asset base.

4) Risk of mismatch between the actual CAPEX and the forecast CAPEX

The network access tariffs (applied on a yearly basis) include forecasted investments costs. The difference between actual investment costs and forecasted costs are accounted for in the tariffs two years later, including the financial estimated costs or gains due to these deviations.

IMPACT OF THE REGULATORY FRAMEWORK

Despite CAPEX is recovered through network access tariffs, the whole regulatory scheme can be seen as an incentive based regulation due to the application of: i) price cap methodology with efficiency targets for OPEX; ii) efficiency targets applied to investment costs valued at standard costs; iii) an incentive to maintain into operation equipments that have reached the end of their economic lives (in accounting terms); iv) an incentive to increase the availability of assets, with little impact on the company due to the financial dimension of the mechanism.

In what concerns the price cap methodology applied to OPEX, potential risks are mitigated since methodology takes into account the evolution of the activity (using cost drivers are “network length” and “number of panels”) and the regulatory period is short, being three years long. Moreover, the efficiency targets applied to the standard costs do not raise the investment risk, since unit costs are updated based on economical indexes and materials indexes. Furthermore, whenever the investments are inefficient (in the light of the standards cost mechanism), being higher than the standard costs, by 10%, actual investment costs are still accepted into the RAB.

In summary, the regulatory framework applied to the TSO clearly reduces the investment risks.
3.3 RISK MITIGATING MEASURES APPLIED TO TSO AND HIGH PRESSURE GAS INFRASTRUCTURES

In the case of the natural gas sector, the regulatory framework also limits strongly the investment risk, for the reasons stated below.

REGULATORY TREATMENT OF CAPEX

As for the electricity case, the investments costs of the natural gas TSO that are included in the NTYDP approved by the Government must be recovered through the network access tariffs. However, in the natural gas case, only actual investment costs are considered.

With regard to the remuneration of investments in the natural gas sector, as in the electricity sector, the rate of return on assets is defined to reflect both the risk of the activity, as the risk of the current financial and economic environment. Thus, the rate of return on assets corresponds to the WACC composed of the cost of debt and of the cost of equity. The costs of debt reflects the company's financing costs. The cost of equity reflects the systematic risk of the activity that is estimated by using the CAPM.

The rate of return is also indexed to the evolution of the yields of the 10 years Portuguese Government Bonds. This allows acknowledging the country’s financial conditions and, therefore, mitigating the investment liquidity risk. For the natural gas, the indexation is also partial. Thus, the rate of return cannot evolve beyond a maximum value and a minimum value.

Besides those, further measures applied by the regulator allow tackling the remaining main risks. Those measures are similar to those applied to electricity:

1) Risk of time overruns

The accrued financial costs that can be due to any time overrun of the investment are considered as investment costs to be recovered through network access tariffs. However, the investment costs are only remunerated after the investment has entered into service.

2) Risk of stranded asset

Once the investments go into operation they become part of the RAB and considered for CAPEX calculations until they are fully depreciated, even if those assumptions that serve as ground for investment selection no longer apply.

3) Risk of not considering the anticipatory investments
In the process of setting network access tariffs for the next year, the budgeted values of investments that are foreseen to enter into operation in this year are included in the regulatory asset base.

4) Risk of mismatch between the actual CAPEX and the forecast CAPEX

The network access tariffs (applied on a yearly basis) include forecast investments costs. The difference between actual investment costs and forecasted costs is accounted for in the tariffs two years later, including every financial cost of the existing deviations.

IMPACT OF THE REGULATORY FRAMEWORK

Despite being applied a price cap type methodology to the OPEX, the impact due to the possible mismatch between the actual costs and the costs recovered through tariffs is mitigated since the regulatory period is three years long. With respect to the CAPEX, the regulatory methodology is rate of return type and, by nature, is of minimal risk.

Thus, the regulatory framework applied to the activities developed by the natural gas TSO guarantees a very low level of risk for investments.