



DELIBERATION N° 2018-068

Deliberation of the Energy Regulatory Commission of 22 March 2018 deciding on tariff for using the underground natural gas storage infrastructures owned by Storengy, TIGF and Géométhane, with effect from 2018

Present: Jean-François CARENCO, President, Christine CHAUVET, Catherine EDWIGE, Hélène GASSIN, Jean-Laurent LASTELLE and Jean-Pierre SOTURA, commissioners.

Translated from the French: only the original in French is authentic

Law n° 2017-1839 of 30 December 2017, which ended exploration and exploitation of hydrocarbons and introduced various energy and environmental measures (commonly referred to as the “Hydrocarbons Law”), specifically requires the revenue of storage operators to be regulated with effect from 1 January 2018. Storage capacities are sold at auction. Any difference (whether positive or negative) between auction revenues and the allowed revenue of storage operators, is offset by a specific tariff charge, incorporated into the tariff for using the natural gas transmission network (known as the “ATRT” tariff, from its French acronym).

A regulatory perimeter defined in the Pluriannual Energy Programme (PPE)

To date, the perimeter covers all storage sites in France. The tariff includes a rendez-vous clause that will be triggered in the event of changes to the regulatory perimeter.

A simplified tariff framework

Given the particularly short deadline for implementing reforms to third party access to storage facilities, the French Energy Regulatory (CRE) sets the duration of the first regulatory period at two years. For this first period, CRE adopts a tariff framework in which the difference between forecast and real costs and revenues will be regularized on an ex-post basis. This mechanism guarantees that the real tariff paid is strictly equal to the operators’ true income and expenditure.

CRE is also introducing an incentivization mechanism to encourage storage operators to maximize subscription of capacities and auction revenues.

Regulated revenue of storage operators

CRE sets the initial levels of the Regulated Asset Base (RAB) at 3.5 billion euros for Storengy, 1.15 billion euros for TIGF, and 0.19 billion euros for Géométhane.

Regarding return of capital, CRE adopts a weighted average cost of capital (WACC) of 5.75% (real pre-tax figure). This figure comprises the rate set for gas transmission under the ATRT6 tariff (5.25% real before tax), plus a premium to take account the specific nature of gas storage operators’ activity. The operators’ allowed regulated revenues for 2018 are as follows:

- €523.1M for Storengy;
- €153.4M for TIGF;
- €38.1M for Géométhane.

The total cost of gas storage will therefore be €714.6 M for 2018, not including regulatory incentives.

INTRODUCTION

Law n° 2017-1839 of 30 December 2017, which ended exploration and exploitation of hydrocarbons and introduced various energy and environmental measures (commonly referred to as the “Hydrocarbons Law”), was published in the *Journal Officiel de la République Française* on 31 December 2017.

Under Article 12 of the Hydrocarbons Law, the revenue of storage operators must be regulated with effect from 1 January 2018. Storage capacities are sold at auction. Any difference (whether positive or negative) between auction revenues and the regulated revenue of storage operators, is offset by a specific tariff charge, incorporated into the overall tariff for using the natural gas transmission network (known as the “ATRT” tariff, from its French acronym). Commercialization modalities are set by the French Energy Regulator (CRE), based on proposals from operators.

This deliberation decides on the tariffs for using the underground natural gas storage infrastructures owned by Storengy, TIGF and Géométhane, known as the “ATS1 Tariff”. It came into effect on 1 January 2018 for a period of around two years.

The introduction of regulated third party access to underground natural gas storage facilities is intended to guarantee the stocks needed to ensure security of supply, whilst providing transparency in storage costs and simplifying the former system of individual storage obligations. In addition, the purpose of regulating operator revenues is to ensure that final consumers pay a fair price for the storage needed to guarantee security of supply.

LEGAL FRAMEWORK

Article L. 421-3-1 of the French Energy Code states that *“Underground natural gas storage facilities guaranteeing medium to long term security of supply of the territory and compliance with bilateral agreements on the security of supply of natural gas between France and a Member State of the European Union or a Member State of the European Free Trade Association, are envisaged by the pluriannual energy programme referenced in Article L. 141-1. These facilities are maintained in operation by the operators. [...]”*.

Articles L. 452-1 to L. 452-3 of the Energy Code govern CRE’s jurisdiction in the area of tariffs.

Article L. 452-1 of the Energy Code states that *“The tariffs for using the transmission networks, the commercial terms under which these networks are used, and the tariffs charged for additional services provided by the operators of these networks or by the operators of the storage facilities referenced in Article L. 421-3-1, are established in a transparent and non-discriminatory manner in order to cover all of the costs borne by the transmission network managers and the operators of the storage facilities mentioned in the same Article L. 421-3-1, insofar as these costs reflect those of efficient operators. These costs take into account the characteristics of the service rendered and the costs related to this service, and include the obligations established by law and regulations as well as those costs resulting from the performance of public service missions and the contracts referenced in Article L. 121-46”*.

It stipulates that *“The costs borne by operators of the storage facilities mentioned in Article L. 421-3-1 notably include a normal return on capital invested, the costs mentioned in the last paragraph of Article L. 421-6, [...]”*.

Furthermore, Article L.452-2 of the Energy Code states that *“The methods used to establish tariffs for using the natural gas transmission networks, [...] are fixed by the Energy Regulatory Commission”*, and that *“operators of the storage facilities mentioned in Article L. 421-3-1 shall send the Energy Regulatory Commission upon request the information, notably accounting and financial information, required to allow the Commission to deliberate on changes to the tariffs for using the natural gas networks or liquefied natural gas facilities”*.

In addition, Article L.452-3 of the Energy Code states that *“The Energy Regulatory Commission shall deliberate on changes to tariffs and to ancillary services carried out exclusively by the operators of these networks or facilities, where applicable including such changes to the level and structure of tariffs as it deems justified, notably based on an analysis of the operators’ accounts and the likely future development of operating and investment costs”*. It goes on to say that *“These deliberations, which may take place at the request of the natural gas distribution or transmission network operators or the operators of liquefied natural gas facilities or the operators of the storage facilities mentioned in Article L. 421-3-1, may include provision for tariff changes over a period of years, and appropriate short or long term incentive measures to encourage operators to improve their performance [...]”*.

DETERMINATION OF THE ATS1 TARIFF

A tariff based on broad consultation

Against the backdrop of reforms of third party access to underground natural gas storage, CRE has striven to adopt an inclusive approach, involving the various stakeholders at the earliest possible stage in order to give them maximum visibility going forward.

On 13 October 2017, it held a workshop with market players on the auction sale system and offsetting mechanisms for storage costs.

CRE then conducted a public consultation between 21 December 2017 and 23 January 2018, to gauge stakeholders' views of proposals to introduce an offsetting term, the regulatory framework, and allowed revenue levels for storage operators, as well as the methods by which storage capacities are marketed.

Following the public consultation, on 8 February 2018 CRE held a round table with some of the shippers and consumers who responded to the consultation.

It also heard submissions from storage operators and their shareholders on several occasions.

Entry into force and duration of the ATS1 tariff

The ATS1 tariff came into force on 1 January 2018 and will apply for a period of around two years, corresponding to the calendar years 2018 and 2019.

MAIN FEATURES OF THE ATS1 TARIFF

First tariff for a shorter period with a simplified tariff framework

As a general rule, CRE believes that regulation must cover a sufficient period to allow effective incentives for storage operators. For this reason, it has adopted a tariff period of four years for all infrastructure tariffs in force.

However, in order to implement these incentives, and in particular to identify a trajectory for net operating expenses, CRE would need to rely on empirical results that are by nature unavailable at the pre-regulation stage. To overcome this, it opted for shorter tariff periods for transmission and distribution activities upon regulation (one to three years, depending on the tariff concerned).

In addition, the lead-times for rolling out the ATS1 tariff were such that CRE was unable to conduct a detailed audit of operators' demands in terms of net operating costs.

CRE is therefore unable to put forward a sufficiently accurate and pertinent net operating cost trajectory on which to base effective incentivizing regulation. If set too high, the trajectory would generate undue revenue for operators. Conversely, if set too low, it would not allow operators to cover their costs.

For this first period, therefore, CRE has adopted the following tariff parameters:

- a short tariff period of two years (2018-2019);
- a tariff framework in which the difference between forecast and real costs and revenues will be regularized on an ex-post basis via the CRCP (costs and revenues clawback account). This mechanism guarantees a final tariff strictly equal to the operators' true income and expenditure. However, it does not give the operators any incentive to manage their expenditure, particularly in terms of operating costs;
- an annual tariff revision, which will clear the balance of the CRCP by decreasing or increasing the **allowed** revenue, within an **allowed** revenue variation band of 5% above or below the forecast figures for each operator.

A regulatory perimeter defined in the Pluriannual Energy Programme (PPE) based on security of supply requirements

Article 9 of Decree n° 2016-1442 of 27 October 2016 on the pluriannual energy programme stipulates that:

“During the first pluriannual energy programme period, gas storage facilities in France deemed necessary to the security of supply are those identified below, based on the volumes and delivery rates shown:

1° Sites in operation marketing storage capacities with a volume of 137.9 TWh and a delivery rate of 2,372.5 GWh/d [...]

2° Sites with an operating permit and which have ceased marketing storage capacities with a volume of 9.5 TWh and a delivery rate of 60 GWh/d [...]

3° *Additional capacities at sites under development with permits under the Mining Code and the Environmental Code [...].*

The initial regulatory perimeter covers all storage sites in France. However, Article L. 141-3 of the Energy Code states that “*the first programme period [...] shall end in 2018*”. The perimeter of regulated storage sites could therefore change in the short term.

To reflect this, the ATS1 tariff includes a rendez-vous clause that will be triggered in the event of changes to the regulatory perimeter.

Allowed revenue received in the form of revenues of the storage operators and from transmission tariff auctions

Storengy, TIGF and Géométhane receive allowed revenue in the following manner:

- firstly, in the form of revenues obtained directly by the storage operators from their customers, mainly from the sale of storage capacities under rules set by CRE in its decision of 22 February 2018 on the conditions for sale of storage capacities as part of regulated third party access to underground natural gas storage facilities in France¹;
- secondly, where income received directly by operators is less than their allowed revenue, via compensation collected by the transmission network operators from their customers and paid on to the storage operators. The arrangements for collecting and paying on this compensation are laid down by the deliberation of 22 March 2018 deciding on the introduction of a storage tariff term in the ATRT tariff².

Regulations to incentivize auction sales

In order to encourage storage operators to maximize subscription of storage capacities, and also to generate substantial revenues at auction, CRE has defined an incentivizing regulatory approach allowing operators to retain a proportion of auction revenues, which rises in line with capacity subscription.

TARIFF LEVEL

In July 2017, to determine the costs borne by storage operators, CRE asked Storengy, TIGF and Géométhane to provide their tariff demand.

Cost perimeter

The income and costs of storage operators are considered to correspond to the perimeter of storage facilities provided for by the Pluriannual Energy Programme (PPE). They are taken into account provided they reflect the costs of an “efficient operator”.

Determination of the initial RAB

CRE determines the initial Regulated Assets Base (RAB) on the gross values of assets appearing in the operators’ company accounts, deemed to be representative of real investments (purchase price of gas, primary cost price of investments, etc.).

To define the initial level of the RAB for storage operators, CRE re-evaluated the gross book value of the operators’ assets using a “current cost accounting” method. The basic principles of this method were laid down by the Special Commission (known as the “Houri” Commission) set up by Article 81 of the amending finance law of 28 December 2001, which was tasked with setting the price at which the State sells off its natural gas transmission networks.

CRE made several adjustments from the parameters requested by the operators, specifically the value of the cushion gas included in the initial RAB. This was done in order to avoid a situation in which the final consumer would once again bear, in the future tariffs, the cost of remunerating and amortizing cushion gas which had already been amortized by the operators.

As a result, CRE sets the initial levels of the Regulated Asset Base (RAB) at 3.5 billion euros for Storengy, 1.15 billion euros for TIGF, and 0.19 billion euros for Géométhane.

¹ Deliberation of 22 February 2018 by the Energy Regulatory Commission deciding on the conditions for sale of storage capacity as part of the implementation of regulated third party access to underground natural gas storage facilities in France.

² Deliberation of 22 March 2018 by the Energy Regulatory Commission deciding on the introduction of a storage tariff term into the tariff charged for using the transmission networks of GRTgaz and TIGF.

Allowed revenue

As regards return on capital, CRE adopts a weighted average cost of capital (WACC) of 5.75%, reflecting its appraisal that the risk borne by a regulated gas storage operator exceeds that of a gas transmission network operator, whose WACC is set at 5.25% in the ATRT6 tariff.

The operators' allowed regulated revenues for 2018 are as follows:

- €523.1 M for Storengy;
- €153.4 M for TIGF;
- €38.1 M for Géométhane.

The total cost of gas storage will therefore be €714.6 M for 2018, not including regulatory incentives.

The *Conseil Supérieur de l'Énergie*, consulted by CRE on its draft decision, gave its opinion on 13 March 2018.

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1. METHOD

1.1 Consultation of stakeholders

Against the backdrop of reforms of third party access to underground natural gas storage, CRE has striven to adopt an inclusive approach, involving the various stakeholders at the earliest possible stage in order to give them maximum visibility going forward.

On 13 October 2017, CRE organized a workshop with market participants, setting out its initial orientations and the network operators' initial thoughts on the arrangements for compensating storage costs and selling capacities at auction. The non-confidential feedback received in response to the workshop has been published on the CRE website³.

CRE then conducted a public consultation between 21 December 2017 and 23 January 2018, to gauge stakeholders' views of proposals to introduce an offsetting term in the transmission tariff, the regulatory framework, allowed income levels for storage operators, and the methods by which storage capacities are marketed.

CRE received a total of 57 contributions:

- 26 from individual shippers and shippers' associations;
- 9 from industrial operators and associations of industrial operators;
- 14 from other associations or organizations;
- 8 from operators of infrastructures.

The non-confidential responses have been published on the CRE website⁴.

Following the public consultation, CRE also held a round table with some of the shippers and consumers who responded to the consultation. It also heard submissions from storage operators and their shareholders on several occasions.

1.2 Energy policy orientations

Article L452-3 of the Energy Code states that *"in its deliberations, the Energy Regulatory Commission shall take account of the energy policy orientations indicated by the ministers for finance and energy"*.

CRE received no energy policy orientations from the ministers of finance and energy in the course of preparing the ATS1 tariff.

1.3 General principles

Article L. 452-1 of Energy Code states that *"tariffs for using the transmission network [...] shall be established in a transparent and non-discriminatory manner in order to cover all of the costs borne by the distribution network operators and the operators of the storage facilities mentioned in the same Article L. 421-3-1 [...]"*.

It goes on to say that *"the transmission network operators shall pay to the operators of underground natural gas storage facilities mentioned in Article L. 421-3-1 part of the amount recovered in accordance with the procedures established by the Energy Regulatory Commission [...]"*.

In order to determine the ATS1 tariff, a specific level of allowed revenue is defined for the coming tariff period for each of the operators (Storengy, TIGF and Géométhane), along with the manner in which the operators actually receive this revenue.

Storengy, TIGF and Géométhane receive allowed revenue in the following manner:

- firstly, in the form of revenues obtained directly by the storage operators from their customers, mainly from the sale of storage capacities under rules set by CRE in its draft decision of 22 February 2018 on the conditions for sale of storage capacities as part of regulated third party access to underground natural gas storage facilities in France;
- secondly, where income received directly by operators is less than their allowed revenue, via compensation collected by the transmission network operators from their customers and paid on to the storage operators. The arrangements for collecting and paying on this compensation are laid down by the deliberation of 22 March deciding on the introduction of a storage tariff term in the ATRT tariff.

³ Contributions received following the workshop on 13 October 2017

⁴ Public consultation on the implementation of regulated access of third parties to underground natural gas storage in France

The ATS1 tariff also sets a regulatory framework aiming at limiting the financial risks for storage operators and users through a clawback account for income and expenditure (known as the CRCP), with incentive mechanisms to encourage operators to improve performance.

Based on all of these different elements, CRE has determined the tariff applicable for 2018 and the way in which it will subsequently be revised each year.

Under Article 12 of the Hydrocarbons Laws, storage operators are subject to regulation from 1 January 2018. Their allowed revenue is collected and calculated on a calendar year basis.

1.3.1 Regulatory perimeter

Article L. 421-3-1 of the French Energy Code states that *“underground natural gas storage facilities guaranteeing medium to long term security of supply of the territory and compliance with bilateral agreements on the security of supply of natural gas between France and a Member State of the European Union or a Member State of the European Free Trade Association, are envisaged by the pluriannual energy programme referenced in Article L. 141-1. These facilities are maintained in operation by the operators. [...]”*.

To this end, Article 421-10 of the Energy Code notably stipulates that: *“operators of underground natural gas storage facilities operating both facilities of the kind mentioned in Article L. 421-3-1 and other storage facilities, shall keep separate accounts for each of these activities. The activities of these operators that do not contribute to the purposes mentioned in Article L. 421-3, shall also be the subject of separate accounts. “*

The costs to be taken into account are defined by Article L. 452-1 of the Energy Code, which states that: *“the tariffs for using the transmission networks, the commercial terms under which these networks are used, and the tariffs charged for additional services provided by the operators of these networks or by the operators of the storage facilities referenced in Article L. 421-3-1, are established in a transparent and non-discriminatory manner in order to cover all of the costs borne by the transmission network managers and the operators of the storage facilities mentioned in the same Article L. 421-3-1, insofar as these costs reflect those of efficient operators. These costs take into account the characteristics of the service rendered and the costs related to this service, and include the obligations established by law and regulations as well as those costs resulting from the performance of public service missions and the contracts referenced in Article L. 121-46 [...]”*.

The income and costs of storage operators are therefore considered to correspond to the perimeter of storage facilities provided for by the Pluriannual Energy Programme (PPE). They are taken into account provided they reflect the costs of an “efficient operator”.

Article 9 of Decree n° 2016-1442 of 27 October 2016 on the pluriannual energy programme stipulates that:

“During the first pluriannual energy programme period, gas storage facilities in France deemed necessary to the security of supply are those identified below, based on the volumes and delivery rates shown:

1° Sites in operation marketing storage capacities with a volume of 137.9 TWh and a delivery rate of 2,372.5 GWh/d:

List of sites	Company	Year commissioned	Type
Beynes	Storengy	1956	Aquifer
Céré-la-Ronde	Storengy	1993	Aquifer
Cerville-Velaine	Storengy	1970	Aquifer
Chemery	Storengy	1968	Aquifer
Etrez	Storengy	1980	Salt cavern
Gournay (gaz B)	Storengy	1976	Aquifer
Germigny-sous-Coulomb	Storengy	1982	Aquifer
Tersanne	Storengy	1970	Salt cavern
Saint-Illiers-la-Ville	Storengy	1965	Aquifer
Lussagnet	TIGF	1957	Aquifer
Izaute	TIGF	1981	Aquifer
Manosque	Géométhane	1993	Salt cavern

2° Sites with an operating permit and which have ceased marketing storage capacities with a volume of 9.5 TWh and a delivery rate of 60 GWh/d:

List of sites	Company	Year reduced operation begun	Type
Saint-Clair-sur-Epte	Storengy	2015	Aquifer
Soings-en-Sologne	Storengy	2014	Aquifer
Trois-Fontaines	Storengy	2014	Depleted

3° Additional capacities at sites under development with permits under the Mining Code and the Environmental Code [...].

List of sites	Company	Projected year of commissioning	Type	Working volume GM3	Working volume GM3	Delivery rate GWh/d at 45% of working volume	Delivery rate MM3/d at 45% of working volume
Hauterives	Storengy	2017	Salt cavern	0.1	1.1	90	8
Lussagnet phase 1	TIGF	2020	Aquifer	0.11	1.3	86	7.4
Manosque 2	Géo-méthane	2019-2021	Salt cavern	0.2	2.36	119	10.1
All sites				0.41	4.8	295	25.5

1.3.2 Rendezvous clause

The initial regulatory perimeter covers all storage sites in France. However, Article L. 421-3-1 of the Energy Code states that “where underground natural gas storage facilities are no longer deemed necessary to the security of supply in gas and the proper operation of the gas network by the pluriannual energy programme, a notice period shall be fixed by decree, during which these infrastructures shall continue to be subject to the rules previously applicable to them as per Articles L. 421-5-1, L. 421-6, L. 421-7, L. 421-15, L. 452-1 and L. 452-2”. In this regard, Article L. 141-3 of the Energy Code states that “the first programme period [...] shall end in 2018”. The perimeter of regulated storage sites could therefore change in the short term.

Consequently, this deliberation provides for a rendezvous clause, to be triggered at the request of each operator, to examine the implications of a change in the regulatory perimeter when the Pluriannual Energy Programme (PPE) is updated.

1.3.3 Definition of projected allowed revenue

For each calendar year, CRE determines the projected allowed revenue of each storage operator, based on tariff request sent by each operator concerned.

The projected allowed revenue figures comprise net operating expenses (NOE), normative capital costs (NCC), and the clearance of the CRCP clawback account for the tariff period:

$$AR = NOE + NCC + CRCP$$

Where:

- AR: allowed revenue for the period;
- NOE: projected net operating expenses for the period;
- NCC: projected normative capital costs for the period;
- CRCP: clearance of the balance of the CRCP clawback account for the previous year.

1.3.3.1 Net operating expenses

Net operating expenses (NOE) are defined as gross operating costs after the deduction of operating income (including capitalized production, non-tariff income, and gains or losses on sale-purchase of gas stored by the operator).

Gross operating expenses mainly consist of energy costs, external consumption, personnel costs and taxes.

Net operating expenses are determined on the basis of all costs necessary for the operators’ activity, provided they reflect those of an “efficient operator”, as required by Article L. 452-1 of the Energy Code.



The revenue and costs of storage operators are considered to correspond to the perimeter of regulated storage facilities provided for by the Pluriannual Energy Programme (PPE).

The implementation lead-time for the ATS tariff is very short, and CRE is therefore unable to put forward a sufficiently accurate and pertinent net operating expenses trajectory on which to base effective incentivizing regulation. If set too high, the trajectory would generate undue revenue for operators. Conversely, if set too low, it would not allow operators to cover their costs.

For this first period, CRE proposes to adopt a tariff framework in which the difference between projected and real costs and revenues will be regularized on an *ex-post* basis. This mechanism guarantees a final tariff strictly equal to the operators' true income and expenditure. However, it does not give the operators any incentive to manage their expenditure, particularly in terms of operating costs.

Ex-post controls may nonetheless be carried out to ensure that the costs incurred are efficient and prudent. The financial implications of audits conducted by CRE will be taken into account in the CRCP.

In the case of Storengy specifically, the legal entity Storengy SA has a number of different activities. Activities relating to its role as an operator and seller of natural gas storage capacity in France fall within the regulatory perimeter. Storengy's existing geothermal energy subsidiaries in France, and its (unregulated) natural gas storage subsidiaries operating internationally, are outside the regulatory perimeter. Some of Storengy SA's other development activities are also excluded from the regulatory perimeter.

Storengy has indicated that it is considering legally separating its regulated activities from those not exclusively linked to its regulated activity. Based on the information currently available, CRE notes that such an evolution would promote greater cost transparency.

The projected figures from the tariff demand provided by Storengy, TIGF and Géométhane, together with the level of net operating expenses adopted for the purposes of this deliberation, are set out in paragraph 2.2 of this document.

1.3.3.2 Normative capital costs

Normative capital costs (NCC) comprise the return on and depreciation of fixed capital. These two components are calculated from the valuation and development of assets exploited by operators - the regulated asset base (RAB) - and of fixed assets under construction (AuC), i.e. investments made that have not yet led to the commissioning of assets.

NCCs equate to the sum of the depreciation of assets comprising the RAB and the return on fixed capital. This return corresponds to the product of the value of the RAB multiplied by the weighted average cost of capital (WACC), plus the product of the value of AuC multiplied by the cost of debt.

$$\text{NCC} = \text{Depreciation of RAB} + \text{RAB} \times \text{WACC} + \text{AuC} \times \text{cost of debt}$$

1.3.3.3 Method for calculating return on capital

Since there are no regulated natural gas storage operators listed on the stock exchange, CRE is using an indirect approach to determine the rate of return on this activity, based on the method applied to determine the regulated tariff charged for access to LNG terminal facilities (known as the "ATM" tariff).

To this end, CRE uses the rate of return on the activity of a natural gas transmission network operator. This activity is carried out by publicly listed companies, and, in financial terms, is similar in nature to those of natural gas storage and LNG terminal operators.

The method used to determine the rate of return on assets is based on the WACC with a normative financial structure. The return obtained by the operator must both enable it to service its debt interest, and provide it with a return on equity comparable to that which it could obtain for investments with similar risk levels. This cost of equity is estimated based on the "Capital Asset Pricing Model" (CAPM).

CRE then adjusts the WACC for the activity of natural gas transmission network operators based on economic and financial considerations, by adding a specific premium for the activity of regulated storage operators.

CRE notes that other European regulators differentiate between the rates of return on the activity of natural gas transmission network operators, and on the activity of natural gas storage operators⁵.

The rate of return on the RAB adopted for the purposes of this deliberation is indicated in paragraph 2.3.2.

⁵ <https://www.autorita.energia.it/allegati/docs/15/583-15all.pdf> et <http://www.creg.be/sites/default/files/assets/Publications/Others/Z1110-7FR.pdf>

1.3.3.4 Method for calculating the regulated asset base (RAB)

a) Determining the initial value of the RAB

CRE is adopting an approach aimed at reflecting the costs borne by gas storage. It is using the gross values of assets as stated in the operators' corporate accounts, which represent the investments made by the operators and the contributions they received.

To define the initial level of the RAB for storage operators as at 1 January 2018 (the "initial RAB" or "opening RAB"), CRE re-evaluated the gross book value of the operators' assets as at 31 December 2016 (using the most recent accounting figures available at the time), using a "current economic cost" method. The basic principles of this method were laid down by the Special Commission (known as the "Houri" Commission) set up by Article 81 of the amending finance law of 28 December 2001, which was tasked with setting the price at which the State sold off its natural gas transmission networks.

The assets commission until 31 December 2016 are therefore valued based on the historic costs, index-linked for inflation. The gross book values (adjusted for investment subsidies) are re-valued as at 31 December 2016 based on a price index identical to that applied in the ATRT tariff (the "market sector GDP" price index until 2002, and then the consumer price index excluding tobacco for all French households).

The gross values re-valued as at 31 December 2016 are then amortized on the basis of the economic lifespan of the various categories of assets, which are close to the periods historically used by the operators.

To establish the initial RAB as at 1 January 2018, CRE took into account the projected figures for the commissioning of assets for 2017 provided by the operators. Any discrepancies between these projected figures and the real figures will be regularized through the CRCP clawback account.

b) Inclusion of cushion gas in the initial RAB calculation

"Cushion gas" refers to gas injected into underground storage facilities on a sustained basis, in order to maintain a minimum pressure level, so as to ensure that the working volume is available with the required offtake profile. As such, this cushion gas is essential to the operation of such facilities.

It is treated as a fixed asset in the operators' accounts, and depreciated on a linear basis.

However, unlike most of the operators' assets, which are depreciated over similar periods, the depreciation period for cushion gas differs significantly from one operator to the other :

Depreciation periods	Storengy	TIGF	Géométhane
In corporate accounts	- until 2008: 50 years - 2008-2010: up to 2068 - since 2011: up to 2260	25 years	Up to 2068

As a result, the degree of depreciation of cushion gas also differs between operators, as shown in the table below:

Depreciation proportions	Storengy	TIGF	Géométhane
In corporate accounts as at 31 December 2016	39%	48%	13%

Once the re-valued gross value of the cushion gas has been determined for each of the three operators, CRE will then apply depreciation using the "Houri" method, while ensuring that the extent to which the cushion gas in the initial RAB is depreciated is consistent with the depreciation in the accounts of each of the operators.

Adopting a depreciation period of 250 years over the past, as requested by the three operators, would have led to the final consumer paying for part of the depreciation of cushion gas already accounted for in the operators' past results. Consequently, CRE opted to disregard the operators' request on this point, since it would have resulted in a level of depreciation of cushion gas in the initial RAB that was well below (<5%) that observed in the operators' accounts at the end of 2016.

c) Annual update of the RAB

Once the initial level of the RAB has been defined, it will then evolve annually as assets are commissioned or disposed of, depreciated and re-valued for inflation.



Assets commissioned from 1 January 2017 are included in the RAB at their gross book value. The date on which assets are formally included in the RAB is 1 January of the year following their commissioning.

Once included in the RAB, assets are then re-valued on the 1 January of each year to adjust for inflation on a twelve-month rolling basis from July to July. The re-valuation index used is index 1763852 for consumer prices, excluding tobacco, for all French households.

Assets are depreciated on a linear basis, according to their economic lifespan. Land is taken into account at its historic re-valued, non-depreciated value.

As regards cushion gas, CRE has opted not to accede to the operators' request for a very long depreciation period (250 years), which it does not believe is appropriate, particularly in view of the length of concessions and the depreciation times of other storage assets. CRE has therefore adopted a depreciation period of 75 years, representing three concession periods of 25 years each.

In its decision, CRE has assumed a different depreciation period for cushion gas than that adopted by the operators themselves in their corporate accounts (see paragraph 1.3.3.4 b). The implications of this decision for the operators' allowed revenue are set out in paragraph 2.4.

The lifespans assumed by CRE for the main categories of assets are as follows:

Asset categories	Normative lifespans
Cushion gas	75 years
Wells, cavities and collections	50 years
Treatment, compression, delivery and metering facilities	20 to 30 years
Land and buildings	30 years
Miscellaneous equipment	10 to 15 years
Software, small equipment	5 years

1.3.3.5 Return on assets prior to commissioning

CRE adopts the principle of remunerating assets under construction (AuC) at the nominal cost of debt before tax, in line with the methodology generally used for interest during construction.

As in the regulated ATTM tariff, CRE sets the level of this rate by reference to the rate in the current ATRT tariff, plus the specific premium applied for storage. The rate of return on AuC adopted for the purposes of this deliberation is indicated in paragraph 2.3.2.2.

The amount of these AuC is equal to the average, for each year the tariff is applied, between their estimated levels as at 1st January and 31st December, taking into account investment expenditure and assets commissioned during the year.

1.3.3.6 Constitution of gas stocks by operators

Underground natural gas storage operators may need to acquire stocks of natural gas, notably in the following cases:

- constituting the gas stocks strictly to operate and maintain the performance of a storage site (referred to as "performance gas");
- constituting additional gas stocks to meet regulatory requirements, such as those stipulated by Article L. 421-6 of the Energy Code.

For these operations, the gains or losses resulting from purchases and sales are incorporated into net operating expenses as at the date of sale of the gas. Stored gas is remunerated at the same rate as that of fixed assets under construction (AuC). The level at which this rate is set can be found in paragraph 2.3.2.2.

1.3.4 Tariff calendar and duration

As a general rule, CRE believes that regulation must cover a sufficient period to allow effective incentives for storage operators. For this reason, it has adopted a tariff period of four years for all infrastructure tariffs in force.

In their tariff demands, the storage operators indicated they were in favour of regulatory periods of four to six years in order to ensure sufficient forward visibility, notably in view of the long capital investment cycles and the risks that certain storage facilities could come to be excluded from the scope of the Pluriannual Energy Programme (PPE).

In order to implement incentive regulatory mechanisms, and in particular to identify a trajectory for net operating expenses, CRE would need to rely on empirical results that are by nature unavailable at the pre-regulation stage. To overcome this, it opted for shorter tariff periods for transmission and distribution activities upon their inclusion in the regulatory scope (one to three years, depending on the tariff concerned).

In addition, the lead-times for rolling out the ATS1 tariff were such that CRE was unable to conduct a detailed audit of operators' demands in terms of net operating expenses.

CRE is therefore unable to put forward a sufficiently accurate and pertinent net operating cost trajectory on which to base effective incentivizing regulation. If set too high, the trajectory would generate undue revenue for operators. Conversely, if set too low, it would not allow operators to cover their costs.

In its public consultation, CRE therefore proposes a short initial regulatory period, of two years.

Most of the submissions received were in favour of CRE's proposal, given the deadline for implementing the reforms, and the fact that a shorter period will provide empirical feedback quickly and allow the regulatory framework to be adjusted if necessary. However, most of the contributors to the consultation were keen to stress that this should be an exceptional arrangement, and that subsequent regulatory periods should be longer.

Consequently, CRE sets the duration of the first regulatory period at two years. CRE will seek feedback during this period, in order to envisage longer tariff periods in the future, and also to devise suitable incentivizing regulatory mechanisms.

CRE will also apply an annual tariff revision for 2019.

1.3.5 Collection of allowed revenue

For each calendar year, Storengy, TIGF and Géométhane receive allowed revenue in the following manner:

- firstly, in the form of revenues obtained directly by the storage operators from their customers, mainly from the sale of underground natural gas storage capacities under rules set by CRE in its decision of 22 February 2018 on the conditions for sale of storage capacities as part of regulated third party access to underground natural gas storage facilities in France⁶;
- secondly, where income received directly by operators is less than their allowed revenue, via compensation collected by the transmission network operators from their customers and paid on to the storage operators. The arrangements for collecting and paying on this compensation are laid down by the deliberation of 22 March 2018 deciding on the introduction of a storage tariff term in the ATRT tariff⁷.

1.4 Tariff regulatory framework

The storage operators' activity is subject to the various measures which make up the tariff regulatory framework.

The regulatory framework allows allowed revenue to be adjusted retrospectively via the CRCP clawback account for certain predetermined items, based on the difference between projected revenue and costs and actual figures.

To encourage Storengy, TIGF and Géométhane to sell their capacities more efficiently, the tariff framework includes an incentive mechanism described in paragraph 1.4.2 of this deliberation.

1.4.1 Expenses and revenue clawback account (CRCP)

The allowed revenue of storage operators is determined on the basis of projections for costs and revenues. In its public consultation, CRE proposed introducing an *a posteriori* mechanism - the CRCP - to take into account the differences between these projections, and the actual costs and revenues of operators observed in practice. In their tariff demands, the storage operators, suggested tariff frameworks based on this approach. CRE also consulted market participants for their views on the principle of a "100% CRCP" tariff.

All of the parties who responded to the consultation indicated they were in favour of such a mechanism. However, they pointed out that 100% coverage of differences between projections and actual figures would have no incentivizing effect, and is only justified by the exceptional context, namely the entry into force of the new reform. Some are of the opinion that CRE will need to carry out *ex-post* controls. Some market participants want to see incentivizing

⁶ Deliberation of 22 February 2018 by the Energy Regulatory Commission deciding on the conditions for sale of storage capacity as part of the implementation of regulated third party access to underground natural gas storage facilities in France.

⁷ Deliberation by the Energy Regulatory Commission deciding on the introduction of a storage tariff term into the tariff charged for using the transmission networks of GRTgaz and TIGF.

regulation on the cost trajectory of operators as soon as the storage regulations take effect, to encourage operators to manage their costs.

For this first period, CRE will adopt a tariff framework in which the difference between forecast and real costs and revenues will be regularized on an *ex-post* basis. This mechanism guarantees a final tariff strictly equal to the operators' true income and expenditure. However, it does not give the operators any incentive to manage their expenditure, particularly in terms of operating costs.

The method used to calculate the CRCP is consistent with tariff balancing by calendar year. The balance of the CRCP is calculated on 31 December every year. It takes into account the differences between actual costs or revenues, and the projected net operating expenses.

The balance of this account at 31 December of year N will then be cleared in year N+1, when the annual tariff revision takes place, by reducing or increasing the allowed revenue within a band of up to +/- 5% either side of the operator's projected allowed revenue. If this 5% threshold is exceeded, the remaining difference will be regularized via the CRCP in subsequent years.

To ensure this mechanism is financially neutral, the CRCP will be discounted at the same nominal risk-free rate as that adopted for the ATRT6 tariff, i.e. 2.7%.

The items covered by the CRCP for the ATS tariff will be as follows, within the limit of the regulated facilities perimeter:

- net operating expenses;
- normative capital costs;
- revenue from the sale of storage capacities, including ancillary services, and revenue from transmission network users, paid by the network operators;
- gains or losses on the sale/purchase of performance gas or resulting from the implementation of regulatory obligations to maintain certain levels of gas stocks.

Any bonus from sales derived from the incentivizing regulatory mechanism is paid by the CRCP.

Ex-post controls may be carried out to ensure that the costs incurred are efficient and prudent. The financial implications of audits conducted by CRE will be taken into account in the CRCP.

1.4.2 Incentivizing regulation

Article L. 452-3 of the Energy Code stipulates that CRE's deliberations on tariffs paid to storage operators "*may include multi-annual arrangements for tariff changes, as well as suitable short or long term incentive measures to encourage operators to improve their performance, notably in regard to the quality of the service rendered, the integration of the internal market in gas, the security of supply, and the quest for greater productivity*".

1.4.2.1 Storengy's proposal

Storengy indicated that it was in favour of incentivizing regulation in principle. However, in its initial proposal, it preferred to wait for sufficient experience to be acquired (around one or two years'), in order to allow the stakeholders concerned to collectively shape incentive measures for improving the system, and to determine appropriate indicators and objectives.

If incentive regulations are to be introduced as early as 2018, Storengy recommends adopting incentive measures to maximize volumes sold, by awarding a bonus in the form of a percentage of the operator's allowed revenue based on the subscription rate of capacity.

1.4.2.2 TIGF's proposal

TIGF indicated that it was in favour of incentivizing regulation in principle, and put forward four proposals in discussions with CRE:

- Option 1 - maximize capacities sold: encourage storage operators to increase the capacities put up for sale, by awarding them a bonus for any additional capacities marketed over and above those acknowledged by the PPE as necessary to security of supply;
- Option 2 - investment to improve supply: encourage operators to invest with the aim of improving the performance of their facilities, by remunerating such investment via a premium;
- Option 3 - rate of sale of capacities put on the market: encourage operators to sell all of their capacity, by remunerating them based on the capacity subscription rate;
- Option 4 - auction revenue: encourage storage operators to maximize their auction revenue by allowing them to keep part of the auction premium (difference between the proceeds from the auction and revenue if capacities are sold at the reserve price).

1.4.2.3 CRE's analysis

CRE emphasises that the primary aim of marketing storage capacity is to maximize subscription. The aim of maximizing revenue obtained at auction is a secondary objective.

To encourage storage operators to work toward both of these objectives, CRE will, for the first year of storage, define an arrangement allowing operators to keep part of the revenue from their customer’s capacity subscriptions. The higher the subscription rate of capacities, the more revenue the operators will be permitted to keep. This bonus will depend on the revenue generated by each operator. The method is described below. It may be revisited at the same time as the annual tariff revision, for 2019.

Method adopted

Above a subscription rate of 75% (i.e. capacities sold as a proportion of capacities offered by the operator), each additional percentage point will entitle the operator to keep 0.2% of the revenue generated by their customers’ capacity subscriptions before the end of the initial sale period.

This method is shown by the following formula:

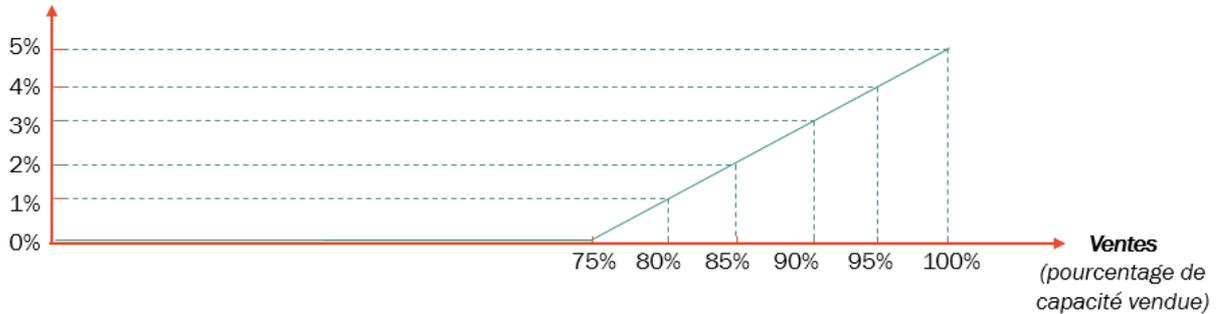
$$B = RE * \frac{\max(T - 75\% ; 0)}{5}$$

Where:

- B: bonus obtained by the operator, in €
- RE: revenue generated by capacity subscriptions by the operator’s customers before the end of the initial sale period, in €
- T: subscription rate (capacities sold as a proportion of capacities offered by the operator), as a %

This method is illustrated by the graph below.

Bonus (pourcentage des revenus générés)



In the specific case of storage year 2018-2019, shippers who will withdraw gas from storage facilities in the South during the winter will sell on their gas at a single French price (PEG), which should be close to the current PEG Nord (North) price. They will have injected this gas during the injection period in summer 2018, whereas the two market zones will still be present, at the TRS (Trading Region South) price. However, the PEG Nord price is historically lower than the TRS price. To correct this effect in the incentive regulation method adopted, the revenue figure used to calculate each operator’s bonus will be increased by a fixed amount, for the TRS storage supply, by a unit price of €0.5/MWh. This increase is consistent with the PEG Nord / TRS spreads observed in recent summers.



2. ALLOWED REVENUE OF STORAGE OPERATORS

2.1 Storage operators' allowed revenue requests

2.1.1 Storengy's requests

2.1.1.1 Request for RAB

Storengy indicates that it established its requested initial regulated asset base (RAB) based on the principles and methods adopted by CRE when defining the initial transmission tariffs for natural gas (referred to as the "ATRT" tariff), themselves based on the conclusions of the Special Commission set up by Article 81 of the amending finance law of 28 December 2001 (the "Houri" Commission), responsible for setting the price at which the State sold off its natural gas transmission networks.

Storengy says that it re-valued assets in a similar manner to that employed for the purposes of the ATRT tariff, and adopted depreciation periods corresponding to the assets' technical lifespans:

- Wells, cavities and collections: 50 years
- Treatment and compression facilities: 30 years
- Buildings and civil engineering: 30 years
- Metering, remote operation and other equipment: 10 years
- Small equipment: 5 years
- Land: not depreciated
- Cushion gas: until 2260, when the world's natural gas resources will be depleted, according to the IEA (World Energy Outlook 2011).

The following table shows Storengy's requested RAB trajectory:

In current M€	2018	2019
RAB at 01/01/N	4,022	4,183
<i>of which cushion gas</i>	2,215	2,242
<i>of which other assets</i>	1,806	1,940
Assets under construction	351	199

Storengy's RAB includes the assets of all sites listed in the perimeter identified by the Pluriannual Energy Programme (PPE). In Storengy's request, assets at mothballed sites (Soings-en-Sologne, Saint-Clair-sur-Epte and Trois-Fontaines) are included in the RAB with a nil value.

The RAB and AuC trajectories are based on forecasts for investments and commissioning of the following Storengy assets:

In current M€	2018	2019
Investments	93	90
Commissioned	247	124

2.1.1.2 Request for rate of return on assets

Storengy has requested a rate of return of 7.25% (real, pre-tax) for the assets included in the RAB. The operator indicates that this rate, which is 200 basis points above the rate of return of the ATRT6 tariff (5.25%), reflects the risks inherent to gas storage activity, which the operator believes to be at least as high as those borne by the operators of regulated LNG terminals.

As regards assets under construction (AuC - assets not included in the RAB since they have not yet been commissioned), Storengy has requested a rate of return of 5.70% (nominal, pre-tax), indicating that this rate corresponds to the ATRT6 tariff plus the same 200 basis point as for the return requested for the RAB.

2.1.1.3 Request for net operating expenses

The following table shows Storengy's request regarding the trajectory to be adopted for NOE:

In current M€	2018	2019
Net operating expenses	180	189

2.1.1.4 Allowed revenue requested

The following table shows Storengy’s request regarding allowed revenue:

In current M€	2018	2019
Normative capital costs (NCC)	439	447
<i>of which Depreciation of the RAB</i>	<i>127</i>	<i>133</i>
<i>of which Return on the RAB</i>	<i>292</i>	<i>303</i>
<i>o which Return on AuC</i>	<i>20</i>	<i>11</i>
Net operating expenses (NOE)	180	189
Allowed revenue (AR)	619	636

2.1.2 TIGF’s requests

2.1.2.1 Request for RAB

TIGF indicates that it established its requested initial regulated asset base (RAB) based on the principles and methods adopted by CRE when defining the initial “ATRT” tariffs, themselves based on the conclusions of the Special Commission set up by Article 81 of the amending finance law of 28 December 2001 (the “Houri” Commission), responsible for setting the price at which the State sold off its natural gas transmission networks.

TIGF says that it re-valued assets in a similar manner to that employed for the purposes of the ATRT tariff, and adopted depreciation periods corresponding to the assets’ technical lifespans:

- Wells, pipelines and connections: 50 years
- Delivery, pressure regulation, metering and compression stations: 30 years
- Land and buildings: 30 years
- Plant, information systems and ancillary installations: 10 years
- Software: 5 years
- Land: not depreciated
- Cushion gas: 250 years

The following table shows TIGF’s requested RAB trajectory:

In current M€	2018	2019
RAB at 01/01/N	1,372	1,456
<i>of which cushion gas</i>	<i>1,012</i>	<i>1,022</i>
<i>of which other assets</i>	<i>360</i>	<i>434</i>
Assets under construction	89	44

TIGF’s RAB includes the assets of all sites listed in the perimeter identified by the Pluriannual Energy Programme (PPE), i.e. the sites at Izaute and Lussagnet.

The RAB and AuC trajectories are based on forecasts for investments and commissioning of the following TIGF assets:

In current M€	2018	2019
Investments	72	62
Commissioned	102	62

These investments notably include the “Lussagnet phase 1” project, which the PPE identifies among the additional capacities of sites under development to have been granted a permit under the Mining Code and the Environmental Code.

2.1.2.2 Request for rate of return on assets

TIGF has requested a rate of return of 7.50% (real, pre-tax) for the assets included in the RAB. The operator indicates that this rate, which is 225 basis points above the rate of return of the ATRT6 tariff (5.25%), is supported by qualitative analyses of the risks of natural gas storage, which have found them to be at least as high as those of regulated LNG terminals.

As regards assets under construction (AuC - assets not included in the RAB since they have not yet been commissioned into service), TIGF has requested a rate of return of 3.70% (nominal, pre-tax), identical to the rate of return adopted in the ATRT6 tariff.

2.1.2.3 Request for net operating expenses

The following table shows TIGF’s requested NOE trajectory:

In current M€	2018	2019
Net operating expenses	42	44

2.1.2.4 Allowed revenue requested

The following table shows TIGF’s request regarding allowed revenue:

In current M€	2018	2019
Normative capital costs (NCC)	146	157
<i>of which Depreciation of the RAB</i>	40	46
<i>of which Return on the RAB</i>	103	109
<i>o which Return on AuC</i>	3	2
Net operating expenses (NOE)	42	44
Allowed revenue (AR)	188	201

2.1.3 Géométhane’s requests

2.1.3.1 Request for RAB

Géométhane indicates that it established its requested initial regulated asset base (RAB) based on the principles and methods adopted by CRE when defining the initial transmission tariffs for natural gas (referred to as the “ATRT” tariff), themselves based on the conclusions of the Special Commission set up by Article 81 of the amending finance law of 28 December 2001 (the “Houri” Commission), responsible for setting the price at which the State sold off its natural gas transmission networks.

Géométhane says that it re-valued assets in a similar manner to that employed for the purposes of the ATRT tariff, and adopted depreciation periods corresponding to the assets’ technical lifespans:

- Wells, cavities and collections: 50 years
- Land and buildings: 30 years
- Well head equipment: 25 years
- Technical installations: 10 to 30 years

- Industrial plant: 15 years
- Vehicles: 10 years
- Software and small equipment: 5 years
- Cushion gas: until 2260, when the world's natural gas resources will be depleted, according to the IEA (World Energy Outlook 2011).

The following table shows Géométhane's requested RAB trajectory:

In current M€	2018	2019
RAB at 01/01/N	202	214
<i>of which cushion gas</i>	38	39
<i>of which other assets</i>	163	175
Assets under construction	71	84

Géométhane RAB includes the assets at its Manosque site, listed in the perimeter identified by the Pluriannual Energy Programme (PPE).

The RAB and AuC trajectories are based on forecasts for investments and commissioning of the following Géométhane assets:

In current M€	2018	2019
Investments	32	50
Commissioned	20	-

These investments notably include the "Manosque 2" project, which the PPE identifies among the additional capacities of sites under development to have been granted a permit under the Mining Code and the Environmental Code.

2.1.3.2 Request for rate of return on assets

Géométhane has requested a rate of return of 7.50% (real, pre-tax) for the assets included in the RAB. The operator indicates that this rate, which is 225 basis points above the rate of return of the ATRT6 tariff (5.25%), reflects the risks inherent to gas storage activity, and the fact that Géométhane operates only one storage facility.

Géométhane has also requested a 150 case point increase in the rate of return for the assets forming part of Manosque Phase 2, making a rate of 9.0% (real, pre-tax). The operator justifies this by the need to decongest the south-east zone and improve fluidity on the north-south connections, issues which these investments are intended to address.

As regards assets under construction (AuC - assets not included in the RAB since they have not yet been commissioned into service), Géométhane has requested a rate of return of 5.70% (nominal, pre-tax), indicating that this rate corresponds to the rate adopted by CRE in the ATRT6 tariff, plus a 200 basis point premium.

2.1.3.3 Request for net operating expenses

The following table shows Géométhane's request regarding the trajectory to be adopted for NOE:

In current M€	2018	2019
Net operating expenses	15	16

2.1.3.4 Allowed revenue requested

The following table shows Géométhane's request regarding allowed revenue:

In current M€	2018	2019
Normative capital costs (NCC)	29	32
of which Depreciation of the RAB	9	10
of which Return on the RAB	15	16
o which Return on AuC	5	6
Net operating expenses (NOE)	15	16
Allowed revenue (AR)	45	48

2.2 Trajectories adopted for net operating expenses

As explained in the public consultation, CRE is not able - for the initial tariff period - to establish a trajectory for projected net operating expenses that is sufficiently accurate as to allow multi-year incentive regulation to be applied.

Consequently, CRE has adopted the trajectories proposed by TIGF and Géométhane unchanged in its calculation of allowed revenue for the years 2018 and 2019.

In the case of Storengy, CRE examined the way in which certain group service contracts are taken into account in the operator's tariff request.

It found that Storengy benefits from certain non-individualized services provided by the ENGIE group. These services (headquarters or parent company costs) have been included in Storengy's tariff request as a net amount (after re-invoicing of a proportion of these costs to its international subsidiaries) of €1.3M in 2018 and €1.4M in 2019. CRE emphasises that parent company costs must match the services actually provided by the parent company to its subsidiaries. It takes the view that Storengy failed to justify the nature of the services provided and the associated costs. CRE has therefore excluded these parent company costs from the net operating expenses to be covered by the ATS1 tariff.

The following table shows the trajectory for net operating expenses resulting from CRE's adjustment:

Net operating expenses (in M€)	Storengy		TIGF		Géométhane	
	2018	2019	2018	2019	2018	2019
Operators' requests	180.4	189.0	42.4	44.0	15.2	15.8
Adjustment by CRE	-1.3	-1.4	-	-	-	-
Trajectory adopted	179.1	187.6	42.4	44.0	15.2	15.8

2.3 Trajectories adopted for normative capital costs

Normative capital costs (NCC) are comprised of depreciation of and financial return on assets. To calculate the capital costs to be covered by the tariffs, CRE used the projected investment figures submitted by Storengy, TIGF and Géométhane.

In calculating these capital costs, CRE applied the same principles as those employed for the other regulated gas infrastructure tariffs.

2.3.1 Projected trajectories for the RAB and assets under construction (AuC)

In line with the principles set out in paragraphs 1.3.2.4 and 1.3.2.5, and based on the operators' accounting figures at 31 December 2016, along with their projected investments and commissioning of new assets, CRE has adopted the following trajectories for the regulated asset base and assets under construction.

CRE has made further adjustments to the RAB levels as at 1 January 2018 presented in the public consultation of 21 December 2017. These adjustments are intended to take account of some of the operators' remarks in response

to the consultation, notably as regards the application of the “Houri” method to cushion gas. CRE has therefore adopted the following RAB and AuC figures:

Storengy - current M€	2018	2019
RAB at 01/01/N	3,526.3	3,685.8
<i>of which cushion gas</i>	1,616.3	1,610.7
<i>of which other assets</i>	1,910.0	2,075.2
Commissioning of assets*	247.3	124.5
Depreciation	- 124.2	- 129.5
Re-valuation	36.5	36.8
RAB at 31/12/N	3,685.8	3,717.6
Assets under construction (AuC)	404.2	248.5

*Investments falling within the RAB

TIGF - current M€	2018	2019
RAB at 01/01/N	1,156.1	1,228.6
<i>of which cushion gas</i>	842.8	839.9
<i>of which other assets</i>	313.3	388.7
Commissioning of assets*	102.0	62.0
Depreciation	- 41.7	- 47.8
Re-valuation	12.2	12.4
RAB at 31/12/N	1,228.6	1,255.1
Assets under construction (AuC)	66.0	30.7

*Investments falling within the RAB

Géométhane – current M€	2018	2019
RAB at 01/01/N	188.9	202.8
<i>of which cushion gas</i>	36.4	36.3
<i>of which other assets</i>	152.5	166.5
Commissioning of assets*	20.3	0.1
Depreciation	- 8.4	- 9.2
Re-valuation	2.0	1.9
RAB at 31/12/N	202.4	195.6
Assets under construction (AuC)	87.4	108.8

*Investments falling within the RAB

To calculate the projected trajectories for the operators' RAB and NCC, CRE used the following figures for projected investments and commissioning of new assets:

Storengy - current M€	2017	2018	2019
Investments	99	93	90
Commissioned	133	247	124

TIGF - current M€	2017	2018	2019
Investments	29	72	62
Commissioned	26	102	62

Géométhane – current M€	2017	2018	2019
Investments	11	33	51
Commissioned	14	20	-

2.3.2 Rate of return on assets

2.3.2.1 Rate of return on the RAB

For the ATS tariff period 2018-2019, Storengy requested a weighted average cost of capital rate of 7.25% (real, pre-tax), while TIGF and Géométhane requested a WACC of 7.50% (real, pre-tax).

For the public consultation in December 2017, CRE published proposals for a WACC within a range of 5.75% - 6.75% (real, pre-tax), including a specific premium for storage of between +50 and +150 basis points above the WACC adopted in the ATRT6 tariff for GRTgaz and TIGF.

Some of the respondents to the consultation indicated that a level of return within the range proposed was overvalued, notably given current market conditions and their assessment of the risks inherent to gas storage as a commercial activity. The operators and their shareholders, meanwhile, proposed that the rate of return should be close to that applied to LNG terminal operation, which they view as presenting a risk level comparable to that of gas storage.

For the period 2018-2019, CRE has settled on a weighted average cost of capital of 5.75% (real, pre-tax) to remunerate the regulated assets base of storage operators. This figure reflects premium on the WACC of the ATRT tariff, set at 5.25% (real, pre-tax) for the ATRT6 tariff, which is justified by CRE's assessment of the economic, technical and geological risks inherent to the operation of natural gas storage facilities, as compared with the transmission of gas.

2.3.2.2 Rate of return on AuC

In line with the principles set out in paragraph 1.2.3.2.4, assets under construction (AuC) are remunerated at the cost of debt (nominal pre-tax) of the ATRT (3.70% for ATRT6), plus the specific storage bonus, i.e. 4.20%.

2.3.3 Trajectories for normative capital costs (NCC)

The tables below show the normative capital cost (NCC) projections for Storengy, TIGF and Géométhane for 2018 and 2019:

Storengy - current M€	2018	2019
Depreciation of assets in service	124.2	129.5
Return on assets in service	202.8	211.9
Return on AuC	17.0	10.4
Normative capital costs (NCC)	344.0	351.9

TIGF - current M€	2018	2019
Depreciation of assets in service	41.7	47.8
Return on assets in service	66.5	70.6
Return on AuC	2.8	1.3
Normative capital costs (NCC)	111.0	119.8

Géométhane – current M€	2018	2019
Depreciation of assets in service	8.4	9.2
Return on assets in service	10.9	11.7
Return on AuC	3.7	4.6
Normative capital costs (NCC)	22.9	25.4

2.4 Trajectories for allowed revenue for 2018-2019

The allowed revenue of Storengy, TIGF and Géométhane for the period 2018-2019 is defined as being the sum of net operating expenses (see paragraph 2.1.2) and normative capital costs (see paragraph 2.1.3).

Storengy - current M€	2018	2019
Net operating expenses (NOE)	179.1	187.6
Normative capital costs (NCC)	344.0	351.9
Allowed revenue	523.1	539.5

TIGF - current M€	2018	2019
Net operating expenses (NOE)	42.4	44.0
Normative capital costs (NCC)	111.0	119.8
Allowed revenue	153.4	163.8

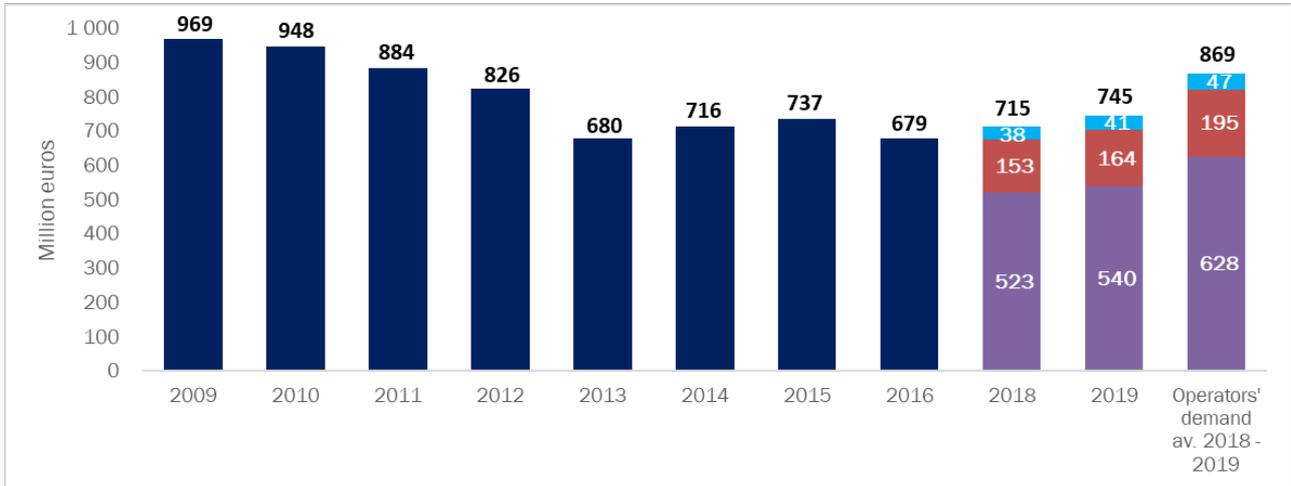
Géométhane – current M€	2018	2019
Net operating expenses (NOE)	15.2	15.8
Normative capital costs (NCC)	22.9	25.4
Allowed revenue	38.1	41.2

These allowed revenue figures are based on a 75 years depreciation period for cushion gas (see paragraph 1.3.3.4). By way of illustration:

- Storengy's allowed revenue for 2018 as determined by CRE (€523M) would in fact be €509M if a depreciation period of 242 years were applied to cushion gas (i.e. until 2260, the period used by Storengy in its own accounts);
- TIGF's allowed revenue for 2018 as determined by CRE (€153M) would in fact be €174M if a depreciation period of 25 years were applied to cushion gas (the period used by TIGF in its own accounts);

- Géométhane’s allowed revenue for 2018 as determined by CRE (€38.1M) would in fact be €38.4M if a depreciation period of 50 years were applied to cushion gas (i.e. until 2068, the period used by Géométhane in its own accounts).

Estimated past sales revenues and projected allowed revenues for 2018 and 2019 (M€)



3. TARIFF FOR USING THE UNDERGROUND NATURAL GAS STORAGE FACILITIES OPERATED BY STORENGY, TIGF AND GEOMETHANE

3.1 Allowed revenue of Storengy, TIGF and Géométhane

Projected allowed revenue for 2018-2019 is shown in the following tables:

- Storengy:

Storengy, in current M€	2018	2019
Net operating expenses	179.1	187.6
Normative capital costs	344.0	351.9
CRCP clearance	-	-
Allowed revenue	523.1	539.5
Change	-	+3.1%

- TIGF:

TIGF, in current M€	2018	2019
Net operating expenses	42.4	44.0
Normative capital costs	111.0	119.8
CRCP clearance	-	-
Allowed revenue	153.4	163.8
Change	-	+6.8 %

- Géométhane:

Géométhane, in current M€	2018	2019
Net operating expenses	15.2	15.8
Normative capital costs	22.9	25.4
CRCP clearance	-	-
Allowed revenue	38.1	41.2
Change	-	+8.1 %

3.2 Collection of allowed revenue

3.2.1 Sale of storage capacities

Storage capacities not already under contract are made available at auction following a procedure laid down by CRE in its decision of 22 February 2018 on the conditions for sale of storage capacities as part of regulated third party access to underground natural gas storage facilities in France.

Revenue from the sale of storage capacities and ancillary products, collected by the storage operators from their customers, cover the operators' allowed revenue.

3.2.2 Compensation of revenue shortfalls by transmission network operators

Where revenue received directly by operators is less than their allowed revenue, the transmission network operators collect compensation from their customers, which is then passed on to the storage operators. The arrangements for collecting and paying on this compensation are laid down by the deliberation of 22 March 2018 deciding on the introduction of a storage tariff term in the ATRT tariff.

3.3 References for annual revision of the tariff for using the underground natural gas storage facilities operated by Storengy, TIGF and Géométhane with effect from 2019

3.3.1 Update to capital costs

For 2019, the capital costs taken into account for updating tariffs for 2019 are shown in the following table:

Projected NCC in current M€	2019
Storengy	351.9
TIGF	119.8
Géométhane	25.4

3.3.2 Update to net operating expenses

For 2019, the net operating expenses taken into account for updating tariffs for 2019 are shown in the following table:

Projected NOE in current M€	2019
Storengy	187.6
TIGF	44.0
Géométhane	15.8

3.3.3 CRCP calculation and clearance

The overall balance of the CRCP clawback account is equal to the amount to be paid into or deducted from the CRCP for the past year, to which is added any outstanding CRCP balance from previous years.

The amount to be paid into or deducted from the CRCP is calculated by CRE, for each year elapsed, based on the difference between the reference amounts defined below and actual figures, for each item concerned.

Storengy, in current M€	2018
Revenue from the sale of storage capacities, ancillary services and payments from transmission operators	523.1
Net operating expenses	179.1
Normative capital costs	344.0

TIGF, in current M€	2018
Revenue from the sale of storage capacities, ancillary services and payments from transmission operators	153.4
Net operating expenses	42.4
Normative capital costs	111.0

Géométhane, in currentMC	2018
Revenue from the sale of storage capacities, ancillary services and payments from transmission operators	38.1
Net operating expenses	15.2
Normative capital costs	22.9

The bonuses and penalties resulting from the various incentive regulatory mechanisms are paid through the CRCP.

For 2019, the tariff revision will take account of the balance of the CRCP as at 31 December 2018 within a limit of 5% of the projected allowed revenue for 2019.

3.3.4 Changes to the storage tariff term

The storage term of the tariff will change according to the procedure adopted for the ATRT6 tariff, based on the allowed revenue of Storengy, TIGF and Géométhane, and projected auction revenue.

4. DECISION

- 1- CRE sets the tariff for using the underground natural gas storage facilities operated by Storengy, TIGF and Géométhane from 2018, based on the methodology and parameters set out in this deliberation.

In particular, CRE sets:

- a. the initial levels of the Regulated Asset Base (RAB) at 3.5 billion euros for Storengy, 1.15 billion euros for TIGF, and 0.19 billion euros for Géométhane;
 - b. the real pre-tax weighted average cost of capital at 5.75%;
 - c. the allowed revenues for 2018 at 523.1 million euros for Storengy, 153.4 million euros for TIGF, and 38.1 million euros for Géométhane;
 - d. an incentivizing mechanism to encourage storage operators to maximize subscription of capacities and auction revenues.
- 2- This deliberation will be published on the *Journal Officiel de la République Française*.
 - 3- This deliberation will be published on CRE's website and forwarded to Storengy, TIGF and Géométhane.
 - 4- It will also be sent to the Minister of State, the Minister for Ecological and Solidary Transition, and the Minister for Economy and Finance.

**Deliberated in Paris, 22 March 2018.
For CRE, the Energy Regulatory Commission
The Chairman**

Jean-François CARENCO