

EXAMPLES OF COMPENSATION

This document contains three examples of how to calculate compensation when a customer has his nominated capacity reduced or interrupted.

The prices and capacities used in the examples are for illustrative purposes only and do not necessarily reflect the correct price and capacities applying, nor do the examples of reductions or interruptions reflect real events. Finally, Gas Storage Denmark (“GSD”) assumes no responsibility for any errors, omissions or inaccuracies that may occur in this document.

The examples are based on compensation for one gas day, during which a customer has his nominated capacity interrupted or reduced. In the examples, it is assumed that the conditions for compensation are met according to Rule for Gas Storage (“RGS”), clause 14. Among these are:

- GSD has already interrupted the capacity for a period corresponding to 336 hours
- The storage customer has not been offered interruptible capacity free of charge up to the level of his firm capacity.

The compensation is based on:

- The value of the customer's contracts in the particular hour of nomination during which the customer's nomination is reduced
- The share of total firm capacity nominated but not received by the customer in the particular hour during which his nomination is reduced.

This is explained in the equation: $((N-R) / T) \times V$, where

N = the nominated capacity

R = the capacity received

T = the total firm capacity of the contracts

V = the value of all the contracts in the relevant hour

If $N > T$, N is reduced to the value of T

In the following examples, the equation is used to calculate the compensation when a customer's nomination is reduced or interrupted. The letters in the following examples refer to the letters in the equation above.

Customer example and compensation calculations

In Table 1 below, the contracts of a fictional customer are listed. In the last row, the total capacity, price and price/hour have been calculated.

Table 1: Aggregated value and capacity of contracts

Customer capacity	Volume (kWh)	Injection (kWh/h)	Withdrawal (kWh/h)	Price DKK	Price/hour
Multi-year contract	100,000,000	33,333	75,000	3,800,000	434
High-Flex contract	35,000,000	17,500	72,917	1,575,000	180
1-year standard contract	250,000,000	62,500	114,583	10,500,000	1,199
1-year injection		100,000	-	600,000	68
1-year withdrawal		-	500,000	1,500,000	171
1 month injection		50,000	1.2	80000	111
Aggregated capacity	385,000,000	(T) 263,333	(T) 762,500	17,975,000	(V) 2,163

The total firm capacity (T) refers to the type of capacity the customer has had reduced. The total firm capacity is calculated as the sum of the capacity of all the customer's contracts applying to the relevant hour. In this example, it will either be 263,333 kWh/h injection or 762,500 kWh/h withdrawal.

The value of all the contracts in the relevant hour (V) is calculated by dividing the price of each contract by the total number of hours of the relevant contract. In this example, the yearly contracts are divided by 8,750 hours (the number of hours in a year) and the monthly contract is divided by 720 Hours (the number of hours in a month with 30 days). Finally, the total value of all the contracts is calculated by summing up the hourly values of the contracts. The values of T and V from table 1 are used in the next three examples to calculate compensation.

Example 1

An incident leads to a shutdown of all compressors for four hours. Because of this incident, the customer's nomination is interrupted during the four hours for which the customer has nominated all his capacity for injection. In this example N is 263,333 and R is 0.

For each hour, the compensation is calculated as:

$$(263,333 - 0)/263,333 \times 2,163 = 2,163 \text{ DKK.}$$

For 4 hours, this amounts to 8,652 DKK.

Example 1: Full compensation for 4 hours' total shutdown of all compressors

Gas hour	Nominated injection (kWh)	Allocated injection (kWh)	Reduction (kWh)	Compensation (DKK)
6	263,333	263,333	-	-
7	263,333	263,333	-	-
8	263,333	263,333	-	-
9	263,333	263,333	-	-
10	263,333	263,333	-	-
11	263,333	263,333	-	-
12	263,333	263,333	-	-
13	263,333	263,333	-	-
14	263,333	0	263,333	2,163
15	263,333	0	263,333	2,163
16	263,333	0	263,333	2,163
17	263,333	0	263,333	2,163
18	263,333	263,333	-	-
19	263,333	263,333	-	-
20	263,333	263,333	-	-
21	263,333	263,333	-	-
22	263,333	263,333	-	-
23	263,333	263,333	-	-
24	263,333	263,333	-	-
1	263,333	263,333	-	-
2	263,333	263,333	-	-
0	263,333	263,333	-	-
4	263,333	263,333	-	-
5	263,333	263,333	-	-
Total compensation				8,652

Example 2

An incident leads to reduction of the capacity.

The customer has nominated 180,000 kWh injection. In this case, the customer has had his nominated capacity reduced for six hours. During the six hours, **N** is 180,000 and **R** is 100,000. For each hour, the compensation is calculated as:

$$(180,000 - 100,000) / 263,333 \times 2,163 = 657 \text{ DKK.}$$

For 6 hours, this amounts to 3,942 DKK.

Example 2: Partial compensation for 6 hours of reduced capacity

Gas hour	Nominated injection (kWh)	Allocated injection (kWh)	Reduction (kWh)	Compensation (DKK)
6	180,000	100,000	80,000	657
7	180,000	100,000	80,000	657
8	180,000	100,000	80,000	657
9	180,000	100,000	80,000	657
10	180,000	100,000	80,000	657
11	180,000	100,000	80,000	657
12	180,000	180,000	-	-
13	180,000	180,000	-	-
14	180,000	180,000	-	-
15	180,000	180,000	-	-
16	180,000	180,000	-	-
17	180,000	180,000	-	-
18	180,000	180,000	-	-
19	180,000	180,000	-	-
20	180,000	180,000	-	-
21	180,000	180,000	-	-
22	180,000	180,000	-	-
23	-	-	-	-
24	-	-	-	-
1	-	-	-	-
2	-	-	-	-
0	-	-	-	-
4	-	-	-	-
5	-	-	-	-
Total compensation				3,942

Example 3

An incident leads to a total stop of withdrawal for a whole gas day.

The compensation is calculated for the various nominations during the day and is finally summed up. From gas hour 6 to 10 (the first 5 hours), the customer has filed nominations in excess of his capacity in order to have withdrawal on interruptible terms. In the compensation calculations, the 1,000,000 kWh/h are reduced to the maximum capacity of 762,500 kWh/h. During each of the first 5 hours, **N** is 762,500 and **R** is 0. The compensation for each of the first five hours is calculated as:

$(762,500 - 0) / 762,500 \times 2,163 = 2,163$ DKK.

From gas hour 11 to 24 (the next 14 hours), N is reduced to 500,000. For the next 14 hours, the hourly compensation is calculated as:

$(500,000 - 0) / 762,500 \times 2,163 = 1,418$ DKK.

From gas hour 1 to 5 (the last 5 hours), N is reduced to 200,000. For the last 5 hours the hourly compensation is calculated as:

$(200,000 - 0) / 762,500 \times 2,163 = 567$ DKK.

Based on this, the total compensation for this gas day is calculated as:

$5 \times 2,163 + 14 \times 1,418 + 5 \times 567 = 33,502$ DKK.

Example 3: Whole day with no withdrawal with varying nomination

Gas hour	Nominated withdrawal (kWh)	Allocated withdrawal (kWh)	Reduction (kWh)	Compensation (DKK)
6	1,000,000	0	762,500	2,163
7	1,000,000	0	762,500	2,163
8	1,000,000	0	762,500	2,163
9	1,000,000	0	762,500	2,163
10	1,000,000	0	762,500	2,163
11	500,000	0	500,000	1,418
12	500,000	0	500,000	1,418
13	500,000	0	500,000	1,418
14	500,000	0	500,000	1,418
15	500,000	0	500,000	1,418
16	500,000	0	500,000	1,418
17	500,000	0	500,000	1,418
18	500,000	0	500,000	1,418
19	500,000	0	500,000	1,418
20	500,000	0	500,000	1,418
21	500,000	0	500,000	1,418
22	500,000	0	500,000	1,418
23	500,000	0	500,000	1,418
24	500,000	0	500,000	1,418
1	200,000	0	200,000	567
2	200,000	0	200,000	567
0	200,000	0	200,000	567
4	200,000	0	200,000	567
5	200,000	0	200,000	567
Total compensation				33,502