

## Comparison of retail tariffs for international roaming before and after the introduction of the new regulation

The regulation on international roaming entered into force in Norway 15 January 2008. At the same time most of the operators went from charging interval per second to charging interval per minute within the EEA.

Per minute billing implies that the customer must pay for the whole minute, independently of the length of the call. If the call lasts for one minute and ten seconds, the customer must pay for two minutes. The introduction of the EU regulation in Norway has in fact led to many calls being more expensive, as the customers must pay for unused calling time.

The estimates in this paper are based on Telenor and NetComs retail tariffs before and after the introduction of the regulation (in NOK). The Norwegian Post and Telecommunication Authority (NPT) emphasize the fact that the price plans by Telenor and NetCom are used as an example. The use of per minute billing seems to have become the rule among the Norwegian operators. One exception from this, however, is Tele2 that offers the same price for calling within and between Norway and Sweden. With their subscription, calls to and from Sweden are billed per second and receiving calls are free.

### Telenor's price plan<sup>1</sup> for calling from Sweden and Denmark to Norway

Telenor's pricing (including VAT) is presented in the table below (in NOK):

Price	Before 15.01.08	After 15.01.08
Set-up charge	0,74	0
Cost per minute	3,59	3,59
Charging interval	1 sec	1 min

The table shows that the pricing per minute was identical before and after 15 January 2008. The charging interval is, however, changed from one second to one minute. This has led to more expensive calls in these intervals.

Length of call:

0 - 47 sec

1 min 1 sec - 1 min 47 sec

2 min 1 sec - 2 min 47 sec

3 min 1 sec →

This implies that 78% of all call lengths from Sweden and Denmark have become more expensive for the end-users after 15 January 2008.

<sup>1</sup> The estimates are based on daytime calls for all post paid subscriptions. It is also assumed an even distribution of the length of the call.

Following are three examples of different call lengths (NOK):

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	4,63	7,18	2,55	55 %
2 min 10 sec	8,52	10,77	2,25	26 %
3 min 15 sec	12,41	14,36	1,95	16 %

### Telenor's price plan for receiving calls in Sweden and Denmark

The table below presents the price plan for incoming calls in Sweden and Denmark with a Telenor subscription (in NOK).

	Before 15.01.08	After 15.01.08
Set-up charge	0,74	0
Cost per minute	2,49	2,39
Charging interval	1 sec	1 min

Incoming calls in the following intervals have become more expensive after 15 January 2008.

Length of call:

- 0 til 39 sec
- 1 min 1 sec - 1 min 37 sec
- 2 min 1 sec - 2 min 34 sec
- 3 min 1 sec - 3 min 32 sec

59% of all incoming calls of length less than 4 minutes have become more expensive. A large part of incoming calls longer than 4 minutes have become more expensive after the introduction of the regulation. The number of calls that have become cheaper increases as the length of call increases.

Following are three examples (NOK)

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	3,44	4,78	1,34	39 %
2 min 10 sec	6,14	7,17	1,03	17 %
3 min 15 sec	8,83	9,56	0,73	8 %

### NetCom's<sup>2</sup> price plan for calling from Sweden:

Cost	Before 15.01.08	After 15.01.08
Set-up	0,74	0
Cost per minute	3,50	3,59
Charging interval	15 sek	1 min

<sup>2</sup> The price plan for ActiveTalk has been used. The calculations are based on the use of Telia's network in Sweden.

This price plan results in calls in the following intervals have become more expensive:

Length of call:

0 - 45 sec

1 min 1 sec - 1 min 45 sec

2 min 1 sec - 2 min 45 sec

Etc.

75% of the calls of length less than four minutes have become more expensive. The table shows three examples of what different call lengths will cost (in NOK).

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	5,12	7,18	2,07	40,37 %
2 min 10 sec	8,62	10,77	2,16	25,01 %
3 min 15 sec	12,12	14,36	2,25	18,53 %

All the examples above have become more expensive with the NetCom ActiveTalk subscription.

### NetCom's price plan for receiving calls in Sweden

	Before 15.01.08	After 15.01.08
Set-up charge	0	0
Cost per minute in NOK	3,10	2,39
Charging interval	15 sek	1 min

Three examples in NOK:

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	4,62	4,78	0,17	3,58 %
2 min 10 sec	7,72	7,17	-0,55	-7,06 %
3 min 15 sec	10,82	9,56	-1,26	-11,60 %

### NetCom's<sup>3</sup> price plan for calling from Denmark

	Before 15.01.08	After 15.01.08
Set-up charge in NOK	0,74	0
Cost per minute in NOK	3,5	3,59
Charging interval	30 sek	1 min

This leads to more expensive calls within the following intervals:

Length of call:

0 - 30 sec

1 min 1 sec – 1min 30 sec

2 min 1 sec – 2 min 30 sec

3 min 1 sec - 3 min 30 sec

<sup>3</sup> Assuming the use of NetCom's ActiveTalk and Telia Soneras network in Denmark.

50% of calls of length less than four minutes have become more expensive after 15 January 2008.

Further three examples (NOK):

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	5,99	7,18	1,19	20 %
2 min 10 sec	9,49	10,77	1,28	13 %
3 min 15 sec	12,99	14,36	1,37	11 %

### NetCom's<sup>3</sup> price plan for receiving calls in Denmark

	Before 15.01.08	After 15.01.08
Start-up charge	0	0
Cost per minute (NOK)	3,1	2,39
Charging interval	30 sec	1 min

Receiving calls in the following intervals have become more expensive after 15 January 2008:

Length of call:

0 - 30 sec

1 min 1 sec - 1min 30 sec

Three examples (in NOK):

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	4,65	4,78	0,13	3 %
2 min 10 sec	7,75	7,17	-0,58	-7 %
3 min 15 sec	10,85	9,56	-1,29	-12 %

### Telenor's price plan for calling from the rest of the EEA-countries<sup>4</sup> to Norway

Telenor's price plan for calling from the rest of the EEA-countries to Norway is presented in the table below:

	Before 15.01.08	After 15.01.08
Set-up charge (NOK)	0,74	0
Cost per minute (NOK)	6,99	4,88
Charging interval	1 sec	1 min

As the table shows, the cost per minute has been somewhat reduced and the start-up charge has been dropped. Furthermore, the charging interval has been changed from 1 second to 1 minute. The result of this is that calls in the following intervals have become more expensive after 15 January 2008:

<sup>4</sup> All the EU member states plus Iceland and Liechtenstein

Length of call:

0 - 36 sec

1 min 1 sec - 1 min 18 sec

This means that:

60 % of all calls of length up to 1 minute have become more expensive.

45 % of all calls of length up to 2 minutes have become more expensive.

30 % of all calls of length up to 3 minutes have become more expensive.

Following are three examples of calls of different lengths:

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	8,31	9,76	1,45	17 %
2 min 10 sec	15,89	14,64	-1,25	-8 %
3 min 15 sec	23,46	19,52	-3,94	-17 %

Although two of the examples show a reduction in cost, the reduction is far less than what the intention of the regulation was.

### **Telenor's price plan for receiving a call in the rest of the EEA-countries**

The cost of receiving a call in the rest of the EEA-countries having a Telenor subscription is presented below:

Cost	Before 15.01.08	After 15.01.08
Set-up charge	0,74	0
Cost per minute	3,99	2,39
Charging interval	1 sec	1 min

Calls of length between 0 and 24 seconds have become more expensive to receive after 15 January 2008.

Three examples:

Length of call	Before 15.01.08	After 15.01.08	Change	Change in %
1 min 5 sec	5,06	4,78	-0,28	-6 %
2 min 10 sec	9,39	7,17	-2,22	-24 %
3 min 15 sec	13,71	9,56	-4,15	-30 %

As the table shows, receiving calls of most lengths by roaming within the EEA-countries have become cheaper after 15 January 2008.

The main target of the regulation was to make it cheaper for the end-user to use their mobile phones abroad. NPT believes it is very unfortunate that roaming within Scandinavia – and also a major part of the roaming calls within the rest of the EEA-countries have become more expensive for the end-users after 15 January 2008.

The price plan for receiving calls is a bit more nuanced, but here too, a large part of the calls has become more expensive.