

**EVALUATION OF THE METHODOLOGICAL CHANGES IMPACTS
ON THE CROSS SUBSIDIZATION LEVEL**

Table of Contents

1 **CONTEXT** 4

2 **THE DISTRIBUTOR’S PROPOSAL**..... 5

3 **CHOICES AND LEVEL OF THE MEASUREMENT INDEX AND REFERENCE MARKER** 9

4 **USE OF BUDGETARY OR ESTIMATED DATA** 9

5 **INTEGRATION OF THE RÉGIE’S DECISIONS** 10

6 **SEPARATION OF THE METHODOLOGICAL CHANGES IMPACT FROM OTHER
ELEMENTS** 10

7 **EVOLUTION OF THE CROSS SUBSIDIZATION INDEXES SINCE 2002**..... 11

8 **CONCLUSION** 13

APPENDIX 1 15

1 CONTEXT

1 The concept of cross subsidization between the consumer categories forms an
2 integral part of the Law of the Régie de l'énergie¹ in article 52.1, which indicates
3 that the Régie cannot modify the rate of a consumer category in order to attenuate
4 the cross subsidization between the rates applicable to consumer categories. At the
5 time of the Distributor's last rate requests, the Régie established the framework of
6 analysis for the cross subsidization indexes.

7 In decision D-2003-93, the Régie de l'énergie considered it important to obtain a
8 marker to follow the evolution of the cross subsidization level over time and set the
9 year 2002 as being the reference².

10 Concerning the markers, although they were to be maintained over time, the Régie
11 announced that they should not to be too rigid and that too strict an application
12 would be inappropriate since the study of the cross subsidization indexes had to
13 permit to take into account the context in which the framework of analysis resided³.
14 Nevertheless, the cross subsidization measure was to be maintained around these
15 markers so as to respect the legislator's will⁴. To measure cross subsidization
16 between the consumer categories, the Régie retained the revenue/cost ratio
17 according to the HQD index.

18 In its decision D-2004-47, the Régie accepted the 2004 index, considering it
19 comparable to the 2002 one and then judged the observed variation as being an
20 acceptable level of fluctuation. The Régie also stipulated that the 2005 uniform rate
21 increase did not modify the cross subsidization situation⁵.

¹ L.R.Q., C R-6.01, Article 52.1, 4th subparagraph

² D-2003-93 Decision, page 185.

³ D-2003-93 Decision, page 186.

⁴ D-2003-93 Decision, page 182.

⁵ D-2004-47 Decision, page 133.

1 In its decision D-2005-34, the Régie indicated that the impact of the methodological
2 changes on the costs by consumer categories was small, but that these
3 methodological changes could have an impact on the cross subsidization indexes.
4 The Régie considered it important to eliminate the effects of the evolution from the
5 cost allocation methods when the cross subsidization indexes are compared with
6 the 2002 marker .⁶

7 This is why the Régie asked the Distributor to propose a method making it possible
8 to measure and follow up the effects the changes made to the cost allocation
9 methods have on the evaluation of the cross subsidization indexes and this, starting
10 from budgetary data. Notwithstanding the adjustments to the 2002 marker which
11 could be brought to reflect the evolution of the cost allocation methods, the Régie
12 judged that the index of the projected year 2005 was comparable with that of 2002
13 and considered the variation as being at an acceptable level.⁷

14 At the Régie's request, a technical committee meeting was held last June 29th on
15 this subject. A method measuring the impact of the changes brought to the cost
16 allocation methods and allowing the tracking that these changes had on the cross
17 subsidization indexes was then presented and discussed with the participants and
18 the Régie's representatives. That method constitutes the Distributor's proposal in
19 the present file.

2 THE DISTRIBUTOR'S PROPOSAL

20 Since decision D-2003-93, the Régie attentively follows the level of the consumer
21 category cross subsidization indexes, in particular the Residential one, which is the
22 subject of a particular follow-up compared to the other consumer categories. In this
23 decision, the Régie set the Residential reference marker to 80.2%, which applied to
24 historical year 2002.

⁶ D-2005-34 Decision, page 123.

⁷ D-2005-34 Decision, page 159.

1 Over the years, the cross subsidization level evolved to reflect the current situation
2 which prevails as much on the cost level as on the sale level between the consumer
3 categories.

4 As well, the changes brought to the Distributor's cost allocation methods had an
5 impact on the cross subsidization indexes. As the Régie must come to a conclusion
6 about the acceptability of the index levels, the Distributor agrees that it is necessary
7 to exclude these methodological changes, which result from decisions, in order to
8 only collect the elements that make the cross subsidization vary such as the prices,
9 costs and volumes. The indexes in the beginning would have been different had the
10 today's methods been applied. The choice of methodological change should not be
11 an element influencing the cross subsidization situation.

12 Starting from the reference year's indexes, by removing the climatic effects of the
13 underlying data, integrating the latest Régie's decisions and separating the impacts
14 of the methodological changes from other elements, the Distributor, the Régie and
15 the file's interveners will be able to follow the evolution of the cross subsidization
16 indexes from 2002 to the present and to isolate the impacts of the chosen cost
17 allocation method.

18 The method proposed by the Distributor is in conformity with the measurement
19 requirements of the Régie and is defined in five points:

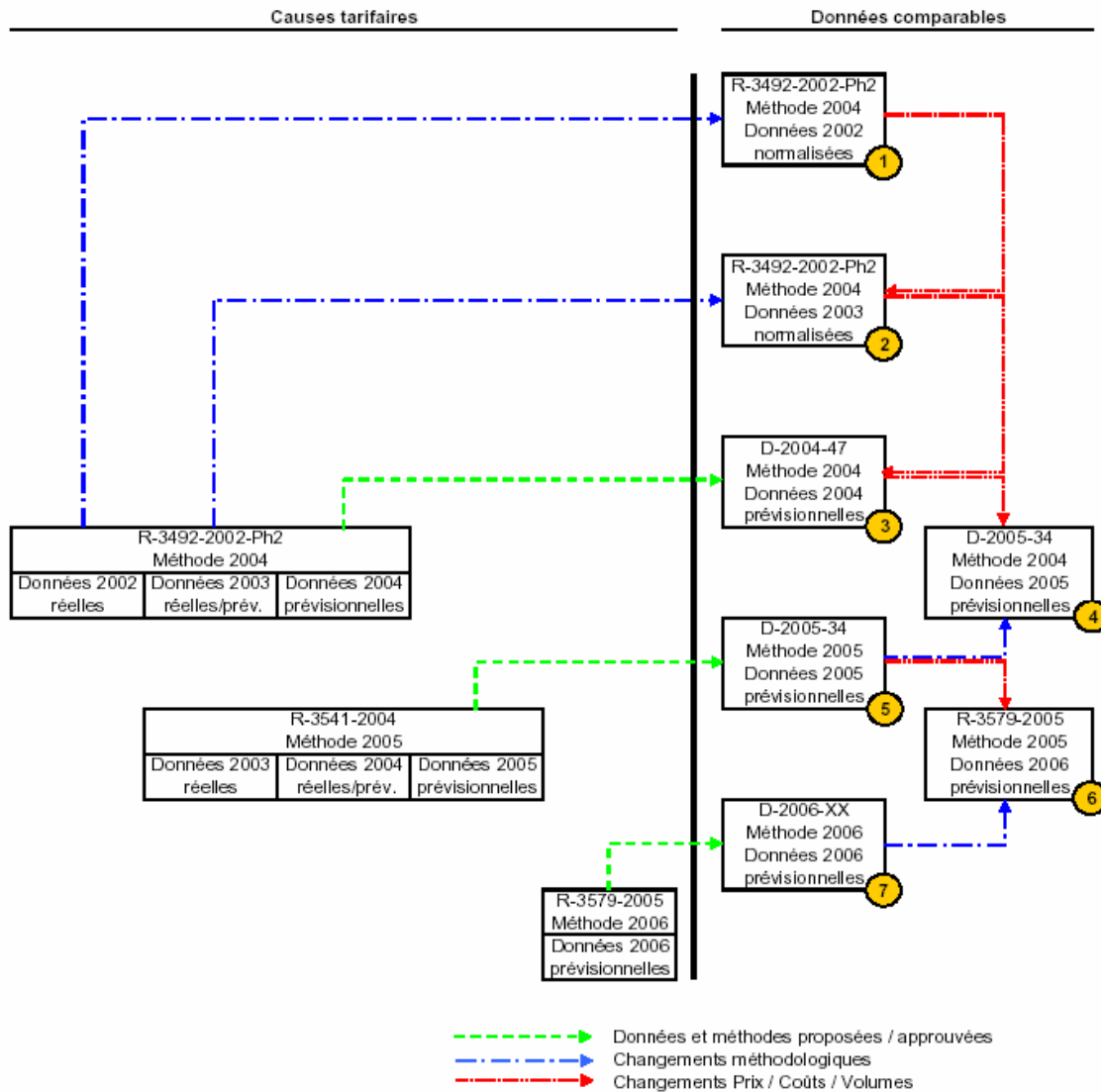
- 20 ▪ Choice and level of the measurement index and reference marker;
- 21 ▪ Use of budgetary or forecasted data;
- 22 ▪ Integration of the Régie's decisions;
- 23 ▪ Separation of the impact of the methodological changes from other
24 elements;
- 25 ▪ Evolution of the reference markers of the cross subsidization indexes from
26 2002 up to now.

1 The Distributor's method consists in making the year 2002 evolve to the index of
2 the projected year by eliminating the impact of the changes brought to the cost
3 allocation methods. This method progressively updates the reference marker with
4 the methodological changes brought to the allocation method. It makes the tracking
5 of indexes more dynamic and simpler since one year is adjusted at a time to reflect
6 the new reference marker. This method avoids having to recompute the impact of
7 all the methodological changes cumulated since 2002 for each year, either by
8 applying the today's cross subsidization indexes to 2002 or otherwise by applying
9 the 2002 cross subsidization index to the present filing. Technically wise, the
10 proposed method avoids many simulations and furthermore, as the format and
11 availability of the information for 2002 and the comparison year are not the same,
12 creating a disparity that will be expanded over time. In practical terms, the Method
13 effect is considered for each year and is added to the 2002 reference marker. For
14 this evolution to be possible, it is necessary for the data to be presented on a
15 comparable basis.

16 Two types of adjustment are necessary, both the use of the budgetary or estimated
17 data and the integration of the Régie's decisions. The details of these adjustments
18 are explained in chapters 4 and 5. In addition, it is also necessary to separate the
19 impact of the methodological changes from the other elements, in particular the
20 Price/Cost/Volume effect that make indexes evolve. The explanations on this
21 distinction are provided in chapter 6.

22 The following diagram presents the way to make the cross subsidization indexes
23 evolve, starting with comparable data between the years 2002 and 2006.

Schéma 1
Graphique présentant l'évolution des indices d'interfinancement



Note : Les numéros font référence au tableau 3 en annexe.

3 CHOICES AND LEVEL OF THE MEASUREMENT INDEX AND REFERENCE MARKER

1 The HQD index as approved by the Régie in its decision D-2003-93⁸ computes the
2 ratio of the revenue forecast compared to the cost of service per consumer
3 category defined by the cost Distributor allocation methods. The index is as follows:

$$\text{Index} = \frac{\text{Forecasted revenue for category} \div \text{Total forecasted revenue}}{\text{Service costs for category} \div \text{total service costs}}$$

4 Cross subsidization is measured at the combined consumer categories level. The
5 Residential category includes the D, DM, DH, DT rates. The Low power category
6 includes the G rate and fixed price rates, G9 rate and public and security lighting
7 rates. The Medium power category refers to the M rate and the Large power
8 category to the L and H rates. The consumption management rate and emergency
9 energy rate are not part of the cross subsidization indexes calculation, neither are
10 special contracts.

11 The reference marker is the year 2002 one as decided by the Régie de l'énergie.
12 The indexes are 80.2% for Residential, 123.1% for Low power, 130.6% Medium
13 power, and of 116.8% for Large power.

4 USE OF BUDGETARY OR ESTIMATED DATA

14 In its D-2003-93⁹ decision, the Régie ruled that year 2002 indexes constituted the
15 reference, when the data presented reflected reality. On the other hand, by decision
16 D-2005-34, the Régie requires the Distributor to compare the cross subsidization
17 indexes with those of the forecasted years.

⁸ Page 164.

⁹ Page 185.

1 The reference year is a historical year based on real data containing the climatic
2 effects over the supply. Failing to have the years 2002 and 2003 on a budgetary
3 basis, it is, at the very least, necessary to make the data comparable to the
4 projected pilot year and the way to achieve this is to remove the climatic effects of
5 these years, then constituting the proper characteristic of the budgetary or
6 estimated data.

5 INTEGRATION OF THE RÉGIE'S DECISIONS

7 When proposing to compare the projected year 2006 indexes with the indexes of
8 the year 2002, it is important to mention that the 2006 data will eventually be the
9 subject to a Régie's decision relating to the rate file as it was the case for the years
10 2004 and 2005. These decisions can have an impact over the cross subsidization.
11 Consequently, it is important to progressively integrate the Régie's decisions thru
12 the years to the cross subsidization indexes. Obviously, for the present request, the
13 indexes and its adjustments are established on the basis of data and parameters
14 suggested by the Distributor.

6 SEPARATION OF THE METHODOLOGICAL CHANGES IMPACT FROM OTHER ELEMENTS

15 Between two comparable years, the evolution of the cross subsidization indexes is
16 influenced by two types of effects; the Methodological effect and the
17 Price/Cost/Volume effect.

18 With each rate request, the Distributor calculates the impact of each change to the
19 service cost allocation method. To succeed in relieving this impact, it is necessary
20 to recalculate the allocation by consumer categories for the same year, but with the
21 previous year's method. In doing so, some new cross subsidization indexes are
22 established, based on the new cost allocations as well as on the same level of
23 forecasted revenue. The index variation between this simulation and that of the
24 previous year one constitutes the Methodological effect.

1 For the years 2002 and 2003, a simulation for each year was made by applying a
2 volume adjustment in order to regularize the climatic effects according to the same
3 method applied to each financial year. For 2002, the Methodological effect
4 constitutes the difference between this simulation and the real data in 2002. For
5 2003, there is no method change, since the data was all established on the same
6 basis.

7 As for the Price/Cost/Volume effect, it combines the variations of the following
8 elements:

- 9 ▪ unit price of the forecast revenue;
- 10 ▪ unit supply cost;
- 11 ▪ rate base;
- 12 ▪ Distributor's cost of service;
- 13 ▪ sales volume being used for the forecasted revenue and the supply
14 costs;
- 15 ▪ allocation factors being used to apportion the service cost and the pricing
16 base;

17 The Price/Cost/Volume effect is calculated by taking the difference between the
18 above mentioned simulation and the current year. The same reasoning applies for
19 the year 2005.

7 EVOLUTION OF THE CROSS SUBSIDIZATION INDEXES SINCE 2002

20 Table 1 presents the cross subsidization indexes evolution summary by consumer
21 categories from 2002 to 2006, using comparable data.

1

**Table 1
Evolution of cross subsidization indices (%)**

Compared years	Residential	Low power	Medium power	Large power
2002 Real	80,2	123,1	130,6	116,8
Methodological effect	0,5	(0,5)	(0,5)	(0,5)
Prices / Costs /Volumes effect	-	-	-	-
2002 without climatic effects	80,7	122,6	130,0	116,3
Methodological effect	-	-	-	-
Prices / Costs /Volumes effect	(0,3)	(0,9)	0,6	0,2
2003 without climatic effects	80,4	121,7	130,6	116,5
Methodological effect	-	-	-	-
Prices / Costs /Volumes effect	0,4	0,3	(0,3)	(1,2)
2004 Provisionally Approved	80,8	122,1	130,4	115,3
Methodological effect	0,1	(0,2)	(0,3)	(0,0)
Prices / Costs /Volumes effect	0,2	(1,3)	(1,2)	0,7
2005 Estimated approved	81,1	120,5	128,8	115,9
Methodological effect	0,2	0,4	0,4	0,8
Prices / Costs /Volumes effect	0,3	2,2	0,9	(2,3)
2006 Proposed estimated	81,6	123,1	130,1	114,4

2

3 The table included as appendix presents the component details relating to the
 4 calculation of the cross subsidization indexes which permit tracking these indexes
 5 compared to the reference marker going from the historical data to the budgetary
 6 data.

7 By only excluding the effect of the methodological changes brought to the cost
 8 allocation method, the cross subsidization markers by consumer categories evolve
 9 to become the 2002 adjusted reference markers. These adjusted markers are
 10 presented in table 2. Thus, the modifications made to the cost allocation method
 11 are isolated from other effects.

1

**Table 2
Establishment of the Cross Subsidization Indexes Reference Marker**

	Residential	Low power	Medium power	Large power
Reference marker 2002	80,2	123,1	130,6	116,8
Method 2002	0,5	(0,5)	(0,5)	(0,5)
Method 2003	-	-	-	-
Method 2004	-	-	-	-
Method 2005	0,1	(0,2)	(0,3)	(0,0)
Method 2006	0,2	0,4	0,4	0,8
Adjusted reference marker 2002	81,0	122,7	130,1	117,0
Method 2002	Climatic effects			
Method 2005	Component subscription, corporate expenses, working capital, management of the subscriptions, connection expenses			
Method 2006	Special contracts, depreciation of distribution, separate medium and low voltage, numbers of subscriptions and connections, organizational changes.			

2

8 CONCLUSION

3 The Régie requested the development of a methodological changes follow-up over
 4 the cross subsidization indexes so that it can judge the acceptability of cross
 5 subsidization by consumer categories on a comparable basis. The choices of the
 6 cost allocation methods may have an impact over the indexes.

7 The proposed method by the Distributor fulfills the Régie’s requirements. It allows to
 8 rigorously follow-up the evolution of the cross subsidization indexes, using
 9 estimated data where possible and by eliminating the effect of the methodological
 10 changes so that the reference markers are comparable to the cross subsidization
 11 indexes of the projected marker year.

APPENDIX 1

Table 3
Evolution of the cross Subsidization Indexes, Revenue Forecast and Service Costs per Consumer Category

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Year being studied	Indices of cross subsidization				Forecasted Incomes				Service costs					
	Residen- tial	Low power	Medium power	Large power	Residential	Low power	Medium power	Large power	Residential	Low power	Medium power	Large power		
2002 - Real	R-3492-2002-pH. 2 1 2004 - Standardized	2004 - Not standardized	80,2	123,1	130,6	116,8	3 230,8	1 079,2	1 470,5	1 746,1	4 377,1	952,2	1 223,4	1 623,9
		2004 - Standardized	80,7	122,6	130,0	116,3	3 281,0	1 078,7	1 470,3	1 746,7	4 396,4	952,0	1 223,1	1 624,6
2003 - Real / forc..	R-3492-2002-pH. 2 2 2004 - Standardized	2004 - Not standardized	81,1	121,4	129,8	115,8	3 441,5	1 086,6	1 547,3	1 877,8	4 428,9	934,2	1 243,7	1 692,6
		2004 - Standardized	80,4	121,7	130,6	116,5	3 359,7	1 078,7	1 542,1	1 874,9	4 386,3	930,2	1 239,2	1 689,6
2004 - Forc.	R-3492-2002-pH. 2 D-2004-47	Method 2004	80,6	121,9	130,7	116,0	3 595,1	1 141,1	1 654,7	1 977,5	4 461,3	936,0	1 266,1	1 704,9
		3 Method 2004	80,8	122,1	130,4	115,3	3 578,5	1 133,8	1 643,6	1 964,4	4 426,3	928,8	1 260,7	1 703,4
2005 - Forc.	R-3541-2004 D-2005-34 Simulated	Method 2005	80,9	120,5	129,0	116,5	3 735,5	1 183,4	1 673,1	2 140,4	4 606,1	979,9	1 293,8	1 832,3
		5 Method 2005	81,1	120,5	128,8	115,9	3 700,2	1 170,0	1 655,0	2 116,8	4 577,3	974,3	1 289,4	1 832,4
		4 Method 2004	81,0	120,7	129,2	116,0	3 700,2	1 170,0	1 655,0	2 116,8	4 583,6	972,9	1 286,3	1 832,4
2006 - Forc.	R-3579-2005 D-2006-xx Simulated	Method 2006	81,6	123,1	130,1	114,4	3 902,7	1 227,2	1 734,6	1 966,7	4 917,5	1 025,1	1 371,6	1 768,4
		7 Method 2006						Decision to come						
		6 Method 2006	81,4	122,8	129,7	113,6	3 902,7	1 227,2	1 734,6	2 207,7	4 916,6	1 025,6	1 372,3	1 993,6