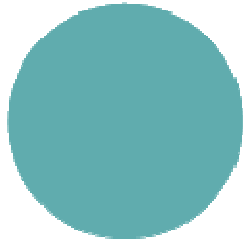


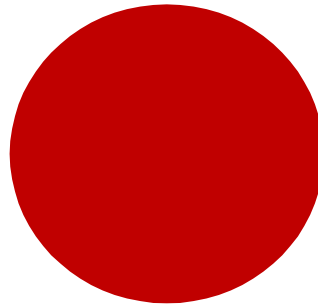


Danish Energy  
Agency



# **Information Memorandum**

## **Annex A**



**Decision by the Minister for Energy, Utilities  
and Climate of 14 June 2018 on the 700  
MHz, 900 MHz and 2300 MHz Auction**

**2018**

# Annex A: Decision by the Minister for Energy, Utilities and Climate of 14 June 2018 on the 700 MHz, 900 MHz and 2300 MHz Auction

## **Decision on the framework for an auction of the frequency bands 703.0-733.0 MHz and 758.0-788.0 MHz and 738.0-758.0 MHz (the 700 MHz frequency band), 880.0-891.9 MHz, 896.9-915.0 MHz, 925.0-936.9 MHz and 941.9-960.0 MHz (the 900 MHz frequency band) and 2300.0-2400.0 MHz (the 2300 MHz frequency band)**

In pursuance of the Frequency Act<sup>1</sup>, section 9(1), the Minister for Energy, Utilities and Climate made a decision on 26 February 2017 directing the Danish Energy Agency, as a basis for issuing licences in the 700 MHz, 900 MHz and 2300 MHz frequency bands<sup>2</sup>, to hold an auction under the rules of section 10 of the Frequency Act.

In continuation of this decision and in pursuance of section 9(3) of the Frequency Act, the Minister for Energy, Utilities and Climate hereby makes the following decision:

1. The Danish Energy Agency shall issue licences to use frequencies in the 700 MHz, 900 MHz and 2300 MHz bands on the basis of the result of the auction.
2. a) At the auction, the 700 MHz and 900 MHz frequency bands shall be offered as frequency blocks, to be combined in nationwide licences based on the result of the auction. These frequency blocks will be offered in the following way:
  - A lots shall be auctioned off as three generic frequency blocks of 2x10 MHz subject to a coverage obligation in one of the three coverage area groups, cf. annex 1, in connection with the application for the auction. It will be for the winner of such an A lot to decide if the 2x10 MHz should be placed in the 700 MHz or 900 MHz frequency band.
  - B lots<sup>3</sup> shall be auctioned off as a maximum of six generic frequency blocks of 2x5 MHz in the 700 MHz frequency band without a coverage obligation.
  - C lots<sup>4</sup> shall be auctioned off as a maximum of six generic frequency blocks of 2x5 MHz in the 900 MHz frequency band without a coverage obligation.
  - D lots shall be auctioned off as four generic frequency blocks of 5 MHz 700 MHz SDL frequencies without a coverage obligation.
- b) At the auction, the 2300 MHz frequency band shall be offered as frequency blocks, to be combined in nationwide licences based on the result of the auction. These frequency blocks will be offered in the following way:

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<sup>1</sup> The decision was made in pursuance of the Act on Radio Frequencies, cf. Consolidated Act No. 1100 of 10 August 2016.

<sup>2</sup> The 700 MHz, 900 MHz and 2300 MHz frequency bands should be understood as the frequencies 703.0-733.0 MHz, 758.0-788.0 MHz and 738.0-758.0 MHz (700 MHz-frequency band), 880.0-891.9 MHz, 896.9-915.0 MHz, 925.0-936.9 MHz and 941.9-960.0 MHz (900 MHz-frequency band), and 2300.0-2400.0 MHz (2300 MHz-frequency band).

<sup>3</sup> Depending on the frequencies that bidders choose as A lots, up to six B lots may be offered.

<sup>4</sup> Depending on the frequencies that bidders choose as A lots, up to six C lots may be offered.

- The E lot shall be auctioned off as a single frequency block of 40 MHz in the 2300 MHz frequency band, which includes a coverage obligation (2474 addresses), cf. annex 2.
  - F lots shall be auctioned off as six frequency blocks of 10 MHz in the 2300 MHz frequency band without a coverage obligation.
- c) In the auction, winning bidders will have the option of bidding for additional coverage obligations in exchange for a reduction in their licence price. The additional coverage obligations are divided into 21 address groups, cf. annex 3.

### 3. 3.1

The following minimum requirements shall be fulfilled by licensees who have won A lots:

- a. Licensees shall ensure provision, not later than 4 April 2022, of an outdoor mobile voice service and a mobile broadband service with a download bit rate of at least 30 Mbit/s and an upload bit rate of at least 3 Mbit/s. The coverage obligation shall apply in the coverage areas specified in the licence, cf. annex 1. In each individual coverage area at least 90 % of the area shall be covered, subject to clause 4.
- b. The coverage obligation may be fulfilled by using frequencies governed by this Decision or other frequencies available to the licensee.
- c. The coverage obligation may be fulfilled via national roaming agreements.

### 3.2

The following minimum requirements shall be fulfilled by the licensee who has won the E lot:

- a. Licensees shall ensure provision, not later than 4 April 2022, of an outdoor mobile voice service and a mobile broadband service with an outdoor download bit rate of at least 50 Mbit/s and an upload bit rate of at least 5 Mbit/s. At selected addresses it is sufficient to ensure provision of a mobile voice service and an outdoor mobile broadband service with download bit rate of at least 30 Mbit/s and an upload bit rate of at least 3 Mbit/s. The coverage obligation shall apply to at least 98 % of the addresses included in the coverage obligation specified in the licence, cf. annex 2, subject to clauses 4 and 5. Coverage may be provided assuming that any end-customer at the address is using fixed equipment for receiving the connection, if the licensee is generally marketing such product at a reasonable cost for the end-customer.
- b. The coverage obligation may be fulfilled by using frequencies governed by this Decision or other frequencies available to the licensee.
- c. The coverage obligation may be fulfilled via national roaming agreements or via bilateral agreements between licensees.
- d. Additionally, the licensee shall forward a list of those addresses not to be covered. For each address the licensee shall substantiate the reason for not covering the addresses in question. The list including the substantiation will be published at the Danish Energy Agency's website.

### 3.3

The following minimum requirements shall be fulfilled by licensees for licences associated with additional coverage obligations (address groups):<sup>5</sup>

- a. Licensees with licences in the 700 MHz, 900 MHz or 2300 MHz frequency bands shall, for the addresses specified in the licence (one or more address groups), cf. annex 3, fulfil the same terms for coverage as appear from the minimum requirement, cf. clause 3.2, subject to clauses 4 and 5.
4. In quite exceptional cases where a licensee cannot offer a mobile voice service or a mobile broadband service in accordance with clause 3 for reasons outside the control of the licensee, including environmental, preservation-related or quite exceptional radio planning conditions, the Danish Energy Agency, subject to application and after having received proper documentation, may relax the terms requiring coverage for a specific area or for specific addresses, cf. annex 4 on administrative procedures in connection with licensees' request for relaxation of coverage obligations.
  5. In case the Danish Energy Agency, in connection with the disposal of frequency bands other than the 700 MHz, 900 MHz and 2300 MHz bands, issues frequency licences subject to coverage obligations, the Agency may relax the terms for coverage, cf. clause 3, including cases in which the areas correspond wholly or partly with coverage areas or addresses in other frequency licences, or where other frequency licences specify higher requirements for offered broadband bit rates etc.
  6. The minimum bid sum and reserve price at the auction of frequencies in the 700 MHz, 900 MHz and 2300 MHz frequency bands shall be as follows:
    - a. A lots per 2x10 MHz with coverage obligation: DKK 0
    - b. B lots per 2x5 MHz: DKK 95 million
    - c. C lots per 2x5 MHz: DKK 95 million
    - d. D lots per 5 MHz: DKK 25 million
    - e. E lot of 40 MHz with coverage obligation: DKK 0
    - f. F lots per 10 MHz without coverage obligation: DKK 25 million
    - g. In the auction, the winning bidders will have the option of bidding for the additional coverage obligations in exchange for a reduction in their licence price. The maximum reduction price for each address group appears from annex 3.

Ministry of Energy, Utilities and Climate, 14 June 2018

Lars Chr. Lilleholt

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<sup>5</sup> To the extent that the winning bidders bid for covering the offered address groups with additional coverage obligation in exchange for a reduction in licence price, coverage obligation will as a starting point be linked to the 2300 MHz licences. If the licensee has not won spectrum in this frequency band, additional coverage obligation will be linked to frequency licences in the 700 MHz or 900 MHz bands.

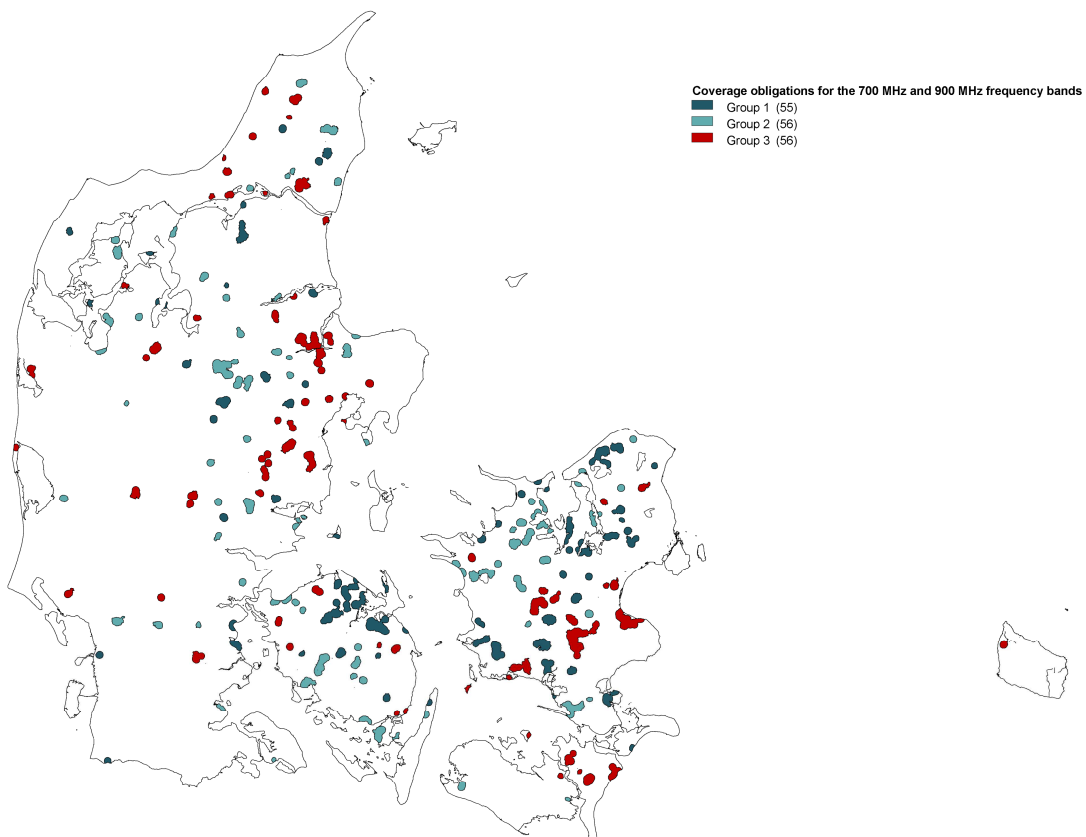
## Annex 1 to Decision by the Minister of 14 June 2018

Coverage obligation in the frequency bands 700 MHz and 900 MHz:

A licensee assigned an A lot shall fulfil a coverage obligation comprising the coverage areas in groups 1, 2 or 3. The specific areas comprised in each coverage area group appear from annex I to the Information Memorandum (ZIP file).

It appears from the map below how the coverage area groups are divided.

- Group 1 comprises 55 coverage areas corresponding to an overall area of 890 km<sup>2</sup>.
- Group 2 comprises 56 coverage areas corresponding to an overall area of 875 km<sup>2</sup>.
- Group 3 comprises 56 coverage areas corresponding to an overall area of 943 km<sup>2</sup>.

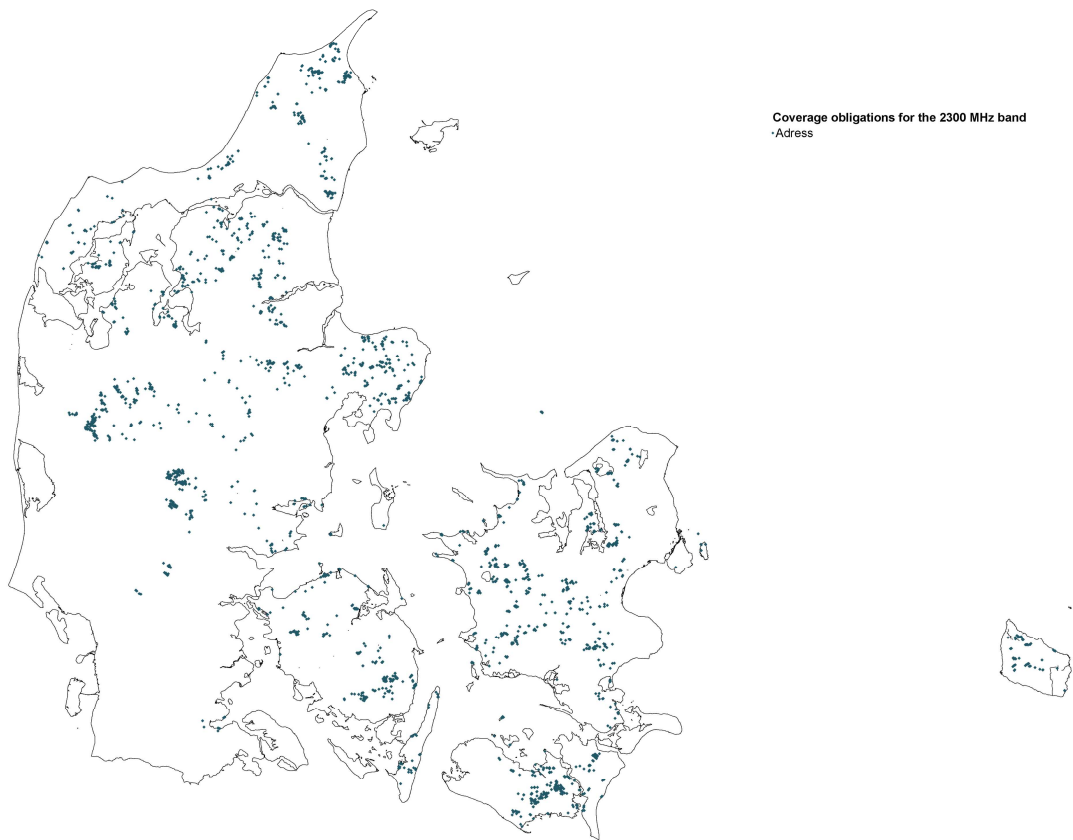


## Annex 2 to Decision by the Minister of 14 June 2018

Coverage obligation in the 2300 MHz frequency band:

The licensee assigned the E lot of 40 MHz shall fulfil a coverage obligation comprising 2474 specific addresses. The specific addresses appear from annex J to the Information Memorandum.

It appears from the map below how the addresses are spread throughout the country.



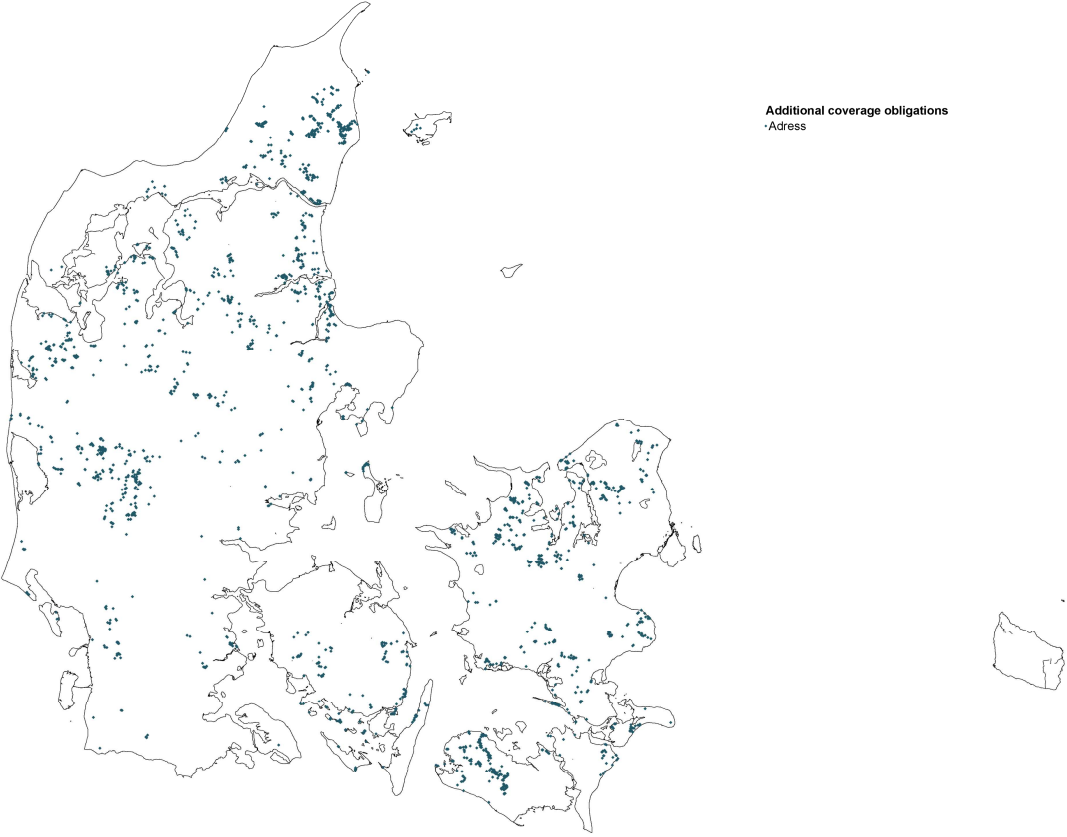
### Annex 3 to Decision by the Minister of 14 June 2018

Additional coverage obligation (address groups) for the 700 MHz, 900 MHz and 2300 MHz auction:

Licensees assigned additional coverage obligation shall fulfil a coverage obligation comprising one or more groups of addresses. The additional coverage obligation is divided into 21 groups of addresses. It appears from Annex K to the Information Memorandum how the addresses are grouped.

Address group	Number of addresses included in address group	Maximum price reduction (DKK million)
Group 1	232	12
Group 2	85	7
Group 3	236	10
Group 4	158	8
Group 5	89	7
Group 6	231	11
Group 7	108	7
Group 8	111	8
Group 9	148	9
Group 10	119	8
Group 11	111	8
Group 12	74	5
Group 13	151	9
Group 14	85	6
Group 15	104	7
Group 16	116	7
Group 17	101	6
Group 18	55	4
Group 19	75	5
Group 20	124	8
Group 21	51	3

It appears from the map below how the addresses are spread throughout the country.





## **Annex 4 to Decision by the Minister of 14 June 2018**

In this annex the Danish Energy Agency's administrative procedures in connection with licensees' request for relaxation of coverage obligations are described.

In the most recent spectrum auctions, coverage obligation has been determined. The licensees shall fulfil the coverage obligation by a set date typically two to three years after the licence in question enter into force.

On the basis of the auction of 700 MHz, 900 MHz and 2300 MHz frequency bands that the coverage obligation may be relaxed in quite exceptional cases where a licensee has duly substantiated that the licensee cannot ensure supply of a mobile broadband service or a mobile voice service in accordance with the coverage obligation associated with the 700 MHz and 900 MHz frequency bands, the 2300 MHz frequency band and the additional coverage requirement, cf. clause 3 of the Minister's decision, due to conditions over which the licensee has no control, including environmental, preservation-related or quite exceptional radio planning conditions.. Thus, this is a narrow possibility for relaxation of coverage obligation and in quite exceptional cases, subject to application and after having received proper documentation the Danish Energy Agency conducts an assessment in each individual case. This specific assessment is conducted within the scope that appears below.

The Danish Energy Agency has the possibility of relaxing the coverage obligation in the following manners, and will include the following considerations in the mentioned sequence in its assessment:

1. Date of fulfilment
2. Bit rate speed
3. Other technology
4. Partly geographical relaxation (part of an area)
5. Full relaxation

In connection with a specific case regarding relaxation, the licensee in question shall furthermore substantiate, whether the licensee will achieve a financial advantage due to the relaxation. This will be part of the Danish Energy Agency's adjudication of the case.

If the licensee achieves a financial advantage due to the relaxation, the Danish Energy Agency's adjudication may comprise an obligation to reimburse this financial advantage.

The above-mentioned possibilities for relaxation are elaborated below.

### **Environmental conditions**

Environmental conditions shall mean that the licensee cannot obtain a permission to deploy equipment or to erect masts in an area due to environmental considerations. This can for example be disturbance of endangered species resulting in rejection of permission to deploy equipment.

The licensee is in such cases obliged to enlarge the search area for deploying equipment, including suboptimal positions, in order to inquire whether it is possible to provide coverage in a different way.

### **Preservation-related conditions**

Preservation-related conditions shall mean that the licensee cannot obtain a permission to deploy equipment or to erect masts in an area due to preservation-related conditions. This can for example be listed buildings or conservation areas where the licensee cannot obtain a permission to deploy equipment.

The licensee is in such cases obliged to enlarge the search area for deploying equipment, including suboptimal positions, in order to inquire whether it is possible to provide coverage in a different way.

### **Radio planning conditions**

Radio planning conditions shall mean that the licensee cannot obtain an agreement on deploying equipment or erecting masts at optimal positions or in a relevant area. It shall be substantiated that all relevant positions, including suboptimal positions, have been reconnoitred and that it is conditions outside the control of the licensee, which cause the impossibility of erecting the mast.

Conditions outside the control of the licensee shall among other things mean that it is not possible to obtain permission to deploy equipment, because no land owner is willing to provide a suitable area.

### **Common for the possibilities of relaxation, including exceptional financial conditions**

Common for the three types of relaxation in the rule (environmental, preservation-related or radio planning conditions) is that it shall be conditions, which the licensee could not have taken into account at the time of bidding for the spectrum and the coverage obligation in the 700 MHz, 900 MHz and 2300 auction. Thus it shall be extraordinary further costs to fulfil the coverage obligation, which the licensee could not have foreseen at the time of applying for participating in the auction.

In connection with consideration of an application regarding relaxation of coverage obligation, the Danish Energy Agency takes into account that the coverage obligation will be relaxed as little as possible. It is always the aim that the coverage obligation shall be fulfilled if possible in any way. Hence, the Danish Energy Agency can to a fair extent relax the coverage obligation in relation to date of fulfilment, bit rate speed, technology, partly relaxation and ultimately full relaxation of the coverage obligation.

**Postponement of the date of fulfilment** will primarily occur due to a consideration of a mast application that has not been completed and the licensee has applied well in advance before the coverage obligation shall be fulfilled.

**Approval to provide a lower bit rate speed** could for example be permitted if a mast can be erected outside the optimal area and provide bit rate speeds that still improve the coverage in the area.

**Approval to use another technology than mobile technology** to fulfil the coverage obligation can primarily be permitted if using another technology can create higher bit rate speeds than if a mast is established outside the optimal area.

It is possible to approve a **partly geographical relaxation** to cover an area if a mast cannot be erected so that it improves the coverage in this specific part of the area.

Only in quite exceptional cases can a full relaxation of covering a specific address or a specific area be approved and it will only happen after it has been inquired whether it is possible to use a mitigated form of relaxation, cf. above.

#### *Extraordinary financial conditions*

The coverage obligation can be relaxed if the licensee can substantiate that the effect of fulfilling the coverage obligation will be an extraordinary financial burden compared to what the licensee could have foreseen at the time of applying for participating in the auction.

An example could be that it is obvious that an area with five addresses could have been covered with a single mast however, due to preservation-related conditions, it will be necessary to erect two masts. Here the financial burden is extraordinary and the coverage obligation could be relaxed.

In relation to land owners' price determination of mast rent, the mast rent will typically exclusively amount to a minor expense compared to fulfilment of the coverage obligation when looking at the total costs. The coverage obligation will therefore solely be relaxed if the land owner's price is extremely high.

#### **Possibility of expropriation**

The Danish Energy Agency has pursuant to the Masts Act<sup>6</sup> a possibility of expropriation for radio communication purposes as regards real estate when the public interest requires this. It appears from the Masts Act section 15 (4) that the Danish Energy Agency among other things shall ensure that there are no other alternatives for establishing a mast that are reasonable to refer to, and that expropriation is for an installation essential to provision of public telecommunications network or telecommunications services.

This possibility for expropriation can solely be used in quite extraordinary situations and has only been used once before.

The Danish Energy Agency generally recommends that the municipality in question gets involved in the challenges and potentially undertake a role as mediator between the parties. The Danish Energy Agency can in such cases assist the municipality with guidance on the coverage obligation and possible solutions to fulfilment hereof.

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<sup>6</sup> Consolidated Act No. 681 of 23 June 2014 on the Establishment and Joint Utilisation of Masts for Radiocommunications Purposes, etc., as amended most recently by Act No. 1658 of 20 December 2016.