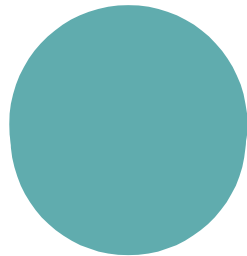


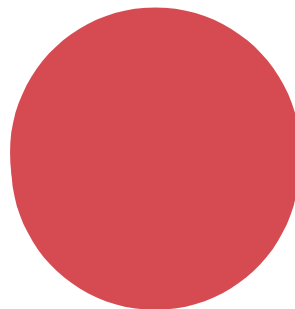


Energistyrelsen



# **Information Memorandum**

## **Annex A**



**Decision by the Minister for Climate, Energy  
and Utilities on the 1500 MHz, 2100 MHz,  
2300 MHz, 3.5 GHz and 26 GHz Auction**



**2021**

# Annex A: Decision by the Minister for Climate, Energy and Utilities of 22 December 2020 on the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz Auction

## Decision on the framework for an auction of 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands

In pursuance of the Frequency Act<sup>1</sup>, section 9(1), the Minister for Climate, Energy and Utilities made a decision on 1 February 2019 and 25 March 2020 directing the Danish Energy Agency, as a basis for issuing licences in the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz 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 Climate, Energy and Utilities hereby makes the following decision:

1. The Danish Energy Agency shall issue licences to use frequencies in the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands on the basis of the result of the auction.
2.
  - a) At the auction, the 1500 MHz frequency band shall be offered as frequency lots, to be combined in nationwide licences based on the result of the auction. These frequency lots will be offered in the following way:
    - Eight frequency-generic lots of 5 MHz in the middle of the 1500 MHz frequency band (1.5-M lots), i.e. 1452-1492 MHz.
    - Single lot of 25 MHz at the bottom of the 1500 MHz frequency band (1.5-B lot), i.e. 1427-1452 MHz.
    - Single lot of 25 MHz at the top of the 1500 MHz frequency band (1.5-T lot), i.e. 1502-1527 MHz.
  - b) At the auction, the 2100 MHz frequency band shall be offered as frequency lots to be combined in nationwide licences based on the result of the auction. These lots will be offered in the following way:
    - Three frequency-generic lots of 2x10 MHz in the 2100 MHz frequency band (2.1-D lots) subject to a coverage obligation in one of the three groups of coverage areas, cf. Annex 1.
    - Six lots of 2x5 MHz in the 2100 MHz frequency band without a coverage obligation (2.1-U lots).

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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, as changed by Act no. 1833 of 8 December 2020.

<sup>2</sup> The 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands should be understood as the frequencies 1427-1517 MHz (1500 MHz frequency band), 1920-1980 MHz paired with 2110-2170 MHz (2100 MHz frequency band), 2360-2400 MHz (2300 MHz frequency band), 3410-3800 MHz (3.5 GHz frequency band) and 24650.0-27500.0 MHz (26 GHz frequency band).

- c) At the auction, the 2300 MHz frequency band shall be offered as frequency lots to be combined in nationwide licences based on the result of the auction. These lots will be offered in the following way:
- Two frequency-generic blocks of 20 MHz in the 2300 MHz frequency band (2.3-U lots).
- d) At the auction, the 3.5 GHz and 26 GHz frequency bands shall be offered as frequency lots to be combined in nationwide licences based on the result of the auction. These lots will be offered in the following way:
- Three frequency-generic lots of 80 MHz in the 3.5 GHz frequency band subject to a coverage obligation, cf. Annex 2, and 400 MHz in the 26 GHz frequency band (3.5-D lots).
  - Eight frequency-generic lots of 10 MHz in the 3.5 GHz frequency band without a coverage obligation (3.5-U lots). It shall only be possible to bid for 3.5-U lots if the bidder has submitted a bid for 3.5-D lots.
  - Single lot of 10 MHz at the bottom of the 3.5 GHz frequency band without a coverage obligation (3410-3420 MHz) will be assigned to the bidder winning the adjacent 3.5-U lot in the auction.
  - Single lot of 60 MHz in the 3.5 GHz frequency band subject to a leasing obligation for the use of private networks (the 3.5-P lot), cf. Annex 2.
  - Seven lots of 200 MHz and a single lot of 250 MHz in the 26 GHz frequency band (26-U lots).

3. 3.1

The following minimum requirements shall be fulfilled by licensees who have won frequencies in the 2100 MHz frequency band subject to coverage obligations (2.1-D lots):

- a. Licensees shall ensure provision, not later than 1 February 2024, of a mobile voice service and a mobile broadband service with an outdoor 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 entire 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 licensees who have won frequencies in the 3.5 GHz frequency band subject to coverage obligations (3.5-D lots):

- a. Licensees shall ensure access, not later than 31 December 2023, to services that use the 3.5 GHz frequency band for 60% of the population, and 75% of the population not later than 31 December 2025.
- b. The coverage obligation may only be fulfilled by using licences applicable to 3.5 GHz frequencies.

3.3

The following minimum requirements shall be fulfilled by the licensee subject to a leasing obligation for the use of private networks (the 3.5-P lot):

- a. The holder of a licence including the 3740-3800 MHz frequencies shall lease these frequencies or a subset thereof to enterprises and public institutions etc. which, within the first four years of the duration of the licence, request that the frequencies be

- leased to them for establishing a private network for the enterprise's or public institution's own use.
- b. Lease of frequencies shall be made on the terms specified in the standard contract for lease of frequencies within the 3740-3800 MHz frequency band, including conditions relating to transmitting power, synchronisation and rental, cf. Annex M to the auction documents.
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 2 on administrative procedures in connection with licensees' requests for relaxation of coverage obligations.
5. In case the Danish Energy Agency, in connection with the disposal of frequency bands other than the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz 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 set higher requirements for offered broadband bit rates or higher requirements for population coverage etc.
6. The minimum bid sum and reserve price at the auction of frequencies in the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands shall be as follows:

Per lot of 5 MHz in 1452-1492 MHz (1.5-M lot):	DKK 10 million
Single lot of 25 MHz in 1427-1452 MHz (1.5-B lot):	DKK 10 million
Single lot of 25 MHz in 1492-1517 MHz (1.5-B lot):	DKK 10 million
Per lot of 2x10 MHz with a coverage obligation in the 2100 MHz frequency band (2.1-D lot):	DKK 0
Per frequency block of 2x5 MHz without a coverage obligation in the 2100 MHz frequency band (2.1-U lot):	DKK 25 million
Per lot of 20 MHz without a coverage obligation in the 2300 MHz frequency band (2.3-U lot):	DKK 50 million
Per lot of 80 MHz in the 3.5 GHz frequency band with a coverage obligation and 400 MHz in the 26 GHz frequency band without a coverage obligation (3.5-D lot):	DKK 75 million
Per lot of 10 MHz without a coverage obligation in the 3.5 GHz frequency band (3.5-U lot):	DKK 25 million
Single lot of 60 MHz with a leasing obligation for private networks in the 3.5 GHz frequency band (3.5-P lot):	DKK 25 million

Per lot of either 200 or 250 MHz without a coverage obligation in the 26 GHz frequency band (26-U lot):

DKK 5 million

Ministry of Climate, Energy and Utilities, 22 December 2020

Dan Jørgensen

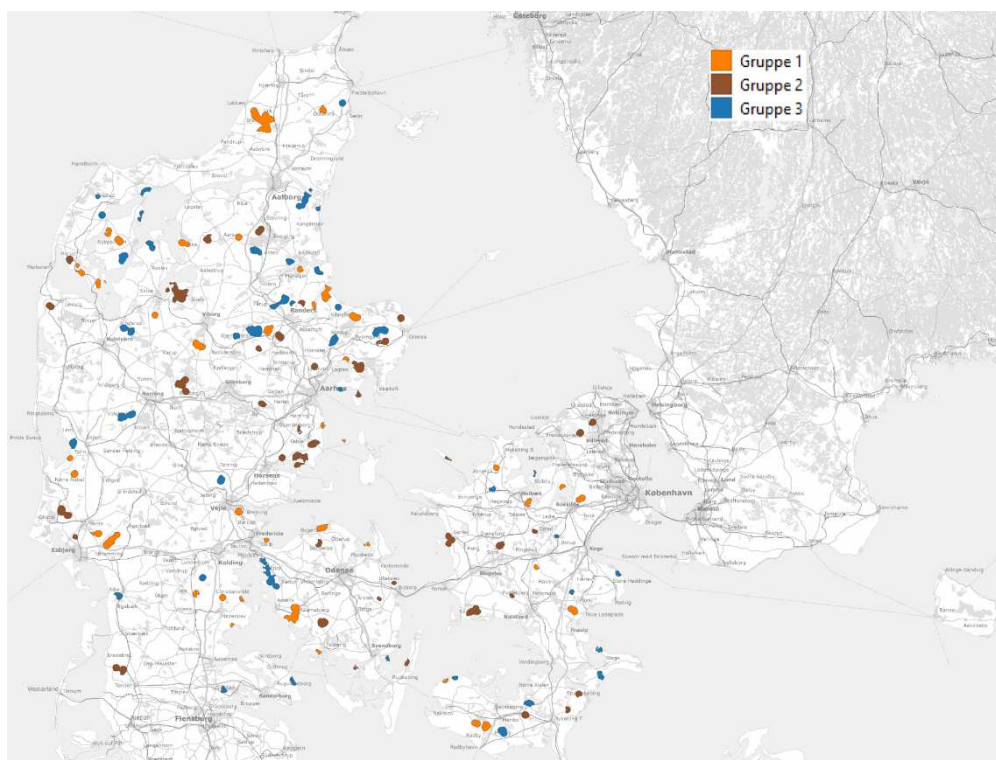
## Annex 1 to Decision by the Minister of 22 December 2020

Coverage obligation in the 2100 MHz frequency band:

A licensee assigned a 2.1-D lot shall fulfil a coverage obligation comprising the coverage areas in group 1, 2 or 3. The specific areas comprised in each coverage area group appear from Annex L to the Information Memorandum (ZIP file).

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

- Group 1 comprises 41 coverage areas, corresponding to an overall area of 446 km<sup>2</sup>.
- Group 2 comprises 40 coverage areas, corresponding to an overall area of 444 km<sup>2</sup>.
- Group 3 comprises 41 coverage areas, corresponding to an overall area of 441 km<sup>2</sup>.



## **Annex 2 to Decision by the Minister of 22 December 2020**

This Annex describes the Danish Energy Agency's administrative procedures in connection with licensees' requests for relaxation of coverage obligations.

Coverage obligations have been stipulated at the most recent spectrum auctions. Licensees must fulfil the coverage obligation by a specific date, typically two or three years after the frequency licence has entered into force.

It appears from the framework for the auction of 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz frequency bands that the coverage obligation may be relaxed in quite exceptional cases when the licensee has duly substantiated that it cannot ensure supply of a mobile broadband service or mobile voice service in accordance with the coverage obligation at specific addresses or areas due to conditions over which the licensee has no control, including environmental, preservation-related or quite exceptional radio planning conditions, cf. the Minister's Decision on the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz auction. This means that there is a narrow possibility of relaxing the coverage obligation, and in quite exceptional cases, subject to application, the Danish Energy Agency will make a specific assessment in each individual case. This specific assessment shall be made within the framework described below.

The Danish Energy Agency may relax the coverage obligation in the following ways and will, in its assessment, include the following considerations in the order of priority stated below:

1. Date of fulfilment
2. Data speed
3. Other technology
4. Partial geographical exemption (from part of area)
5. Full exemption

In connection with a specific case about relaxation the licensee in question must furthermore disclose whether it will gain a financial advantage as a result of the relaxation. This will be included in the Danish Energy Agency's decision in the case.

If the licensee gains a financial advantage as a result of the relaxation, the decision of the Danish Energy Agency may include an obligation to refund this financial advantage.

The possibilities of relaxation as mentioned above are explained more fully below.

### **Environmental conditions**

Environmental conditions mean that the licensee cannot obtain permission to set up equipment or masts in an area due to environmental considerations. This may be for example disturbance of endangered species, preventing the licensee from obtaining permission to set up equipment.

In such cases the licensee is under an obligation to enlarge the search area for setting up equipment, including non-optimal positions, in order to examine if it is possible to obtain coverage in other ways.

### **Preservation-related conditions**

Preservation-related conditions mean that the licensee cannot obtain permission to set up equipment or masts in an area due to preservation-related considerations. This may for example be protected buildings or areas where the licensee cannot obtain permission to set up equipment.

In such cases the licensee is under an obligation to enlarge the search area for setting up equipment, including non-optimal positions, in order to examine if it is possible to obtain coverage in other ways.

### **Radio planning conditions**

Radio planning conditions mean that a licensee cannot obtain an agreement to place a mast or set up equipment at optimal positions or in a relevant area. It must be substantiated that all relevant positions (including non-optimal) have been searched, and that it is conditions outside the licensee's control that make it impossible to set up the mast.

Conditions outside the licensee's control mean for example that it is not possible to obtain permission to set up equipment because no landowners are willing to make a suitable area available.

### **Common aspects applicable to relaxation, including exceptional financial conditions**

It is a common characteristic of the three types of relaxation dealt with here (environmental, preservation-related or radio-planning conditions) that they must be in the nature of conditions that the licensee could not have taken into account at the time of bidding for the spectrum and the coverage obligation in the 1500 MHz, 2100 MHz, 2300 MHz, 3.5 GHz and 26 GHz auction. Thus it must involve extraordinary additional costs to fulfil the coverage obligation, which the licensee could not have foreseen at the time of applying for participation in the auction.

When dealing with an application for relaxation of the coverage obligation, the Danish Energy Agency will consider it important that a relaxation of the obligation can be met with the least possible relaxation. The aim will always be for the coverage obligation to be fulfilled if at all possible. Hence, the Danish Energy Agency may relax the coverage obligation to a reasonable extent in relation to the date of fulfilment, data speed, technology, partial exemption and ultimately full exemption from the coverage obligation.

**Postponement of the date of fulfilment** will primarily be possible in case the consideration of a mast application has not been finalised, and the licensee has applied well in advance before the coverage obligation is to be fulfilled.

**Permission to offer a lower data speed** might for example be granted if a mast can be set up outside the optimal area and give speeds that will still improve the coverage in the area.

**Permission to use a technology other than mobile technology** for fulfilling the coverage obligation might primarily be granted if the use of another technology can generate higher speeds than if a mast is set up outside the optimal area.



It might be possible to grant a **partial geographic exemption** from covering an area if a mast capable of improving the coverage in that specific part of the area cannot be set up.

A **full exemption** from covering a specific address or an area can only be granted in quite exceptional cases, and provided that it has been examined if it might be possible to apply a milder degree of relaxation, cf. above.

#### *Exceptional financial conditions*

The coverage obligation may be relaxed if the licensee can substantiate that fulfilment of the obligation will involve an extraordinary financial burden in relation to what the licensee could have foreseen at the time of applying for participation in the auction.

An example of this is a case in which it is obvious that 90% of an area could have been covered by a single mast, but where it is necessary for preservation-related reasons to set up two masts. Here the financial burden involved will be so extraordinary that the coverage obligation could be relaxed.

As regards land owners' fixing of mast rental, the rental will typically represent only a minor expense in relation to fulfilment of the coverage obligation when looking at the total cost budget. Therefore, the coverage obligation may only be relaxed if the landowner's price is extremely high.

#### **Possibility of expropriation**

Under the Masts Act<sup>3</sup>, when required by the common good, the Danish Energy Agency may allow expropriation to be initiated under the rules of the Act on Expropriation Procedures regarding Real Property for the purpose of ensuring access to use areas in which masts or antenna systems can be established for radiocommunications purposes, or for the purpose of constructing buildings for equipment to be used for masts or antenna systems for radiocommunications purposes. It follows from section 15(4) of the Masts Act that the Danish Energy Agency shall ensure, among other things, that there are no other possibilities of establishing a mast to which reference may reasonably be made, and that the expropriation is for plant of essential importance to the provision of public electronic communications networks or services.

In view of the intrusive nature of the expropriation tool, it will only be possible to use this in quite exceptional cases, and it has only been used once before.

The Danish Energy Agency generally recommends that the municipality in question should be involved in the issue, potentially undertaking a role as mediator between the parties. In such cases the Danish Energy Agency can assist the municipality with guidance on the coverage obligation and possible solutions to fulfil this.

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<sup>3</sup> Act on Establishment and Joint Utilisation of Masts for Radiocommunications Purposes etc., cf. Consolidated Act no. 1039 of 11 October 2019, changed by Act no. 1833 of 8 December 2020.