



FINAL TECHNICAL NOTE

Subject: Sabesp's 2022 Economic-Financial Rebalancing

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1) PURPOSE

The purpose of this Technical Note (NT) is to present the final analysis of the request presented by Companhia de Saneamento Básico do Estado de São Paulo (Sabesp), in December 2022, based on the company's allegation of economic-financial imbalance in the provision of water supply and sewage services. This technical note incorporates all contributions fully or partially accepted, which were received under Public Consultation 14/2022 and Public Hearing 02/2023.

2) BACKGROUND

Firstly, it is important to highlight the regulatory background in which Sabesp operates.

According to article 10, item IV, of Supplementary Law 1025/2007¹, Arsesp is responsible for, respecting the federal and municipal jurisdictions and prerogatives, and complying with the tariff guidelines defined in a decree, **establishing the tariffs and other forms of consideration for the services, as well as adjusting and reviewing it to ensure both the economic-financial balance of the services rendered and the affordability of tariffs, through mechanisms that induce the efficiency of services and allow the social appropriation of productivity gains.**

¹ <https://www.al.sp.gov.br/repositorio/legislacao/lei.complementar/2007/lei.complementar-1025-07.12.2007.html>



Also, according to article 22 of Federal Law 11,445/2007:

Article 22. The purposes of the regulation:

I - establishing standards and rules for the adequate provision and expansion of the quality of services and for user satisfaction, based on the reference standards published by ANA; (Wording by Law 14,026/ 2020)

II - ensuring compliance with the conditions and goals established in service contracts and municipal plans, or regionalized provision of basic sanitation services; (Wording by Law 14,026/2020)

III - preventing and inhibiting the abuse of economic power, except for the jurisdiction of the bodies comprising the Brazilian Competition Defense System; and (Wording by Law 14,026/2020)

IV - defining tariffs that ensure both the economic-financial balance of contracts and tariff affordability, through mechanisms that generate service efficiency and effectiveness and that allow sharing productivity gains with users. (GN)

Arseps is responsible for evaluating the economic-financial balance of Sabesp's water supply and sewage services considering the existing cooperation contracts and agreements.

Accordingly, below we present a brief retrospective on the current tariff cycle (2021-2024) to contextualize it.

Sabesp is in the fourth tariff cycle (2021-2024), considering the completion of the 3rd OTR (Ordinary Tariff Review) in April/2021, according to ARSESP Resolution 1,150/2021, which defined the P0 for the 2021-2024 cycle at **R\$ 4.9534 m³ (Oct/2020)** and **R\$ 5.1213 m² (R\$ Feb/2021)**.

It should be noted that the 3rd OTR, in addition to occurring in a pandemic period (COVID-19), was held together with the discussion on the company's new tariff structure, and the OTR's Economic-Financial Model used the concept of revenue by volume measured rather than revenue by volume billed (as the minimum consumption concept was excluded from the new tariff structure).

Thus, in the application of the tariffs for the fourth tariff cycle, it was decided to carry out a transition through the application of an adjustment in 2021 and, from then on, the monitoring of Revenue Obtained in relation to a Reference Ceiling Revenue every year, considering a variation range, with a risk margin for the concessionaire, and eventual compensatory adjustment (up or down), based on market realization and revenue achieved (ARSESP Resolution 1,150/2021). Therefore, no application of a Tariff Repositioning Index (TRI) was directly applied to the tariffs charged².

Accordingly, in 2021, the tariff adjustment of the water and sewage tables was approved at 7.60% for the residential and non-residential categories; -1.00% for the social residential category; and 5.45% for the permissionaires (IPCA from Apr/20 to Feb/21), according to NT.F-0018-2021³.

² <http://www.arsesp.sp.gov.br/ConsultasPublicasBiblioteca/RCF-0002-2021.pdf> (item 12)

³ <http://www.arsesp.sp.gov.br/Documentosgerais/NTF-0018-2021.pdf>



Notwithstanding, on March 16, 2022, Arsesp Resolution 1,278/2022 approved a tariff adjustment of 12.8019%, to be applied as of May 10, 2022, according to NT.F-0010- 2022⁴:

Table 1 – Adjustment applied in 2022

2022 Adjustment	
IPCA Feb/21 to Feb/22	10.5437%
X Factor	-0.2142%
Ceiling revenue adjustment	1.4040%
GQI 2020	0.1490%
+1,5% Residential	0.9755%
TRI	12.8019%

Source: Table 7 – NT.F-0010-2022

In the table above we can see that within the adjustment applied in 2022, the monetary adjustment item (IPCA) was 10.5437%, deducted from the X Factor of 0.2142%, therefore, there was an additional adjustment item referring to the 2021 ceiling revenue and a linear increase of 0.9755% referring to the conditions established for the approved tariff transition.

Accordingly, the adjusted P0 (at Feb/2022 prices), according to NT.F-0010-2022, is R\$ **5.6514/m³** (see table below):

Table 2 – P0 (R\$/m³) updated

P0 (R\$/m ³)	3rd OTR	3rd OTR (2022 adjustment)*	Monetary Adjustment Index (IPCA)	X FACTOR	IPCA - X FACTOR
R\$ Oct/2020	4.9534	4.9544	-	-	-
R\$ Feb/2021	5.1213	5.1223	3.39%	-	-
R\$ Feb/2022	5.6503	5.6514	10.54%	0.2142%	0.1033

* NT.F-0010-2022

Source: Arsesp

3) SABESP'S REQUEST

On March 31, 2022, Sabesp sent document P-169/2022 and, attached to it, NT-FR-008/2022, requesting the clarification and review of the calculations made in the company's annual tariff adjustment, resolved by Arsesp, according to ARSESP Resolution 1,278/2022.

The following items were listed in the aforementioned request:

⁴ <http://www.arsesp.sp.gov.br/Documentosgerais/NTF-0010-2022.pdf>



- 1) Assets Report of the Municipality of Mauá;
- 2) Calculation of Cofins/Pasep;
- 3) Recognition of Renovations and Cancelations;
- 4) K Factor;
- 5) Commercial Programs;
- 6) Compensatory Adjustment Capitalization;
- 7) Monetary Adjustment of the Compensatory Adjustment Amount;
- 8) Adjustment of the equivalence of the 1.5% variation in the Residential category;
- 9) General Quality Index (GQI);
- 10) Tariff Equation;
- 11) Reversal of the 2019 GQI compensatory adjustment for the application of the 2022 adjustment;
- 12) The implementation of the new tariff structure.

ArseSP immediately proceeded with the analyses of the aforementioned items, sending Official Letter 483, of 07/30/2022 to the Company, in which it informed that the aforementioned request was being analyzed by the Agency.

On December 12, 2022, Sabesp sent to ArseSP Official Letter P-0590, in which the Company states that the values of the tariffs currently in force (ARSESP Resolution 1,278/2022) are insufficient to maintain the economic-financial balance.

In view of the above, the purpose of the next item of this Technical Note is to present the analysis performed by ArseSP's technical team, including the contributions of the aforementioned Public Consultation and Public Hearing, regarding the request for clarifications and reviews presented in March 2022 (P 169/2022), as well as the request for analysis of an eventual economic-financial imbalance of water supply and sewage services, prepared by Sabesp.

4) ARSESP'S ANALYSIS

This Technical Note presents the analysis in two stages, i.e. separately. One of the stages refers to the request for clarification and reviews presented by Sabesp in March/2022, and the other to the request for analysis of an eventual economic-financial imbalance, presented in December 2022.

4.1) Analysis of the Request for Clarifications and Reveews presented in March/2022

As mentioned in the item above, ArseSP immediately started the analysis and identified 12 items in the request, which are responded to below.

Item 1) Assets Report of the Municipality of Mauá;

According to PARECER.TEC-0157-2022, the net value of the asset base of the Municipality of Mauá, included in the Assets Report presented by Sabesp, accounts for **0.68%** of Sabesp's net RRB. The table below summarizes the information presented:



Table 3 Net value - Sabesp's RRB and asset base of Mauá

Base date - December/2020		
Net Value - Sabesp's RRB (NT.F-0016-2021) - (A)	Net Value - asset base of Mauá (Assets Report) - (B)	(B) / (A)
57,151,947,598.75	388,015,560.93	0.68%

According to Final Technical Note NT.F-0016-2021, in reference to Sabesp's 3rd OTR, regarding the inclusion of assets incorporated from new municipalities during the tariff cycle:

“Considering the potential imbalance that the inclusion of new markets may generate in the cash flow results, Arsesp determined that, at the time of the start of service provision in municipalities whose asset base value is to be incorporated in Sabesp's RRB, net of depreciation, is higher than 1% of the NRRB of the cycle in progress, it will reassess the maximum tariff, with the inclusion of the new assets, as well as the markets and cost projections (considering exclusively the marginal cash flow of the remaining cycle), provided that there is enough time available for it.” (Our highlight)

Thus, according to the condition provided for in NT.F-0016-2021, **there is no need**, at the moment, to reassess the maximum tariff due to the incorporation of the asset base of the municipality of Mauá into Sabesp's asset base. Such inclusion shall be made upon the incorporation of the incremental asset base for the 4th Ordinary Tariff Review, as well as the compensatory adjustments related to the conclusion of the inspection process of the incremental base of the 3rd OTR.

It should be noted that, for information purposes, the 3rd OTR already considered the market and cost projections for the Municipality of Mauá.

Item 2) Calculation of Cofins/Pasep

Regarding the form of calculating the actual revenue for 2021 for the calculation of the compensatory adjustment, Arsesp, based on the arguments presented by Sabesp in NT-FR-008/2022, contained in document P- 169/2022, of March 31, 2022, attached to this Technical Note, understands that the Company's request is appropriate, and, therefore, recalculates the actual revenue based on the following table:

Table 4 – Calculation of Actual Revenue 2021

	2022 Adjustment	Recalculation
Ceiling Revenue Obtained (R\$)	17,583,084,349.00	17,583,084,349.00
PIS/COFINS (R\$)	-1,135,384,706	-1,213,760,313
Actual Revenue (R\$)	16,447,699,643	16,369,324,036
Difference of PIS/COFINS (R\$)		78,375,606

The calculation above considered the application of Cofins/Pasep in the form known as “inside”, rather than the calculation made “outside”, the latter originating from the difference found.



It was verified that Sabesp is entitled to an additional adjustment of **R\$ 78,375,606** (that should be monetarily adjusted and capitalized), and which will integrate, at the end of this Technical Note, the calculation of the tariff review.

Item 3) Recognition of Renovations and Cancelations;

The “Renovations and Cancelation” item is shown in Arsesp’s evaluation when analyzing average unit consumption, as well as the share of such units in the formation of Revenue Obtained. Therefore, there is no reason to give specific treatment to the Renovations and Cancellations of bills.

However, because of the complexity of the matter, which involves operational aspects of the company’s reading, billing, and collection process, as well as accounting factors, Arsesp will open an inspection process, as well as a specific study for the matter, which shall be concluded to implement/apply a possible compensatory adjustment in the 4th OTR, as well as a proposal of an efficiency curve, if proven in the studies.

Item 4) K Factor;

Based on the arguments presented by Sabesp in NT-FR-008/2022, contained in document P-169/2022, of March 31, 2022, attached to this Technical Note, Arsesp understands that the use of the revenue actually obtained with the revenue of the K Factor is adequate and, consequently, it is not necessary to adopt an estimate for it. Accordingly, the calculation of the K Factor applied in the compensatory adjustment was reviewed, and will lead to an increase of R\$ **24,276,019** (that should be monetarily adjusted and capitalized) for the concessionaire, according to the table below:

Table 5 – K Factor

Revenue in 2021 (R\$)	188,753,645.46
PIS/COFINS (R\$)	-13,029,664
Revenue in 2021 (net) - R\$	175,723,981
Value applied in the adjustment in 2022 (R\$)	200,000,000
Difference - K Factor	24,276,019

Item 5) Commercial Programs;

Concerning the questioning to include commercial programs aimed at reducing the 2021 compensatory adjustment, of R\$180 million, Arsesp maintains its understanding, considering that the non-implementation of the commercial programs by Sabesp until the date of this Technical Note is at the company’s discretion, and said programs shall be equally applied to specific market niches, taking into consideration that the use of water and sewage differ in specific fields of activity, with submission for prior approval by Arsesp.



Also as part of this technical assessment, we verified that no commercial program has been presented so far, as determined by Arseps Resolution 1,150/21, reinforcing the agency's positioning of not recognizing any amount before the creation of said programs, the approval by Arseps, and the implementation and confirmation of its results by Sabesp before this agency.

It is worth noting that the aforementioned programs must be used to encourage consumption in specific sectors that bring an associate volume that contributes to gain in scale during the provision of services, as defined in article 3 of Resolution 1,150/2021. Thus, by including the adjustment in the calculation, Arseps recommends regulatory stability and incentive for efficiency.

Item 6) Compensatory Adjustment Capitalization;

In the request for clarification, Sabesp argues that the capitalization of the due compensatory adjustment by the WACC must be two years. In fact, the capitalization is provided for in Arseps Resolution 1,150/2021 (article 2), and, accordingly, Sabesp's request regarding its recognition is appropriate. The company reinforced its understanding in the contribution sent during a Public Consultation, arguing that both the failure to receive the adjustment at the time and its latter receipt occurs throughout the year, and therefore, the capitalization must consider such an effect. Thus, Arseps considered the understanding adequate, partially accepting it, and will proceed with the calculation of the amount due keeping the concept of "half-rate", but considering the extension of the deadline requested so that this effect is replicated to the financial flow. Therefore, the rate used for the capitalization of the 2021 adjustment value is 16.86%, resulting from the WACC (8.10%) capitalized for two years.

Item 7) Monetary Adjustment of the Compensatory Adjustment Amount Calculated;

In its request for clarification, Sabesp points out that there was no monetary adjustment of the compensatory adjustment calculated concerning the ceiling revenue earned in 2021. At the time, the calculated amount of R\$ 277,911,285.00 was in R\$ of February **2021**, while the percentage of 1.4040% calculated for the required revenue of 2022 is in R\$ of February **2022**. Therefore, the adjustment value should have been in the same currency as the required revenue, and Arseps makes such a correction in the new adjustment flow presented (Table 14).

Item 8) Adjustment of the equivalence of the 1.5% variation in the Residential category;

To calculate the adjustment factor of 0.9755%, Arseps performed the following procedure:

- Calculated, based on the 2021 histogram, the Ceiling Revenue obtained from all segments;
- Included an adjustment item (increase) of 1.5% in the residential segment only, recalculating the ceiling revenue obtained with such an increase;
- Compared the ceiling revenue obtained with the aforementioned adjustment versus the ceiling revenue originally obtained in 2021, resulting in a percentage of 0.9755%.

Accordingly, it is not necessary to make any adjustments in the calculation given the monitoring of the ceiling revenue and the compensatory adjustment (revenue range).



Item 9 - General Quality Index (GQI);

Regarding the GQI, Sabesp questions the non-application of the 2021 GQI in the 2022 tariffs. However, as presented in NT.F-0010-2022:

“There will be no application of the GQI related to 2021 for this tariff adjustment nor for the adjustments of previous years, which will be subject to a compensatory adjustment in the next annual tariff adjustment”.

Thus, and considering Sabesp’s request for economic-financial rebalance, a compensatory adjustment flow was made comparing the maximum average tariff (P0) applied and the tariff that should have been applied if the indexes and their due adjustments were incorporated at the time. The difference in revenue was put in the same currency (R\$ Feb/22) and capitalized by the WACC. In addition to this adjustment, an error was identified in the application of the 2019 GQI, of R\$ -0.0038/m³, in the 2021 tariff adjustment (NT.F-0018-2022), in the first range of each category. This error arises from the fact that the adjustment value is expressed in R\$/m³ and, therefore, it should be multiplied by 10 in the first range because of the company’s minimum consumption tariff structure. The multiplication was not made and, therefore, the company earned too much revenue throughout 2021, which should be refunded to users, as well as adjusted and capitalized.

Accordingly, as a starting point for the construction of the flow, it is important to resume what was done in the adjustment applied in 2021 (already incorporating the 2021 compensatory adjustments), in terms of maximum average tariff:

Table 6 - 2021 P0 Adjustment (adjusted)

<u>2021 Adjustment</u>	
Adjusted P0 (R\$ Oct/20)	4.9544
IPCA Oct/20 - Feb/21	3.3892%
2020 GQI	0.1490%
Adjustment 2019 GQI	-0.0038
2021 P0 Adjusted (R\$ Feb/21)	5.1261

It is worth noting another request from Sabesp - letter ‘b’ of item GQI, which points out the failure to add the GQI to inflation, i.e. 0.1490% is incorporated into the tariff in a compound way. This will be addressed together with the flow presented in Table 11.

Following what was adopted, the following adjustment in terms of the maximum average tariff was applied in 2022:



Table 7 - PO 2022 Adjustment

2022 Adjustment	
2021 PO Adjusted (R\$ Feb/21)	5.1261
IPCA Feb/21 - Feb/22	10.5437%
X Factor	0.2142%
2022 PO (R\$ Feb/22)	5.6556

Therefore, there was no application of GQI in 2022, either of the 2021 index or adjustments of past indexes, as already explained in the mentioned Technical Note. However, there was the exclusion of the 0.1490% indexes (in a compound way, based on the incorporation in the 2021 adjustment) and the reversal of the compensatory adjustment of 2019 GQI (also without the adjustment of the first minimum consumption range), according to Table 7 of NT.F-0010-2022:

Table 8 - 2022 Tariff Adjustment

2022 Adjustment	
IPCA Feb/21 to Feb/22	10.5437%
X Factor	-0.2142%
Ceiling revenue adjustment	1.4040%
2020 GQI	0.1490%
+1.5% Residential	0.9755%
TRI	12.8019%

Therefore, it is necessary to create a financial flow that reproduces how the required revenue should have behaved if the GQI indexes were incorporated into the tariff in due time, as well as the due adjustments. In the 2021 tariff adjustment, we have the following:

Table 9 - 2021 PO Adjustment (adjusted)

2021 Adjustment- Adjusted Flow	
Adjusted PO (R\$ Oct/20)	4.9544
IPCA Oct/20 - Feb/21	3.3892%
2020 GQI	0.0875%
2019 GQI Adjustment	-0.0038
2021 PO Adjusted (R\$ Feb/22)	5.1228



For this adjustment, we already consider the post-audit 2020 GQI and Sabesp's request, as described in Arsesp Resolution 1,361/2022. This adjustment also includes the correction of the formula so that the GQI is added to inflation, rather than incorporated in a compound manner.

The 2022 tariff adjustment would consider the following:

Table 10 - 2022 PO Adjustment (adjusted)

2022 Adjustment	
2021 PO Adjusted (R\$ Feb/21)	5.1228
2019 GQI Adjustment	0.0038
PO with 2019 GQI Adjustment	5.1266
2020 GQI Adjustment	-0.0875%
Neutral PO (R\$ Oct/20)	4.9544
Neutral PO (R\$ Feb/21)	5.1223
IPCA - Feb/21 - Feb/22	10.5437%
X Factor	0.2142%
2021 GQI	0.0030%
2022 PO with 2021 GQI (R\$ Feb/22)	5.6516

In other words, considering the 2021 final value, the incorporated GQIs would be excluded, so that they would be neutral in the new tariff composition. Thus, a neutral PO is reached (R\$ Feb 2021), to which all the items of the tariff adjustment formula would be applied, namely:

Figure 1: Annual tariff adjustment equation

$$P_t = P_{t-1} * (1 + IPCA - X \pm Q)$$

Where:

P_t = Maximum Average Tariff (Maximum Price) to be applied during the tariff year.

IPCA = Percentage variation of the IBGE's Amplified Consumer Price Index in the 12 months prior to the base date.

X = X Factor determined for the tariff cycle in percentage.

Q = Q Factor determined for the year.

Therefore, considering IPCA from Feb/21 to Feb/22, of 10.5437%, the X Factor defined in the 3rd OTR, of 0.2142%, and the GQI for 2021, of 0.0030%, we have the following compensatory adjustment flow of the GQI:



Table 11: Financial Flow of the Effects of GQI

WACC 3rd OTR									
Month	Projected volume 3rd OTR	P0 applied	Revenue	Adjusted P0	Adjusted revenue	Difference (R\$ Feb/21 and Feb/22)	Difference (R\$ Feb/22)	Capitalization factor	Capitalized difference
May/21	269,377,607	5.1261	1,380,856,551	5.1228	1,379,967,604	-888,946	-982,674	1.16856	-1,148,314
Jun/21	273,162,949	5.1261	1,400,260,593	5.1228	1,399,359,155	-901,438	-996,483	1.16100	-1,156,917
Jul/21	275,080,833	5.1261	1,410,091,858	5.1228	1,409,184,091	-907,767	-1,003,479	1.15349	-1,157,503
Aug/21	278,453,651	5.1261	1,427,381,261	5.1228	1,426,462,364	-918,897	-1,015,783	1.14603	-1,164,115
Sept/21	283,307,593	5.1261	1,452,263,051	5.1228	1,451,328,136	-934,915	-1,033,490	1.13861	-1,176,745
Oct/21	289,613,650	5.1261	1,484,588,530	5.1228	1,483,632,805	-955,725	-1,056,494	1.13125	-1,195,155
Nov/21	288,432,218	5.1261	1,478,532,392	5.1228	1,477,580,566	-951,826	-1,052,184	1.12393	-1,182,579
Dec/21	293,887,341	5.1261	1,506,495,898	5.1228	1,505,526,070	-969,828	-1,072,084	1.11666	-1,197,150
Jan/22	287,295,829	5.1261	1,472,707,147	5.1228	1,471,759,071	-948,076	-1,048,039	1.10943	-1,162,728
Feb/22	295,689,895	5.1261	1,515,735,969	5.1228	1,514,760,193	-975,777	-1,078,660	1.10226	-1,188,958
Mar/22	299,266,329	5.1261	1,534,069,131	5.1228	1,533,081,553	-987,579	-1,091,706	1.09512	-1,195,554
Apr/22	288,959,239	5.1261	1,481,233,955	5.1228	1,480,280,389	-953,565	-1,054,107	1.08804	-1,146,909
May/22	275,461,664	5.6556	1,557,900,985	5.6516	1,556,799,139	-1,101,847	-1,101,847	1.08100	-1,191,096
Jun/22	279,332,500	5.6556	1,579,792,887	5.6516	1,578,675,557	-1,117,330	-1,117,330	1.07401	-1,200,020
Jul/22	281,293,701	5.6556	1,590,884,653	5.6516	1,589,759,478	-1,125,175	-1,125,175	1.06706	-1,200,627
Aug/22	284,742,696	5.6556	1,610,390,792	5.6516	1,609,251,821	-1,138,971	-1,138,971	1.06015	-1,207,485
Sept/22	289,706,267	5.6556	1,638,462,762	5.6516	1,637,303,937	-1,158,825	-1,158,825	1.05330	-1,220,586
Oct/22	296,154,750	5.6556	1,674,932,804	5.6516	1,673,748,185	-1,184,619	-1,184,619	1.04648	-1,239,682
Nov/22	294,946,635	5.6556	1,668,100,187	5.6516	1,666,920,401	-1,179,787	-1,179,787	1.03971	-1,226,638
Dec/22	300,524,965	5.6556	1,699,648,992	5.6516	1,698,446,892	-1,202,100	-1,202,100	1.03299	-1,241,751
Jan/23	293,784,579	5.6556	1,661,528,067	5.6516	1,660,352,929	-1,175,138	-1,175,138	1.02630	-1,206,047
Feb/23	302,368,231	5.6556	1,710,073,765	5.6516	1,708,864,292	-1,209,473	-1,209,473	1.01966	-1,233,254
Mar/23	306,025,441	5.6556	1,730,757,486	5.6516	1,729,533,384	-1,224,102	-1,224,102	1.01307	-1,240,096
Apr/23	295,485,559	5.6556	1,671,148,127	5.6516	1,669,966,185	-1,181,942	-1,181,942	1.00651	-1,189,639
Total (R\$ Feb/22)									- 28,669,548

For the regulatory years 2021 (May/21 to Apr/22) and 2022 (May/22 to Apr/23), the volumes projected in the 3rd OTR, of 3,422,527,133 m³ and 3,499,826,987 m³, respectively, were used, considering the seasonality from May/20 to Apr/21, already adopted in previous compensatory adjustments.

In addition to this amount of around R\$ 28.6 million, it is necessary to calculate the compensation referring to the 2019 GQI adjustment in the minimum consumption range (up to 10m³).

Since there is no projection of total units in the tariff model, we used those realized in 2021 as the best possible figure for the calculation. Thus, considering the 2021 histogram sent by the company, we estimate that there were 282,637,830 units billed in the year (water and sewage). Thus, we have:

Table 12 – Adjustment calculation 10m³ of the 2019 GQI

No. of Units 2021	282,637,830
2019 GQI Adjustment (R\$/m ³)	-0.0038
R\$ Adjustment 10m³ (R\$ Feb/21)	-9,666,213.79
R\$ Adjustment 10m³ (R\$ Feb/21), capitalized WACC	-11,550,906.99

Since all units pay at least for minimum consumption, R\$ -0.0038/m³ is multiplied by 9m³ (unadjusted volume), and by the number of total units, totaling R\$ 9,666,213,79 (R\$ Feb/21). Adjusting by inflation until Feb/22 and capitalizing for the WACC of 8.10%, the result is **R\$ 11,550,906.99, to be refunded to users.**

By adding it to the previous compensatory adjustment flow, a total of **R\$ 40,220,454.80** (R\$ Feb/22) should be refunded to users, according to the table below:



Table 13 – Consolidation of historical GQI adjustments

GQI adjustment flow (R\$ Feb/22)	-28,669,547.81
<u>Adjustment 10m3 (R\$ Feb/22)</u>	<u>-11,550,906.99</u>
Total (R\$ Feb/22)	-40,220,454.80

From the application of the result shown above, the items referring to the GQI in the request for clarification are corrected, following, as of now, the normal application of the index.

Item 10) Tariff Equation;

Regarding the questioning about the application of the adjustment of R\$ 0.0038/m³ on the tariff tables, we inform you that Arsesp checked the tariff table applied, after the rectification of ARSESP Resolution 1,278 and NT.F-0015-2022⁵, and it verified that, in some cases, there was a difference of R\$ 0.01/m³. Thus, for the next tariff table, Arsesp will make the due adjustment.

It is worth noting that the impact for Sabesp is null considering the compensatory adjustment methodology (revenue range).

Item 11) Reversal of the 2019 GQI compensatory adjustment for the application of the 2022 adjustment; Answered in items 9 and 10.

Item 12) Implementation of the new tariff structure

Regarding the questioning about the postponement of the implementation of Sabesp's new tariff structure, we inform you that it is still being analyzed by Arsesp because of the definition of collective tariffs, as well as other aspects related to the unified tariff table and, therefore, the necessary tariff transition, considering the rebalancing of inter-regional subsidies and the categories currently defined.

Such rebalancing, under the studies of Sabesp's net tariff structure, is a complex matter and will bring tariff reductions and increases among users, aiming at establishing a single tariff at the end of the implementation process.

It is worth noting that the postponement of the implementation of the new tariff structure implied only the postponement of the new format and values of the tariff table. Otherwise, the definitions of Arsesp Resolutions 1,150/21 and 1,278/22 are still valid regarding the conditions and criteria for users' eligibility to social and vulnerable tariffs, as well as the creation of commercial programs and other conditions, since the establishment of the revenue range defined in the 3rd OTR also aims to ensure such practices by Sabesp.

⁵ <http://www.arsesp.sp.gov.br/Documentosgerais/NTF-0015-2022.pdf>



4.1.1) The conclusion of item “4.1” - Request for Clarifications and Reviews

For all the above, regarding the **Request for Clarifications and Reviews** presented by Sabesp, referring to the 2022 adjustment, based on the technical analysis detailed above, it is understood that the compensatory adjustment, of **R\$ 215,033,142 (R\$ Feb/2022)**, is due, as presented in the table below, corresponding to the period between January to December 2021, which is already adjusted and capitalized, and represents an increase of 1.0635% in the current tariffs.

Table 14: Calculation memory of the amount to be compensated in the tariffs

SABESP’S CLARIFICATION REQUEST

2021 Adjustment Reviewed (R\$ Feb/21)	R\$	284,123,592
PIS-COFINS (R\$ Feb/21)	R\$	78,375,606
K Factor (R\$ Feb/21)	R\$	24,276,019
subtotal (R\$ Feb/21)	R\$	386,775,217
Capitalization (16.86%)	R\$	482,311,414
IPCA Feb/21-Feb/22		10.5437%
subtotal (R\$ Feb/21)	R\$	533,164,882
<hr/>		
2021 Adjustment (R\$ Feb/21)	R\$	277,911,285
<hr/>		
Compensatory adjustment (R\$ Feb/22, capitalized)	R\$	255,253,597
<hr/>		
GQI adjustment flow (R\$ Feb/22)	-R\$	28,669,548
Adjustment 10m3 (R\$ Feb/22)	-R\$	11,550,907
<hr/>		
Compensatory adjustment with GQI (R\$ Feb/22, capitalized)	R\$	215,033,142
Compensatory adjustment with GQI (% RR)		1.0635%

4.2) Analysis of Official Letter P-0590/2022

Regarding the content of Official Letter P-0590/2022, sent by Sabesp, drawing attention to the possible economic-financial imbalance considering the tariffs in effect, Arsesp, in addition to the regular monitoring conducted throughout the year, sent Official Letter 844 to the Company, requiring further information to be able to analyze more accurately the aforementioned request. Sabesp responded through Official Letter FR 1166, providing (most of) the data and the clarifications deemed necessary.



Firstly, it is worth noting that in the context of the 3rd OTR, Sabesp's New Tariff Structure was simultaneously put under discussion with society, culminating in NT.F-0017- 2021⁶ and Arsesp Resolution 1,150/2021.

Article 2 of this Resolution provides the following:

Article 2. For the current tariff cycle only, ARSESP will annually assess, during the tariff adjustment process, revenue actually obtained by SABESP in the previous year.

The first analysis on the revenue actually earned by Sabesp was performed during the 2022 annual tariff adjustment, when it was observed that revenue obtained was below the margin of $\pm 2.5\%$, compared to the revenue projected in the OTR for the first year of the cycle (2021). Thus, a compensatory adjustment of 1.4040% was generated in the tariff to compensate for revenue not achieved.

As requested by Arsesp, Sabesp presented the ceiling revenue obtained in 2022 for the first three quarters (January to September 2022), and, as mentioned in Sabesp's document, from 2022 to date, the aforementioned revenue was not achieved within the specified margin.

Given the facts presented, Arsesp conducted comparative studies on Sabesp's revenue to analyze whether the request presented by the service provider is consistent with reality. This study is presented below.

Furthermore, Arsesp analyzed the items mentioned by Sabesp, in its official letter, as obstacles to the economic-financial balance.

4.2.1) Regarding the number of social/vulnerable users, Arsesp requested that the company presented the history of users in each category over the last few periods, as well as the financial effect of the migration of such users from the residential category to the social/vulnerable category, emphasizing that in 2021, the adjustment for such categories was -1%, resulting in the table below:

Table 15 – Social and vulnerable units

Social + Vulnerable (Units)	Water	Sewage
Dec/20	629,843	503,521
Dec/21	831,344	675,449
Sep/22	833,163	688,210
Oct/22	824,364	683,900
Increase Oct/22 vs. Dec/20	30.88%	35.82%

We noted a rise of nearly 190 thousand units taking advantage of social/vulnerable tariffs (water and sewage), which, if assessed individually, results in a reduction of the average tariff obtained by the company

⁶ <http://www.arsesp.sp.gov.br/ConsultasPublicasBiblioteca/NTF-0017-2021.pdf>



That is only recovered in the following year after the compensatory adjustment in case the Required Revenue for the year under analysis is not achieved.

On the other hand, we also noted that the number of users taking advantage of social/vulnerable tariffs in 2022 has nearly stagnated, which, according to Resolutions 1,150/2021 and 1,278/2022, should endure until May 2023, when Sabesp's Social and Vulnerable units should be linked to the CadÚnico registration. This analysis is corroborated by the quotation in the document entitled "Apoio Item 7_NT- ImpactoCADUNICO", made available by Sabesp within the scope of the studies carried out by this agency:

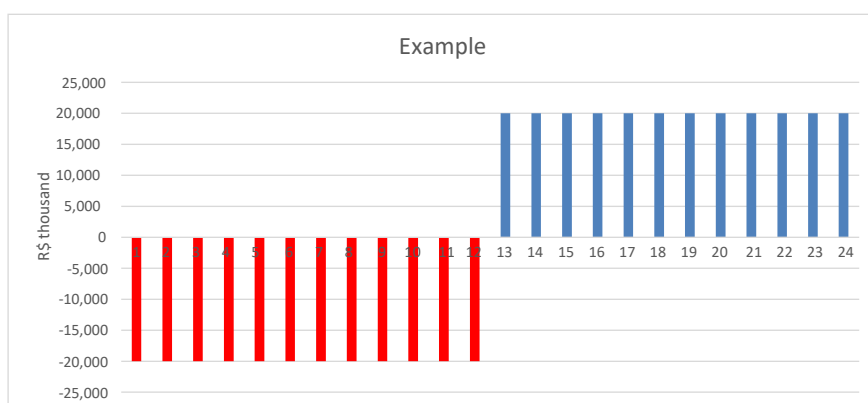
"The minimum revenue level for 2021 defined by ARSESP was R\$ 17,102,273,963 (corresponding to 97.5% of the authorized revenue in the 3rd OTR), and SABESP recorded the actual tariff revenue of R\$15,973,438,991 (around R\$ 1.1 billion; -9% of difference relative to the authorized revenue; Feb 2021 prices). On the occasion, a total adjustment of 12.8019% was approved on a straight-line basis to the tariffs then charged, and ARSESP decided to suspend the implementation of the new tariff structure (Article 6 of Resolution 1,278). Sabesp submitted a request for clarification on March 31, 2022, before ARSESP regarding said authorized tariff repositioning index and is awaiting the Agency's response.

Considering the consolidated data for the second quarter of 2022, the projections once again reveal that the break-even revenue will not be achieved in the current situation, giving rise to a new compensation adjustment upon the upcoming annual tariff adjustment (May 2023).

For the number of beneficiaries of the vulnerable tariff to increase, considering the magnitude of the simulated impacts and the need to actually increase the tariff to ensure a balanced cash position and the provision of services, **SABESP understands that such condition depends on the prior authorization by ARSESP, with an assessment of the prospective tariff adjustment to be conducted still in 2022**, as the Regulatory Agency responsible for maintaining the economic and financial balance for the provision of services." (Our highlight)

Nonetheless, the remarks made by Sabesp are **wrong**, given that, since its revenue is ensured within the revenue range, Sabesp must regularize the access of underprivileged populations to Social and Vulnerable tariffs, whose tariff effect is shown below:

Chart 1 – Example of the reduction of the average tariff





In this sense, we suppose that in year 1 the concessionaire saw a R\$ 20 million decrease in the monthly revenue because of the decrease in the average tariff, considering the migration to a lower tariff category. According to the methodology applied, the calculation will be made for the tariff adjustment in year 2, and it will be recovered over the second year, i.e. the recovery period of the aforementioned balance may take up to 12 months after the end of year 1. It is worth noting that both the refund of amounts to users and the receipt by the service provider are adjusted by the IPCA and capitalized by the WACC.

Thus, to be entitled to tariff compensation in a way that corresponds to the eligibility conditions outlined in Arsesp Resolution 1,150/2021, Sabesp shall register the units for the Social and Vulnerable tariffs, with the compensation occurring upon the tariff adjustment subsequent to said registrations, according to the aforementioned Resolution.

Therefore, concerning the increase in the base of units falling into the Social and Vulnerable categories, Arsesp **acknowledges the imbalance** pointed out by Sabesp regarding the units actually added, according to the table above, to an extent that, although Sabesp has not fully registered said units for these categories, we have to consider the increase already realized, which significantly compromises the achievement of the ceiling revenue ensured in the 3rd OTR.

To illustrate the estimated sizing of the financial impact of this trend, i.e. the 461,959 units (among water and sewage users) increased in these categories, as shown in the chart below, lead to a decrease of approximately R\$ 341,615,971 in the revenue obtained in 2022 alone (on a straight-line basis of 12 months, until December/2022).

Table 16: Breakdown of the Impact of the Social and Vulnerable Units

Category	Units			Measured Volume			Average Tariff		
	2020	2021	2022*	2020	2021	2022*	2020	2021	2022*
Residential	10,075,681	10,344,301	10,294,208	2,785,833,015	2,794,381,546	2,660,378,842	3.71	4.09	4.65
Residential Social	280,007	516,677	442,395	81,176,941	144,562,428	118,391,106	1.71	1.63	1.88
Residential Vulnerable	9,636	57,888	309,207	9,133,519	27,206,170	80,987,502	0.34	0.54	0.99
Residential subsidized	289,642	574,564	751,601	90,310,460	171,768,598	199,378,608	1.57	1.46	1.52
Increment 2022/2020			461,959			109,068,148			

R\$ 341,615,971

4.2.2) Increase in default

To analyze the possible impact of the increase in default, it is first necessary to refer to the methodology that established Sabesp's 3rd OTR, which considered a 5-year horizon for establishing the company's level of default.

"To calculate unrecoverable revenue, the aging concept will be adopted as it allows identifying the percentage of the 'stable' portion of unpaid amounts during a certain period. In this model, the monthly billing not received by the reference date is compared with the provider's monthly billing in a series of 60 months, generating a monthly non-receipt index. For the definition of the percentage of irrecoverable revenue to be applied to direct operating revenue, the stabilization point will be taken into account. Arsesp can establish a trajectory for this value over the cycle."



Based on that, Sabesp was requested to send the current default profile considering revenue until September/2022.

According to the tables below, it is possible to see that a significant difference between the default data used in the ORT and the updated data only occurs in the short term. In the long term, until now, the OTR indices compared to the realized one (Sep/2022) are not different enough to recognize the request for rebalancing. Any change in the users' payment profile will be reflected in Sabesp's 4th OTR.

Table 17 – Default

3rd OTR		Data updated until Sep/2022	
Year	%	Year	%
2020	5.96%	2022	9.16%
2019	2.50%	2021	4.22%
2018	1.73%	2020	2.36%
2017	1.51%	2019	1.51%
2016	1.41%	2018	1.25%
2015	1.21%	2017	1.12%

It is worth noting that, despite the difference in the default rates in the first three years of each block, the prospects of economic recovery already observed, such as a reduction in the unemployment rate and economic growth, which, together with credit recovery actions that can be used by the company, such as collection and installment payment actions, can significantly reduce the default rates in 2021 and 2022, considering the horizon until the next OTR.

Also about this point, the current default rates, if not reduced, may be considered in the scope of Sabesp's 4th OTR, thus remunerating it should the aforementioned OTR methodology so decides.

4.2.3) Reduction in volume consumed by customers subsidizing the social segments

To analyze the reduction of the volume of subsidizing segments, it is important to emphasize that, considering that the lowest tariffs currently charged by the company come from the social and vulnerable segments, and all other categories (including residential) subsidize the categories with lower tariffs. Thus, Arsesp made two comparisons:

1) Comparison between total volume and volume of the residential/non-residential categories in 2020, 2021, and 2022 (the latter, on a straight-line basis of 12 months) compared to that projected in the OTR:

Table 18 Sabesp's Volume



Volume Measured (m ³)	2020	2021	2022*
Achieved	3,315,828,245	3,399,020,035	3,336,528,262
Residential	2,785,833,015	2,794,381,546	2,660,378,842
Residential Social + Vulnerable	90,310,460	171,768,598	199,378,608
Non-residential	439,684,770	432,869,891	476,770,812
3rd OTR	-	3,422,527,133	3,499,826,987
Residential	-	2,962,990,445	3,034,485,929
Non-residential	-	459,536,688	465,341,058
Actual Difference x 3rd OTR	-	-0.7%	-4.7%
Residential	-	0.1%	-5.8%
Non-residential	-	-5.8%	2.5%

In 2021, Sabesp did not obtain the market forecast in the 3rd OTR, mainly in the non-residential segment (highest average tariffs). In 2022, on a straight-line basis of 12 months, Sabesp still did not reach the market forecast. Therefore, we identified an actual reduction of the subsidizing categories in the company's revenue generation compared to an increase in the share of the subsidized categories, which, once again, **compromises** the company's achievement of the ceiling revenue ensured by Arsesp Resolution 1,150/2021.

2) Comparison of the PO approved by the 3rd OTR vs. the PO realized in the last 12 months (until September/2022):

Before detailing the analysis performed, it is necessary to briefly explain the "meaning" of PO

PO is the Maximum Average Authorized Tariff and represents, in the case of Sabesp, the average tariff - authorized and/or charged, depending on whether the calculation basis was given by the OTR figures or the company's actual data.

Therefore, it depends not only, but also on the ratio of the number of users and billed volume by the tariff categories and the tariffs established in the tariff tables.

The calculation, therefore, captures the effects of changes in the users' consumption profile and changes in the ratio of the number of users among Sabesp's tariff categories.

Below are the (i) PO approved in the 3rd OTR and the (ii) PO actually achieved by Sabesp.

Table 19 – PO (R\$/m³ - Feb/22)



P0 realized (R\$ Feb/22, without PIS/COFINS)	5.5128
P0 3rd OTR (R\$ Feb/22, without PIS/COFINS)	5.6514
Adjustment required to recompose P0	2.5135%

The table above shows that the P0 realized in the last 12 months (until September/2022) was - 2.5135% below that authorized in the 3rd OTR, which, similar to the factors previously presented, also **compromises** the company's achievement of the ceiling revenue ensured by Arsesp Resolution 1,150/2021.

In summary, the above-mentioned effects (failure to realize the projected measured volume and to achieve the P0 authorized in the 3rd OTR) indicate that the company's economic and financial health is compromised, which justifies, based on the terms set out herein, the recognition of the claim filed by the concessionaire, in this case, through the tariff adjustment of **2.5135%**.

This percentage covers numerous factors, including the change in the consumption profile (volume per unit) and the number of users across tariff categories, in addition to renovations, and cancelation of water bills, among others. It is worth noting that this tariff repositioning index differs from that presented to the Public Consultation because of the removal of the volume referring to the company's own buildings, given that, despite being part of the costs, they are not billed and do not makeup revenue.

We underscore that, with this tariff change, it is no longer necessary to recompose tariffs attributed to the Residential category, as established in Resolution 1,150/21 for 2023 and 2024, maintaining the current market conditions on which this analysis was based.

4.2.4) Increase in costs above the applied tariff adjustments

Regarding the increase in costs above the adjustments, it is possible to see, according to the table below, that by using a straight-line basis of the first nine months of 2022 for twelve months, in total expenses, and adding personnel, electricity, and outsourced costs, total expenses at February 2022 price had no significant increase.

Table 20 – Personnel, outsourced services, and electricity expenses

Actual Operating Expenses (without disallowances)				
Description (R\$ Feb/2022)	2020	2021	9M2022	2022 (straight-line basis)
PERSONNEL	3,058,786,331	2,832,833,272	2,161,930,241	2,882,573,654
SERVICES	2,047,049,074	2,247,502,082	1,705,949,868	2,274,599,824
ELECTRICITY	1,406,210,637	1,562,459,732	1,124,720,858	1,499,627,811
TOTAL	6,512,046,042	6,642,795,085	4,992,600,967	6,656,801,289

Source: Sabesp



4.2.5) Non-compliance with the ceiling revenue in 2022 (until December/2022)

In the document presented by Sabesp, one of the items mentioned is the failure to achieve the ceiling revenue (until the third quarter of 2022) in 2022. Considering the provision of Resolution 1,150/2021, which determines the calendar year as a reference for the evaluation of the company's ceiling revenue, that the result of the fourth quarter of 2022 was published on March 23, 2023, and that the publication of the results of this ETR was postponed according to Resolution 1,379/2023, Arsesp adopted the full year 2022 to calculate this compensatory adjustment.

In the analyses carried out throughout the year, Arsesp monitors the market trend and revenue range, having already mapped the trend mentioned by Sabesp.

For analysis purposes, Arsesp calculated the ceiling revenue earned in 2022 (until December), reaching the Ceiling Revenue of R\$ 18.6 billion.

To calculate the compensatory adjustment, it also considered the K Factor actually collected until December/2022, as well as the amount authorized for commercial programs in 2023 (R\$ 120 million), as reducers of the adjustment to be applied, according to the table below:

Table 21 - Compensatory Adjustment (2023)

2023 COMPENSATORY ADJUSTMENT - Referring to the 2022 calendar year

Item	2023 Adjustment
Revenue Obtained	20,023,392,407
(-) PIS/COFINS	1,382,214,778
Actual Revenue	18,641,177,630
Required Revenue 3rd OTR	19,793,623,255
Adjusted P0	5.6514
97.5% Required Revenue	19,298,782,673
Difference (R\$)	657,605,044
WACC Capitalization	53,266,009
Compensatory Adjustment (R\$)	710,871,052
AJC (%)	3.81%
(-) 2023 Commercial Programs	-120,000,000
(-) 2022 K Factor (capitalized)	-210,407,942
Total	380,463,110

Total AJC %	1.8817%
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Regarding the commercial programs, Arsesp maintains the deduction of the amount expected for 2023, considering that, to date, the service provider has not presented any study and/or proposal of programs for



implementation, according to the conditions and criteria established in Arsesp Resolution 1,150/21.

However, should Sabesp present such programs for recognition and previous approval by Arsesp, their values may be recognized in the tariffs after proof of their implementation, as well as their results, for analysis by Arsesp, and only then provide the due tariff treatment for 2023 and 2024, and the respective tariff adjustments thereafter.

Accordingly, regarding the compensatory adjustment foreseen, corresponding to the ceiling revenue of 2022, we conclude that, based on the technical analysis presented above, an amount of **R\$ 380,463,110** (R\$ Feb/2022) is due, representing an increase of **1.8817%** in the tariffs in effect, as economic-financial balance recomposition.

5) CONCLUSION

Due to the factors mentioned in the items above, we have concluded that Sabesp is entitled to the **5.5532%** economic-financial balance recomposition (as detailed in the chart below), to be applied in April 2023 (effective for users as of May 2023), to restore the economic-financial balance of the services provided and minimize the impacts of capitalization costs and monetary adjustment for users.

Table 22 - Planned Adjustment

1) Compensatory adjustment referring to the annual tariff adjustment of Apr/22	1.0635%
2) Compensatory adjustment forecasted (2022 Revenue)	1.8817%
3) PO recomposition to current market conditions	2.5135%
Total	5.5532

It should be clarified that items 1 and 2 are temporary tariff adjustments to compensate for the failure to achieve the ceiling revenue in a specific year and, therefore, their effects will be from May 10, 2023 to May 09, 2024.

Item 3, in fact, consists of the economic-financial rebalancing, so that the company can honor the obligations and conditions established in the 3rd OTR until the end of the fourth tariff cycle.



São Paulo, April 06, 2023.

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Economic-Financial and Market Regulation Superintendent

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