

# Inventory-related adjustments

## IN BRIEF

Énergir must store natural gas during the summer to serve customers during the winter (see the Fact Sheet on “Load-balancing service”).

In order to store natural gas, costs are incurred for the supply and transportation to the storage point. The cost of these services may vary depending on the time when the natural gas is stored and the time it is consumed by customers.



## Illustration of the inventory-related adjustment process

Summer	Winter	Year			
100 units €2/unit	+	100 units €3/unit	=	200 units €500	Énergir purchases natural gas at two different prices: summer (€2/unit) and winter (€3/unit)
40 units €2/unit					Natural gas is stored at its acquisition cost during the summer
60 units €2/unit	+	140 units €3/unit	=	200 units €540	Customers are billed at the price in effect at the time of consumption. A portion of the volumes consumed in winter comes from volumes acquired in summer.
		40 units €2/unit			A portion of the volumes consumed in winter must be billed at the acquisition cost when the volumes were acquired in summer.

An adjustment will be required to compensate for the difference between the acquisition cost and the billing price:

$$\begin{array}{r}
 \text{Acquisition cost} \\
 40 \text{ units} \\
 \text{€2/unit}
 \end{array}
 -
 \begin{array}{r}
 \text{Billing price} \\
 40 \text{ units} \\
 \text{€3/unit}
 \end{array}
 = -\text{€40}$$

Since the prices billed for these services are the prices in effect at the time the natural gas is consumed and not at the time it is stored, an adjustment is necessary.

# Inventory-related adjustments

## COST OF INVENTORY ADJUSTMENTS

### Composition of inventory-related adjustments

Inventory-related adjustments account for the variation in inventory value resulting from price changes and also include recovery of the financial costs related to maintaining these inventories.

The adjustments are calculated separately for the natural gas supply and transportation services since the prices may vary over the course of the year.

A separate adjustment is calculated for customers who have a fixed price supply agreement so as to consider only the costs related to maintaining inventories (see the Fact Sheet on “Supply service”).

### Approval by the Régie de l'énergie

Because the price variations between the time of acquisition of the services and the time they are used by the customer are indicated, the calculation of inventory-related adjustments is a way to ensure that Énergir has no profit or loss on these services.

The prices for these services are approved by the Régie de l'énergie (see the Fact Sheet on “Supply service” and the one on “Transportation service”). The calculation method for inventory-related adjustments is also approved by the Régie.

## ÉNERGIR INVENTORY ADJUSTMENT TARIFF

Inventory-related costs are closely linked to load-balancing costs. The calculation method for inventory-related adjustments thus also accounts for the consumption profile of customers.

### Price of inventory adjustments

First, the inventory required to serve each customer must be estimated. The inventory volume required corresponds to the difference between the annual average daily load and the winter average daily load, multiplied by the number of winter days.

Two customer consumption parameters are thus used to calculate the inventory volume:

- Parameter **W** is the winter average daily load (November to March).
- Parameter **A** is the annual average daily load.

A customer's inventory volume is established as follows:

$$\left( \frac{W}{\text{(Customer's winter volume)}} - \frac{A}{\text{(Customer's annual volume)}} \right) \times \text{Number of winter days}$$

(Number of winter days)      (Number of days in the year)

Finally, a customer-specific inventory **amount** is obtained as follows:

$$\frac{\text{Customer's inventory volume}}{\text{Énergir's inventory volume}} \times \text{Énergir's inventory amount}$$

The inventory-related adjustment **price** is obtained by dividing the amount obtained above by the customer's consumption volume for the last twelve months.

This price is calculated monthly for each service: natural gas supply and transportation.

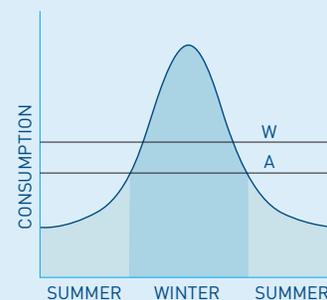
### Effect of the consumption profile on the price

The inventory-related costs are divided among customers in proportion to their storage volumes. Thus, the greater the difference between parameters **W** and **A** for a customer, the greater the impact will be on inventory-related costs.

#### Customers with a heating consumption profile

Customers who consume more in winter than in summer will have a large spread between parameters **W** and **A**, since their winter average daily load is greater than the annual average daily load.

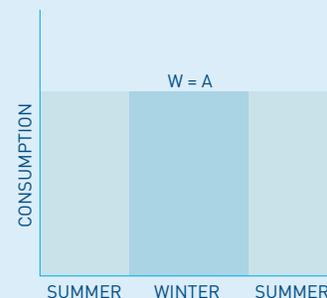
This type of consumption profile means that natural gas has to be stored in summer in order to deliver the volumes required in winter. A large portion of the price variations of services transiting through storage will be allocated to such customers.



#### Customers with a stable consumption profile

Customers with a uniform profile do not need storage in order to ensure their supply and so they do not contribute to inventory-related costs.

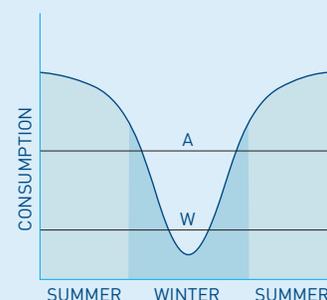
The difference between parameters **W** and **A** is zero and so in this case no inventory-related adjustment are billed such customers.



#### Customers with a summer seasonal consumption profile

Customers who consume more in summer than in winter have a beneficial effect on the storage level required by Énergir. Indeed, without summer seasonal customers, Énergir would have to build higher inventories in order to serve customers with heating consumption profiles.

Since the winter average daily load (parameter **W**) is lower than the annual average daily load (parameter **A**), such customers will be given a credit which corresponds to their contribution to reducing the storage level for other customers.



### Average price

Since parameters **A** and **W** are based on consumption history, customers with less than 12 months of history will be billed at an average rate based on the distribution rate to which they are assigned.

General Distribution Rate D<sub>1</sub> customers whose annual consumption is below 75,000 m<sup>3</sup> are also billed according to an average price. For those customers, the inventory-related adjustments are based on the total storage built to service all customers covered by this rate.

### Inventory-related adjustment balances

Since inventory-related adjustments are spread over a twelve-month period, a portion of the inventory-related adjustments will not be recovered:

- when customers switch from Énergir's natural gas supply and transportation services to their own services without transfer of ownership;
- when customers switch from supply with transfer of ownership to supply without transfer of ownership.

Consequently, at the time the service is changed, Énergir calculates the balance of the customer's inventory-related adjustments.

### Inventory balances

Énergir must sell customers the inventory balances accumulated to serve them year-round:

- when customers switch from Énergir's natural gas supply or transportation services to their own services without transfer of ownership;

- when customers terminate their supply service with transfer of ownership in order to subscribe to the supply service without transfer of ownership.

Énergir must purchase inventory balances from customers which they have built to ensure their year-round supply:

- when customers who provided their own natural gas supply service without transfer of ownership terminate this service.

Usually, the inventory level is at its lowest (even at zero) at the end of winter (end of March). This is often when transfers between the distributor's services and those provided by the customer have the least financial repercussions on inventory balances. However, since the calculation is based on each customer's consumption profile, the optimum transfer time may vary.

### Transposition of volumes

Like the load-balancing service, the natural gas delivery profile also has an impact on the storage volumes required by the customer. To account for this delivery profile, the volumes are transposed. The methodology is described in the Fact Sheet on "Load-balancing service".

### Services provided by customers

Customers who provide their own natural gas supply and transportation services are not billed for the inventory-related adjustments that accompany the price of these services.