TRANSPORT OF SOIL TO LYNETTEHOLM

ABOUT LYNETTEHOLM

On 4 June 2021, a broad political majority in the Danish Parliament passed the act on the construction of Lynetteholm. Lynetteholm will be constructed as a peninsula between Refshaleøen and Nordhavn with a coastal landscape facing Øresund, which will help protect Copenhagen from storm surge from the north. CPH City & Port Development will create the land area on Lynetteholm by utilising - in other words, recycling - surplus soil from Copenhagen and construction projects in and around the city.

Prior to Parliament's decision to construct the land area of Lynetteholm, environmental impact assessments were drawn up, illustrating how it is believed the construction of Lynetteholm will impact the surrounding environment. CPH City & Port Development will continuously monitor the construction work, thereby ensuring all environmental considerations.

The signatory parties to the agreement decided to initiate a strategic environmental assessment (SEA) of the future plans for Lynetteholm, which have not yet been politically decided.

LYNETTEHOLM WILL RECEIVE SOIL FROM CONSTRUCTION SITES

Lynetteholm will be filled in mainly with soil from building and construction projects in Greater Copenhagen, where schools, hospitals, homes, cloudburst management projects etc. are built and constructed. Experience figures from the existing soil depot in Nordhavn (the expansion of Nordhavn) between 2012 and 2019 reveal that approximately 70% of the soil came from construction sites in Copenhagen or Frederiksberg Municipality.

The Nordhavn soil depot receives both clean and contaminated soil. The clean soil depot will be filled up within the coming year, and the contaminated soil depot was filled back in 2020. Contaminated soil from Greater Copenhagen is, therefore, currently being temporarily stored at the Nordhavn depot until Lynetteholm opens for the reception of soil, most likely in 2023 (See the map indicating the temporary intermediate store).

The City of Copenhagen has a regulation obligation for surplus soil from construction sites etc. Lynetteholm will thus solve the City of Copenhagen's increasing space challenges caused by surplus soil.

ALTERNATIVE SOIL DEPOTS FOR LYNETTEHOLM

Køge soil depot used to be a major soil recipient in the Copenhagen area on a par with Nordhavn, but the project is just about completed. Hvidovre Municipality is working on a vision for a new vision of a new business area consisting of islets as an extension of the current Avedøre Holme. Eventually, if the islet project is realised, it will also be able to receive soil on a large scale on a par with Lynetteholm.

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Lynetteholm will be able to hold approximately 80 million tons of soil. The Danish Ministry of Transport has prepared an analysis, which estimates that it is likely that soil from the City of Copenhagen alone can meet CPH City & Port Development's expectations of how much soil CPH City & Port Development will receive in the future for Lynetteholm. Precisely when Lynetteholm will have received the entire 80 million tons of soil depends on how many and how quickly future construction projects are launched. Some projects are already known and are expected start in the near future - for example, the Nordhavn Tunnel and several cloudburst tunnels - while others are not yet known. It is estimated that Lynetteholm will be filled in within about 30 years: in other words, around 2050.

If Lynetteholm's receipt of soil was not politically agreed, surplus soil from construction projects in and near Copenhagen would probably have to be transported to other, smaller locations further away from Copenhagen. This would increase the impact on the climate, given longer transport times, while also going against the City of Copenhagen's intention, stipulated in their 2019 Municipal Plan, for surplus soil to be managed locally.

SAME NUMBER OF LORRIES - NEW ROUTE

Over the past 10 or so years, construction sites in and near Copenhagen have delivered approximately 2.6 million tons of clean and contaminated surplus soil to the soil depot in Nordhavn. This equates to an average of about 350 lorries per day to Nordhavn's reception facility. Overall, in the future the number of lorries for soil transport is estimated to be about the same as today. This means that there will be no more lorry transport in Copenhagen, even if Lynetteholm is created, but that the destination of the lorries will change from Nordhavn to Lynetteholm.

In the context of the environmental impact assessments of soil transport to Lynetteholm, traffic model calculations were conducted, which show what the traffic pattern can be expected to be like, when the destination of the lorries carrying soil changes from Nordhavn to Lynetteholm (See map).

Today, when the soil is transported to Nordhavn by lorry, it affects particularly the roads in Østerbro and Nordhavn. When, instead, the lorries head for Lynetteholm, the roads in Østerbro will be significantly relieved, as will the Inner City road network in Frederiksstaden, Kgs. Nytorv and at Nørreport. Conversely, the roads on North East Amager will be significantly strained.

Traffic modelling reveals that, compared to now, there will be a significant increase in lorry traffic to the tune of 300 lorry trips per day (150 lorries there and 150 lorries back). In comparison, the City of Copenhagen's latest traffic counts from 2019 show that the annual round-the-clock traffic on Langebro amounts to 50,600 vehicles, 1,800 of which are heavy vehicles (lorries and buses).

Calculations show that, compared to today, on Knippelsbro the number of lorries transporting soil will not change, or that there will only be a few extra lorries as a result of Lynetteholm. The City of Copenhagen's 2019 traffic counts for Knippelsbro reveal that the annual round-the-clock traffic amounts to 22,900 vehicles on the bridge, 1,200 of which are heavy vehicles (lorries and buses).

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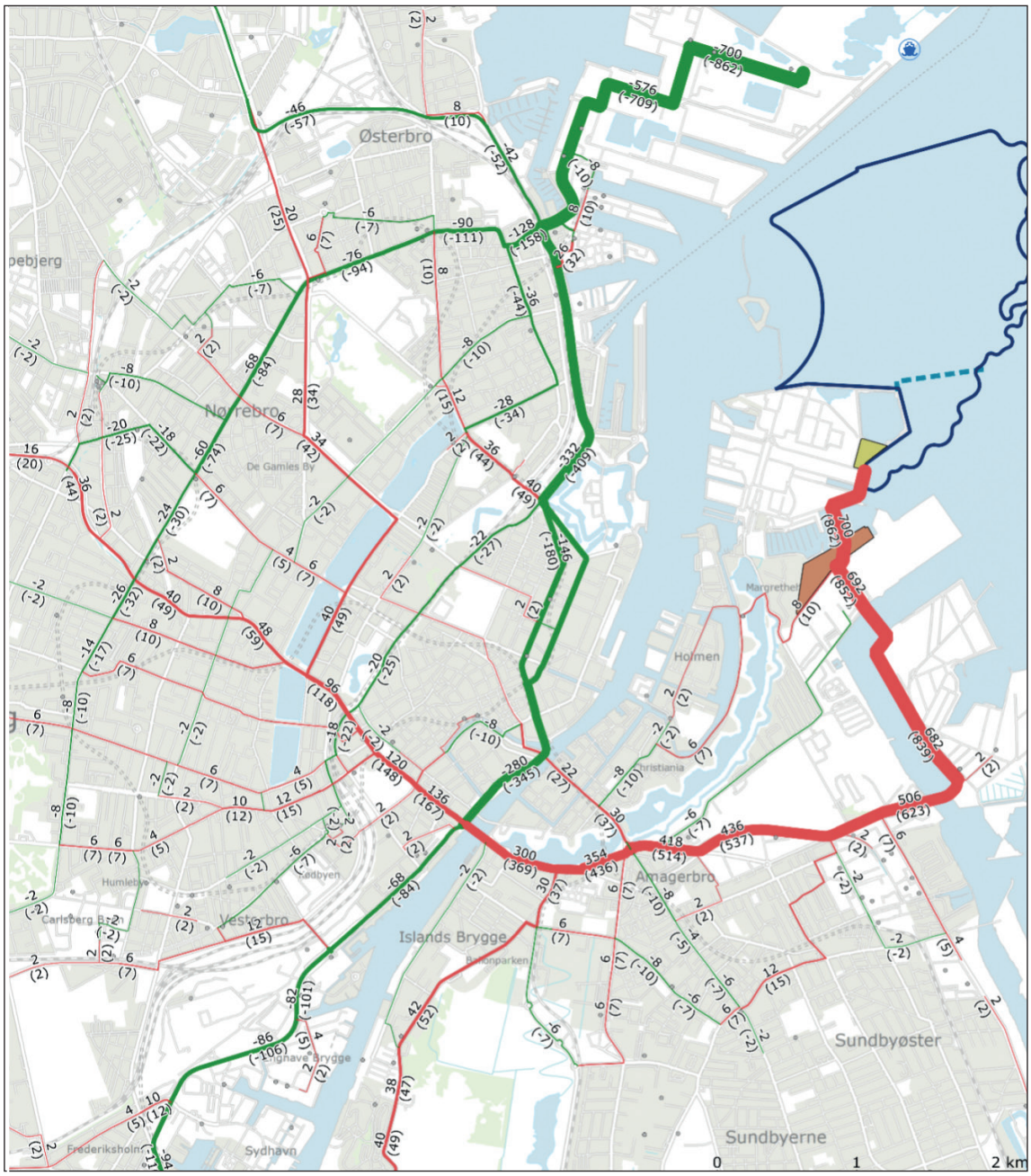

The map shows how the traffic pattern will change when lorries transporting soil drive to Lynetteholm instead of Nordhavn. The green indicates where there will be less soil transport. The red indicates where there will be an increase in soil transport. The figures on the map were calculated on the basis of where Nordhavn has so far received land from. Consequently, the figures should be regarded as a calculated trend rather than precise future figures, since the number of vehicles transporting soil in the future will depend on the location of future construction sites and the amount of surplus soil, and this cannot be fully predicted at the present time. The figures in brackets were calculated on the basis of the highest experienced number of vehicles transprting soil to the Nordhavn soil depot: in other words, an average of 3.2 million tons per year. However, it is expected that the average amount of soil for Lynetteholm will be 2.6 million tons per year. The figures in brackets should therefore be regarded as a worst-case scenario.

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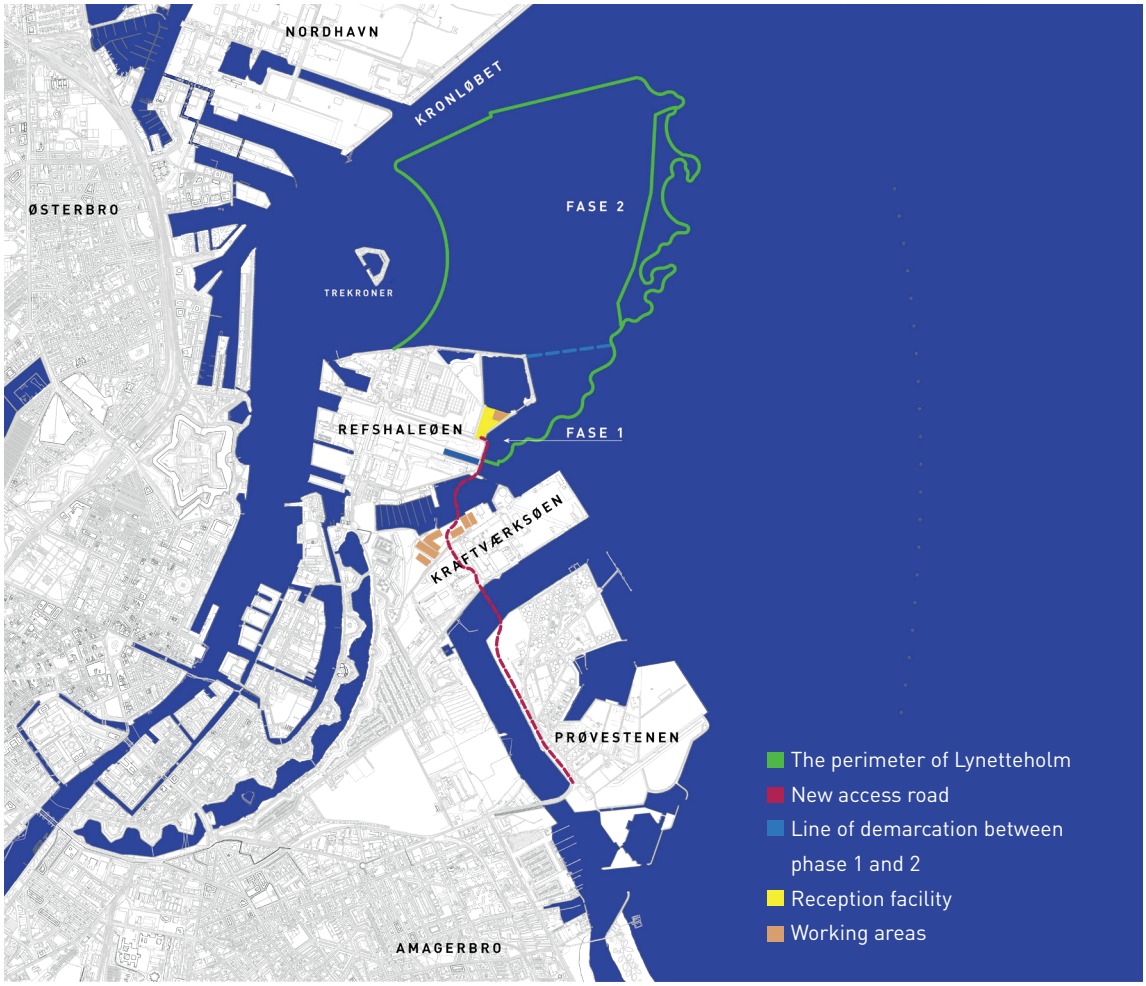
NEW TRANSPORT ROAD FOR LORRIES TO LYNETTEHOLM

During the first preliminary consultation on Lynetteholm's environmental impact report, concerns were raised about how lorries transporting soil would affect homes and the marina in the vicinity of Margretheholm on the current road network to Refshaleøen. Therefore, after an environmental assessment was conducted, it was decided politically that there should be a different access road for the transport of soil than those proposed at the 2019 consultation.

This means that CPH City & Port Development must create a brand new road via Prøvestenen and Kraftværkshalvøen, which will divert lorries as far away as possible from existing homes on Margretheholm. The road will cross Margretheholm's Harbour via a dam with a bascule bridge. The bridge is expected to be open for sailing on weekends and public holidays. On weekdays, the bridge will be open three times during the day, but otherwise closed from 7.00 am to 4.00 pm. 07-16. Read more about sailing in the 'Fact sheet - sailing conditions'.

If the Eastern Ring Road is created, it can also be used for transporting soil from around 2035. This will relieve heavy traffic on Amager, given that the Eastern Ring Road will pass through the future Nordhavn Tunnel to Lynetteholm.



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POSSIBILITY OF MANDATORY ROUTES AND VOLUNTARY ARRANGEMENTS FOR ROUTE SELECTION

The individual developer will decide how and with what type of vehicles soil will be transported from a construction site to the soil reception facility at Lynetteholm. The lorries will have to comply with the general regulations, which relate, for example, to the environmental zone in Copenhagen etc.

The adopted Construction Act for Lynetteholm will enable the City of Copenhagen to enter into voluntary agreements with soil suppliers vis-à-vis the use of certain routes, driving at certain times of the day or using barge transport.

On the last part of the stretch to the reception facility, the new access road via Prøvestenen will be used to divert lorry traffic away from more densely populated areas at Margretheholm and the narrow roads upon arrival at Refshaleøen.

LIMITED TRANSPORT OF SOIL BY WATER FOR THE RECEPTION OF SOIL

CPH City & Port Development's environmental studies clearly show that transporting soil by water is not environmentally or financially appropriate: partly because of the energy consumption of barges and the increased use of machinery for the management and loading and reloading soil. Nor would transporting soil by water mean fewer lorries in the city, since the soil would still have to be transported from the construction sites in the city out to a wharf for the soil to be loaded onto a barge.

That is why sailing has been ruled out as the main means of transporting soil to Lynetteholm. However, for a period of about three years, a limited amount of soil will be transported by water from Nordhavn to Lynetteholm.

As the soil reception facility in Nordhavn for contaminated soil was already filled in 2020, contaminated soil from Greater Copenhagen will be temporarily stored in Nordhavn until Lynetteholm opens for soil reception. This soil will be transported by water to Lynetteholm's reception facility, as the soil will already have been transported to Nordhavn and will be located next to the water. (See map of navigation route.)

Sailing the stored soil from Nordhavn will emit more CO₂ than soil transported by lorry. However, as the soil has already been weighed and is located in the immediate vicinity of the harbour and close to Lynetteholm, it is considered as less environmentally harmful than transport by lorry. This is because the lorry transport from Nordhavn must be added to the 350 lorries that are otherwise expected to drive to Lynetteholm each year, and thus will significantly burden traffic.

Environmental legislation precludes an opening in the perimeter of Lynetteholm, where barges could sail into the Lynetteholm area and unload the soil directly into the water. The soil that is sailed to Lynetteholm must therefore be reloaded at Lynetteholm's reception facility and only then driven the last stage of the journey to the perimeter of Lynetteholm for unloading.

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MATERIAL TRANSPORTED BY WATER DURING THE CONSTRUCTION PHASE

Materials such as gravel, sand, stone materials and sheet piles for the creation of Lynetteholm will mainly be transported to the facility by water. During the construction phase, which will last about 3 years, only 33 trucks are expected per day. That is why, in general, the impact of traffic during the construction phase will be negligible compared to the Copenhagen road network.

ROAD SAFETY AND SAFETY IN GENERAL

The environmental studies estimated the change in traffic load in relation to the existing use of the road network on East Amager. The assessment is that an increase in traffic to the extent calculated for Lynetteholm will not result in an exacerbation of road safety.

However, the City of Copenhagen is concerned about road safety and traffic flow in connection with soil and construction transport to Lynetteholm.

Accordingly, the City of Copenhagen has decided to allocate DKK 11.2 million to measures that will improve conditions for vulnerable road users on Refshalevej, who will be affected by construction traffic to Lynetteholm:

- → The Krudtløbsvej/Refshalevej intersection
- → Analysis of solutions on the narrow stretch of Refshalevej
- → The Refshalevej/Forlandet intersection
- → The Margretheholmsvej/Forlandet intersection
- → The stretch between the Krudtløbsvej/Refshalevej intersection and Refshaleøen

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The City of Copenhagen expects to influence the choice of routes by heavy vehicles by implementing measures costing DKK 3.2 million in the following locations:

- → Christmas Møllers Plads
- → Uplandsgade/Vermlandsgade
- → Langebro and Knippelsbro (monitoring)

POLLUTION AND NOISE

The Lynetteholm environmental impact report estimates that the air pollution caused by extra lorry traffic is far below applicable limit values. In the area of North East Amager, where there will be an increase in lorry traffic, there are good opportunities for the dilution of harmful particles etc. from traffic, given that the area is relatively open. This means that the concentration of pollutants and dust will quickly decrease away from the road. Consequently, the impact of increased lorry traffic on local air quality is considered to be minor. On certain stretches of road - for example, along Uplandsgade - there will be a small but audible increase in traffic noise, which corresponds to an increase in noise of 2 dB. Read more about noise in 'Fact sheet on noise from construction and operation of Lynetteholm'.

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