



To the European Commission
To the Members of the European Parliament
To the Danish Parliament
To Whom It May Concern

June 2022

This concerns Denmark's change of practice on permitted changes to the flow of water into the Baltic Sea and the lack of Espoo hearings on the construction of the Lynetteholm project

Summary

Denmark is firmly grounded on the principle of ensuring that construction projects and infrastructure must not affect the flow of water into the Baltic Sea (the “zero solution principle”). However, the Danish authorities have now allowed that a new artificial peninsula in the Sound – the Lynetteholm project – may block the flow of water into the Baltic Sea by up to 0.5%. This marks the adoption of a new practice.

We consider that blocking of up to 0.5% as a result of the Lynetteholm project could, in itself, have significant, irreversible, negative environmental consequences for the Baltic Sea. If the same blocking is now accepted for other construction projects in the future, the environmental impact on the marine environment could have unpredictable consequences.

By this request, we seek support to stop the risk of man-made environmental disasters resulting from the Lynetteholm project on the Baltic Sea by stressing the need to uphold the “zero solution” principle for marine environmental impact.

Denmark's geographic location brings with it a special responsibility for safeguarding the aquatic environment of the Baltic Sea. Small changes in water flow can affect the whole Baltic Sea and all the Baltic Sea countries. This is a responsibility that Denmark has so far fully met. Regardless of costs, Denmark has insisted on the fundamental principle in international law and intergovernmental relations that states must ensure that activities within their jurisdiction do not cause damage to the environment of other states.¹ Thus, it has been considered a firm principle that Denmark's major infrastructure projects should not affect water flow and thereby create a risk of man-made environmental disasters in the Baltic Sea. In Denmark, this is referred to as a “zero solution” principle. The zero solution has consistently been upheld for:

- construction of the Great Belt Link in the 80's;
- construction of the Øresund Fixed Link in the 90's; and
- construction of the ongoing Fehmarn Belt Fixed Link project.

However, with the Lynetteholm project, Denmark has now decided to break with this very basic environmental paradigm of unchanged water flow to the Baltic Sea.² A new practice has been adopted by allowing the Lynetteholm project to block the flow of water by up to 0.5%.³ The authorities claim that the impact of the project is insignificant (“*minor*”) due to future effects of climate change. Thus, in a fact sheet enclosed with a letter of 20 May 2021 to the Espoo authorities in the Baltic Sea countries,⁴ the Danish authorities state that the effect “*will be offset after about 10 years, and the salt transport after 13 years, due to the climate-related rise in sea level of approximately 2 cm. The calculations thus show that the effect of Lynetteholm is minor in relation to the climate-related seawater increases that will occur in the coming years.*”

However, the independent expert, Deltares, who was hired by By & Havn under an agreement between Denmark and Sweden, does not agree with the authorities’ conclusion and states the following on this subject in a second opinion report:^{5,6}

“We have strong reservations on the validity of this approach, since sea level rise is only one aspect of climate change. In principle, the relevance of sea level rise should be evaluated in comparison to other changes, like those in the tide, temperature and salinity of the North Sea, and wind climate, precipitation, river run-off, and even water quality and ecological processes in the Baltic Sea.”

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Changes in the flow of water into the Baltic Sea are known to impact the aquatic environment transnationally and may have far-reaching consequences for the aquatic environment of the whole Baltic Sea and, thus, for all Baltic Sea countries.⁷ This could be the consequence of rejecting the “*zero solution*” principle for the Lynetteholm project and accepting up to 0.5% blocking. In addition, if other future projects with similar effect were to be adopted, the blocking could become even highly significant and can be expected to result in catastrophic consequences for the 400,000 km² Baltic Sea.

The Danish authorities have not conducted an Espoo consultation on the project with any countries other than Sweden. Consequently, there was no opportunity for relevant stakeholders (such as regional and local authorities, NGOs and the public) in any country other than Sweden to conduct Espoo consultations in accordance with generally accepted practice.

Further, surprisingly, the new information from Deltares has not changed this situation. So far, no steps have been taken towards a new and broader Espoo consultation.

Under the Espoo Conventions and the SMV/EIA Directives, authorities must carry out environmental assessments and consultation with the countries concerned of a transnational construction project such as Lynetteholmen, unless a “*significant adverse transboundary impact can be excluded with certainty.*”⁸ For the reasons stated, and referring to the attached legal review on the matter, it is our view that Espoo consultation on the Lynetteholm project by all Baltic Sea countries⁹ is a legal duty incumbent on the Danish authorities.

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Out of respect for “*the indispensable values of the marine environment of the Baltic Sea area, its exceptional hydrographic and ecological character and the vulnerability of its living resources to environmental change*”, we consider it a duty “*to promote ecological restoration of the Baltic Sea area and maintain its ecological balance.*”¹⁰

We believe that the decision of the Danish authorities to end the practice of the zero solution and allow changes of water flow to the Baltic Sea may risk unpredictable, irreversible, negative, transnational, environmental consequences.

Following intense debate, the Danish Government, in May 2022, said that the technical possibility of a zero solution for the Lynetteholm project will be investigated. Nevertheless, to ensure this will happen, it is imperative that public awareness and political pressure is upheld.¹¹

For this reason, the signing organisations urge the recipients of this letter to take action by writing to the Danish Minister for Transport, Trine Bramsen, Ministry of Transport, Frederiksholms Kanal 27F, 1220 Copenhagen K, Denmark

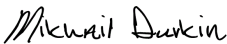
- ***Urging the Danish government to revise the project to ensure a zero solution for the water and salt flow to the Baltic Sea,***
- ***Asking for a new, full Espoo consultation of all⁹ the Baltic Sea countries as a consequence of the second-opinion conclusions from Deltares on the water and salt transports to the Baltic Sea., and***
- ***Asking for a suspension of the project until such consultation for a revised project has been fulfilled.***

The request has been approved by organisations in the Baltic Sea countries, as set out in the attached accession letters, and it is our hope that the matter by way of this request will be promoted and raised in the relevant international fora and before the Danish government.

You are welcome to contact us should you require further information or documentation.

On behalf of the Coalition Clean Baltic

DocuSigned by:



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Executive Secretary
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On behalf of the Danish Society for Nature Conservation

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1. The so-called “*No harm rule*”. See UN environment programme: <https://leap.unep.org/knowledge/glossary/no-harm-rule>
2. Learn more about the Lynetteholm project: https://www.europarl.europa.eu/doceo/document/PETI-CM-697810_EN.pdf
3. Environmental Impact Report on the construction of Lynetteholm from November 2020, page 209: “*Overall, the dynamic flow through Øresund is reduced corresponding to a blocking factor of up to 0.25%*”, compared to an uncertainty of $\pm 0.25\%$, cf. Deltares’ review, page 35, concluding “*that for the flow through the Øresund the blocking effect is -0.186% and -0.244% for Main Proposal 1 and 2, respectively, with 95% confidence range within $\pm 0.25\%$.*” Taking into account the degree of uncertainty, the blocking may be up to app. 0.5%.
4. Letter dated 20 May 2021 from the Danish Espoo point of contact to the “*Espoo-colleagues in The Baltic Subregional Group*” with annexes. See Section 6.d of the enclosed legal review.
5. During the Espoo consultation, Sweden requested an independent expert assessment of the hydrodynamic studies for the Lynetteholm project. By & Havn contracted Deltares to undertake this assessment.
6. Deltares: *Independent review of the Hydrodynamic Studies on the impact of Lynetteholm on exchange of water and salt through Øresund*. Draft of 18 March 2022, page 20.
7. See for example: *State of the Baltic Sea - Second HELCOM holistic assessment 2011-2016* from <http://stateofthebalticsea.helcom.fi/in-brief/our-baltic-sea/>
8. Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects, page 6: <https://ec.europa.eu/environment/eia/pdf/Transboundry%20EIA%20Guide.pdf>
9. Provided not suspended from the applicable international cooperation.
10. Cf. *Convention on the Protection of the Marine Environment of the Baltic Sea Area*, 1992, Recital 1 and Article 3.
11. The construction involves excavation of soft seabed material (sediments) on the seabed along the perimeter of the Lynetteholm peninsula. In a fact sheet of May 2021, By & Havn stated that “*The lower parts of the seabed are not contaminated, and this material will be dredged at two approved disposal sites in Køge Bay.*” However, after commencing the excavation earlier this year, the environmental impact of the excavation and dumping of sediment in the Baltic Sea was heavily questioned, and on 31 May 2022, it was decided that no further dumping of sediment may take place, and Phase II of the project is now suspended. However, Phase I of the project still continues, involving, e.g., partial blocking of Kongedybet and potential impact on the waterflow to the Baltic Sea.

ESKIL NIELSEN · ADVOKATFIRMA

ADDENDUM TO LEGAL REVIEW

of

**the Espoo Convention and the EIA Directive regarding the Act on the Construction of
Lynetteholmen**

based on the conclusions of

***Deltares: Independent review of the Hydrodynamic Studies on the impact of Lynetteholm
on exchange of water and salt through Øresund. Draft of 18 March 2022***

As mentioned under Section 5.e of the legal review, the Danish and Swedish authorities agreed that Deltares would carry out a review of DHI's calculations of the impact on the water flow through Øresund. Deltares' report was published by By & Havn on 22 March 2022. The report concludes that the calculations are subject to a degree of uncertainty of 0.25%. As it is expressed on page 4 of the report: "*Based on the review we find a 95% confidence range of $\pm 0.25\%$ more reasonable.*" This means that the blocking can reach 0.5% instead of the 0.25% stated in the EIA statement on which the Construction Act is based. In other words, the impact on water flow may be twice as large as initially assumed.

See also Section 6.d of the review, in which the authorities claim that the impact of the change in water flow is insignificant ("*minor*") due to future effects of climate change. Thus, in a fact sheet enclosed with a letter of 20 May 2021 to the Espoo authorities in the Baltic Sea countries, the Danish authorities state that the effect "*will be offset after about 10 years, and the salt transport after 13 years, due to the climate-related rise in sea level of approximately 2 cm. The calculations thus show that the effect of Lynetteholm is minor in relation to the climate-related seawater increases that will occur in the coming years.*"

However, Deltares, as stated on page 20 of the report, does not agree with the conclusion drawn by the authorities and states the following:

"We have strong reservations on the validity of this approach since sea level rise is only one aspect of climate change. In principle the relevance of sea level rise should be evaluated in comparison to other changes like those in the tide, temperature and salinity in the North Sea, and wind climate, precipitation, river run-off, and even water quality and ecological processes in the Baltic Sea."

This confirms that a "*significant adverse transboundary impact*" cannot be excluded with certainty and that the Lynetteholm project should not be implemented without prior Espoo consultation of the Baltic Sea countries.

Copenhagen, 26 May 2022

ESKIL NIELSEN

ESKIL NIELSEN · ADVOKATFIRMA

LEGAL REVIEW

of the

consultation

under

**the Espoo Convention and EIA Directive regarding
the Act on the Construction of Lynetteholmen**

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1. The subject of the review – summary

The Lynetteholm project affects the water flow to the Baltic Sea and thus the environment transnationally.

Under the Espoo Conventions and the EIA/EIA Directives, authorities must carry out environmental assessment and consultation with the countries concerned for a transnational construction project such as Lynetteholmen, unless a "*significant adverse transboundary impact can be excluded with certainty*." ¹

The Danish authorities have not carried out an Espoo consultation on the project in countries other than Sweden as part of the preparation of the Lynetteholm² Construction Act, and the consultation does not appear to be a consultation under the EIA/EIA Directives.³ The consultation procedure with Sweden was not completed at the time of adoption of the act and is still ongoing at the time of writing.

Against this background, the subject of the review is :

- whether all Baltic countries should be consulted, i.e. not only Sweden, but also Estonia, Finland, Latvia, Lithuania, Poland, Germany, and Russia (see conclusion under point 8)
- whether the consultation procedure should be completed before the adoption of the law or before the works are initiated (see conclusion under point 9).

It is concluded that there is substantial evidence that the consultation should have covered all Baltic Sea countries and been completed before the adoption of the Construction Act.

If the rules of the Conventions and Directives are not followed as a basis for the adoption of the Lynetteholmen Construction Act, the act may, in certain circumstances, be null and void, or have no legal effect, and the commencement of the construction work under the act may thereby be unlawful.

2. The factual basis for the review – public access to documents

The review is based on material received from the Danish Ministry of the Environment's *Espoo Point of Contact* (Espoo-PoC) from the Danish Ministry of Transport in response to requests for access to all files relating to the Espoo process in relation to the Lynetteholm project.

At the time of writing (14 March 2022), a similar request for access to documents to the developer – Udviklingssekabet By & Havn I/S – has only been partially answered. See below under points 4.b and 4.f.

3. Background – legal basis – issue. Overview of the rules on consultation on environmental assessments in transnational contexts⁴

The Espoo Convention (specific projects) with the SEA Protocol (plans and programmes)⁵ contains rules on environmental assessment, consultation and transboundary consultation for projects such as Lynetteholmen.

The Convention and the Protocol have been acceded to by the Baltic Sea countries and the EU.⁶

When the EU accedes to an international agreement, Article 216(2) of the Treaty provides that the agreement is binding on the EU institutions and the Member States.

It has been the express wish of the EU legislator to ensure that the rules of the Espoo Convention are reinforced in the EIA Directive.^{7,8} The process under the Espoo Convention and the SEA Protocol has become part of the environmental assessment process also under the EIA/EIA Directives.

The Convention requires Parties to take "*all necessary measures to prevent, reduce and control significant adverse transboundary environmental impact of proposed activities*". Also, an environmental assessment must be carried out before a project is approved or even started as a basis for consultation with interested parties.^{9,10} Article 3 of the Espoo Convention provides for consultation on activities "*likely to have a significant adverse transboundary impact on the environment*".

In parallel, Art. 7 of the EIA Directive¹¹ has specific provisions on consultation and hearing where "*a project¹² is likely to have significant effects on the environment in another Member State.*" and the SEA Directive¹³ contains specific provisions where a plan or programme¹⁴ is "*likely to have significant effects on the environment in another Member State.*"

The EIA/EIA Directives apply in intergovernmental relations within the EU if the project/plan only has an effect within the EU. If the plan or project has wider transboundary effects, the rules of the Espoo Convention must also be followed.^{15,16}

4. On the preparation of the Construction Act and the process under the Espoo Convention and Art. 7 of the EIA/EIA Directives

a. The Agreement in Principle on Projekt Lynetteholm – preparation of an Environmental Assessment

On 5 October 2018, the Danish Government and the Municipality of Copenhagen signed an agreement in principle on the Lynetteholmen project.¹⁷ At the presentation in the Danish Prime Minister's Office on 5 October 2018,¹⁸ the Prime Minister summed up the project with the words:

*"We want to build an island, a new island in the Øresund between Refshaleøen and Nordhavn. We have chosen to call it Lynetteholmen. And that is in the area indicated on the map here – there should be land where there is water today. It's a huge project."*¹⁹

After the agreement on the Lynetteholm project was reached, preparations for the implementation of the agreements began, and By & Havn applied for an EIA permit for the project under the Danish Environmental Assessment Act on 30 September 2019.²⁰

b. On the documentation of the basis for the decision to consult only Sweden during the Espoo process

The preparation of the Espoo process from the very beginning is only sporadically highlighted in the material received via public access to documents. The process is outlined in draft minutes of a Skype meeting on 6 September 2019.²¹ but only in very general terms. However, the conclusion – written or unwritten – was that only Sweden was consulted. See point 5.

c. The decision to consult Sweden only will be an internal discussion point in May 2021 – a hot potato?

In May 2021, the basis for the Espoo consultation became an internal discussion point among authorities. The question arose in connection with the enquiries from Finland, Lithuania, and Poland about the project, cf. point 6 below. The following quotes illustrate the discussion:

In an e-mail on Poland's request for information dated 10 May 2021 from the Transport Agency, Mikkel Christensen, to the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, the following is stated:²²

"As I recall, the EPA (before the transfer of competencies) did inform about the project. This included Germany and Poland, as I recall. It must have been in English. Only Sweden expressed interest in being involved."

This led to an inquiry on 11 May 2021 from the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, to Sune Ribergaard Henriksen, Technical Coordinator at the Danish Environmental Protection Agency, as follows:²³

"Poland sent a request yesterday as to why they have not been consulted on Lynetteholmen (see e-mail thread). Can you help clarify whether Poland and Germany have been consulted at any stage, as the Danish Civil Aviation and Railway Authority believes this to be the case? I cannot find any correspondence to support this but according to some minutes back in 2019, it has been discussed with Karin."

From a telephone conversation on 11 May 2021 between the Environmental Protection Agency Espoo-PoC, Sif Zimmermann, and the Danish Civil Aviation and Railway Authority, Mikkel Christensen, the following is noted:

"According to Karin, all correspondence is journalised on the case, and she does not recall carrying out a consultation of Poland and Germany. She remembers recommending that the then EIA authorities do so, based on her experience with the Fehmarnbelt project."²⁴

It is noted that the minutes of 6 September 2019²¹ do not have any comments on the scope of the Espoo consultations.

In a comment believed to be of 12 May 2021 on a draft note on the Espoo process (see note 4), the following comment on assessing the scope of the Espoo consultation is found:²⁵

"Commented [CLHJ1]: Sif, would you please insert what has been agreed in relation to the orientation of several countries, incl. Poland, if you think it's relevant?"

and

"Commented [CLHJ2]: Isn't it correct Sif that it was the Danish Civil Aviation and Railway Authority who assessed this? I understand from you that Karin has previously recommended a consultation of Germany and Poland?"

The case also shows up at a slightly higher level in the Danish Environmental Protection Agency. Thus, in an e-mail dated 31 May 2021 from Deputy Director Anne-Marie Vægter Rasmussen to the Environmental Protection Agency Espoo-PoC, Sif Zimmermann, it is stated, among other things:

"Re. I have one question about the ESPOO consultation of the Baltic Sea countries other than Sweden. We write that the Danish Civil Aviation and Railway Authority and the EPA agreed that there was no need for it. As I have heard from you and Morten Rieckers so far, we have from the start called on the Danish Civil Aviation and Railway Authority for a wider ESPOO consultation. So how is this related, or am I missing something?"

These quotes could indicate that internally the issue was becoming a hot potato.

d. The Espoo consultation is carried out with reference to the Espoo Convention and the SEA Protocol

See also point 5.a, the Danish Environmental Protection Agency notified Espoo-PoC Sweden about the Lynetteholm project on 4 October 2019³³ *"In accordance with Article 3 of the ESPOO Convention ..."*.

See also point 5.b, the Danish Environmental Protection Agency Espoo-PoC again notified on 9 July 2020³⁶ the Swedish authorities with a consultation letter dated 8 July 2020³⁷ on the delimitation note for the preparation of the environmental impact report for Lynetteholm³⁸ *"in accordance with Article 10 of the Protocol and Article 3 of the Espoo Convention"*.

See also point 5.c, by letter dated 25 November 2020 from the Danish Environmental Protection Agency Espoo- PoC to the Swedish authorities a *"Consultation under Article 10 of the SEA Protocol and Articles 4 and 5 of the SEA Convention on the environmental assessment of the establishment of Lynetteholm in Copenhagen's Nordhavn"*⁴² was conducted.

The Environmental impact report from November 2020²⁶ describes the Espoo consultation rules without reservations.

See also point 5.d, the Danish Environmental Protection Agency Espoo- PoC submitted on 18 December 2021⁴³ an e-mail regarding *"forthcoming consultation under Article 10 of the SEA Protocol, and Articles 4 and 5 of the Espoo Convention regarding ' the environmental assessment of the establishment of the fairway and dumping in connection with the establishment of Lynetteholm in Copenhagen's Nordhavn – Thematic supplement to the environmental impact report' ."*

As discussed below under 5.e, the Espoo consultations with Sweden are ongoing at the time of writing.

Note that the authorities did not refer to the EIA/EIA Directives. Subject to comments, see also invitation (10) below under point 11.

e. But the Danish authorities claimed on 17 May 2021 that consultation with the Swedish authorities alone was *"an expression of good neighbourliness"*

In a memo prepared by the Danish Environmental Protection Agency on the Espoo process dated 17 May 2021 – i.e. almost two years after the process was initiated – it is stated that it was merely *"an expression of good neighbourliness"* because *"throughout the process (it has) been the assessment of the environmental assessment authority that the Lynetteholm project has no transboundary environmental impact."*²⁷

By referring to the consultation of Sweden as merely an *'expression of good neighbourliness'*, the authorities presumably seek to avoid the very fact that the authorities initiated the consultation being regarded as recognition by the authorities of a legal obligation to do so. A recognition which in turn could possibly imply recognition of a legal obligation under the

Directives to consult other countries, etc.

That the consultations were merely an expression of good neighbourliness is not apparent from the material received, neither from the consultation letters nor from the environmental assessments sent for consultation.

f. More on the memorandum of 17 May 2021 – the authorities are uncertain about the decision on the scope of the consultation

It is unclear on whose initiative this was initiated, but from February to May 2021 the Danish Environmental Protection Agency prepared a memorandum on the Espoo process.²⁸

Comparing the different drafts illustrates the authorities' apparent uncertainty about the scope of the consultation. Thus, in an e-mail dated 19 May 2021 from Kerry Knudten-Erkelenz of the Department of the Danish Ministry of the Environment to the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, states:²⁹

"For your information, a possible misunderstanding of the text from the Danish Civil Aviation and Railway Authority/Environmental Protection Agency and the previously prepared text on the ESPOO process has been identified during the approval process. Therefore, I have corrected the text in the ESPOO note and corrected it to make it abundantly clear that the text of the Danish Civil Aviation and Railway Authority/Environmental Protection Agency is the correct one. The changes are marked in yellow.

If you have any questions, please let me know, but I have consulted Morten³⁰ that it is correctly understood."

The original section referred to in the e-mail was as follows:³¹

"In this particular case, Germany and Sweden have been notified. Germany had no comments, but Sweden wanted to participate in the process. Therefore, the Swedish authorities and the public were consulted on the expected transboundary environmental effects under Section 38(1) of the Danish Environmental Assessment Act. The EPA as Espoo authority has received consultation responses from the Swedish authorities on 22 February 2021, which have been forwarded to the environmental assessment authority (TBST)."

This section was amended to read:³²

"Throughout the process, it has been the environmental assessment authority's assessment that the Lynetteholm project does not have transboundary environmental impacts. However, due to its location in the Øresund and the resulting proximity to Sweden, it is an expression of good neighbourliness to notify Sweden and conduct an ESPOO consultation with the Swedish environmental authorities. In this case, Sweden was therefore notified and wished to participate in the process.⁶ The consultation of the Swedish authorities and the public on the expected transboundary environmental effects was therefore carried out, and a consultation response was received, in particular consultation on the plan for Lynetteholmen and the thematic supplement to the environmental impact report concerning the dredging of the fairway and dumping, in accordance with Section 38(1) of the Environmental Impact Assessment Act. EPA, as Espoo authority, has received consultation responses from the Swedish authorities on 22 February 2021, which have been forwarded to the environmental assessment authority (TBST)."

5. The Espoo consultation of Sweden

a. Notification on the Espoo consultation 4 October 2019

By e-mail of 4 October 2019³³ the Danish Environmental Protection Agency Espoo-PoC notified Richard Kristoffersson from Naturvårdsverket in Sweden about "*Sweden on the environmental assessment of a new Danish project for the establishment of a new island – Lynetteholmen*" with a deadline to reply by 3 November 2019. The notification states, inter alia, the following:

"In accordance with Article 3 of the ESPOO Convention ... the Danish Environmental Protection Agency hereby submits a notification of the establishment of Lynetteholmen in and near the Port of Copenhagen. The notification has been sent as part of the preparation of an environmental impact report under applicable Danish legislation for the project."

By letter dated 13 November 2019 from Naturvårdsverket to the Danish Ministry of the Environment, the Agency stated "*that Sweden wished to participate further in the forthcoming EIA process*" and made a number of comments.³⁴

The consultation responses from the Swedish authorities were summarised in the Danish Environmental Protection Agency's consultation note of 30 June 2020 (Annexe ID), inter alia as follows:³⁵

"7. Transboundary environmental impacts – ESPOO

Sweden expresses a wish to participate in the environmental assessment process, ...

Overall, Sweden points out that part of the productive sea area in the Øresund will be removed and that the project will have an impact on currents and erosion in the Øresund.

Sweden notes that the project will have an impact on marine habitats by the development of the island. The risk of contamination by leaking substances is also pointed out, and measures to prevent their leakage should be included.

Assessments of dumping of excavated bottom material (spoil) should also be included. ...

Länsstyrelsen Skåne expresses the wish that the question of how to compensate for lost environmental values is addressed early in the process. ...

/

Sweden states that the 0-alternative should be highlighted."

b. Second Espoo hearing 9 July 2020

By letter of 9 July 2020³⁶ to the Swedish authorities, the Danish Environmental Protection Agency Espoo-PoC, Jakob Holm Knudsen, sent a consultation letter dated 7 July 2020³⁷ with a draft delimitation note for the preparation of an environmental impact report for Lynetteholm³⁸ in Espoo consultation to the Swedish authorities during the holiday period 14-28 July 2020. The notification was made "*pursuant to Article 10 of the Protocol and Article 3 of the Espoo Convention*".³⁹

Contrary to what is stated in the Danish Ministry of Transport's reply, p. 5,⁴⁰ by letter dated 13 August 2020, the Naturvårdsverket submitted a number of comments together with a reply from the Swedish authorities.⁴¹

c. Third Espoo consultation 25 November 2020⁴²

By letter dated 25 November 2020 from the Danish Environmental Protection Agency to Naturvårdsverket²⁶ the EIA-report was submitted in Espoo consultation.⁴² The following is quoted from the consultation letter:

"Possible transboundary environmental impacts

Chapter 32 of the Environmental Impact Report deals with possible transboundary environmental impacts.

During the first public phase, consultation responses were received from various Swedish authorities in relation to:

- Land reclamation and land use in the Øresund*
- Changing currents and erosion in the Øresund*
- Impact on marine habitats*
- Water quality, contamination with emitting substances*
- Dumping of excavated soil*
- Extraction of raw materials from the sea*
- Consequences for shipping in the Øresund*

Possible transboundary effects have been identified for currents (Environmental Impact Report, Chapter 10) with possible effects on the water flow through the Øresund, on climate (Environmental Impact Report, Chapter 14), contributing to climate change and on changes to the landscape (Environmental Impact Report, Chapter 24), with visibility of the project from the Swedish coast.

The impact is assessed to be negligible for water flow through the Øresund, moderate for climate, and small for landscape as seen from the Swedish coast.

Environmental assessment of excavated sediment dumping and raw material extraction has not been

included in the present environmental assessment. Therefore, thematic reports on these issues are being prepared and will be sent out for consultation at a later stage.

A Natura 2000 screening is presented for the planned activities. It is assessed that the planned activities will not have a significant environmental impact on the conservation objectives of the habitat types and species of the national and international Natura 2000 sites."

d. Fourth Espoo consultation 18 December 2020

See e-mail of 18 December 2020,⁴³ Denmark submitted "On 16 December ... information on forthcoming consultation under Article 10 of the SEA Protocol, and Articles 4 and 5 of the Espoo Convention regarding 'Environmental Assessment of the establishment of a fairway and dumping in connection with the establishment of Lynetteholm in Copenhagen's Nordhavn – Thematic Supplement to the Environmental Impact Report'."

A consultation letter of the same date was attached.⁴⁴ By e-mail of 22 February 2021, the Naturvårdsverket communicated the comments of the Swedish authorities as a whole as attachments.⁴⁵

e. Espoo consultation – Third-party review of DHI's impact calculations on the marine environment by Deltares

By letter dated 12 March 2021 from the Danish Ministry of Transport, Building and Housing, the Swedish authorities were invited to the Espoo consultation.⁴⁶ Since then, 7 Espoo consultation meetings have been held. Minutes are available at:

<https://www.naturvardsverket.se/lynetteholm>

In this context, it was agreed, inter alia, that a third-party review should be carried out of DHI's calculations of the impact on water flow through the Øresund,⁴⁷ cf. the following from the minutes of the 4th consultation on 27 May 2021:

"The Danish Civil Aviation and Railway Authority is in favour of a third-party evaluation of the impact assessment in relation to the saltwater inflow to the Baltic Sea if this part of the consultation can thus be concluded. A framework for the 3rd party evaluation was presented at the meeting, and Miljödepartementet asked whether this could be implemented prior to the adoption of the Construction Act in Danish Parliament. The Danish Civil Aviation and Railway Authority does not consider it realistic to carry out the evaluation prior to adoption by the Danish Parliament, but the Danish Civil Aviation and Railway Authority also noted that a mechanism has been incorporated into the Construction Act to ensure that project adaptations can be approved if appropriate."

Discussions then took place between the parties on the 3rd party evaluation. The content of the discussions is unclear and not sufficiently detailed, but it appears that a theme was agreed upon to be presented to Deltares, according to a memo prepared by DHI dated 2 September 2021.⁴⁸ Various materials were forwarded to Deltares. It is unclear exactly what.⁴⁹

After several requests, By & Havn submitted a Quotation from Deltares dated 30 November 2021 on 4 March 2022. A letter from By & Havn of the same date states that By & Havn cannot be expected to provide public access to the correspondence between By & Havn and Deltares until week 11, 2022. Reference is made to a list of 35 files which have not been disclosed.⁵⁰

f. According to Deltares' Quotation of 30 November 2021, a legal duty to consult exists under the Espoo Convention

Deltares' Quotation of 30 November 2021 states that there is a legal duty to consult under the Espoo Convention, cf. the following quote a.s., p. 3:

"Since it has been concluded from the Hydrodynamic Studies that the artificial island Lynetteholm will affect the exchange flow between the North Sea and the Baltic Sea through the Øresund meetings have been held with Danish and Swedish Authorities on the environmental impact of Lynetteholm under the Espoo Convention 1991, as required by international and national legislation."

g. The Construction Act was adopted before the Espoo process was completed

Although the Espoo process was not (and still is not) completed, the Construction Act was passed by the Danish Parliament on 4 June 2021.

6. **No Art. 7 / Espoo consultation of countries other than Sweden was carried out.**

It has been shown that parties other than Sweden were not consulted under the Espoo rules, i.e. not the other Baltic Sea countries Estonia, Finland, Latvia, Lithuania, Poland, Germany, and Russia. However, the environmental authorities from other Baltic Sea countries inquired about the environmental consequences of the project, and this triggered correspondence with the environmental authorities in other Baltic Sea countries as well. This is highlighted below:

a. **Contact with Polish authorities**

Ole Damsgaard from the Danish Society for Nature Conservation wrote to the Polish authorities on 8 May 2021. This prompted an enquiry dated 10 May 2021 from the Department of Environmental Impact Assessment to the Danish Espoo-PoC.⁵¹ The letter states, among other things:

“Given information presents that this planned project may result in occurring significant impacts on the entire Baltic Sea, because of the reduction of water flow and as a consequence reduction of salt water to the Baltic Sea. Having this in mind we are concerned about salinity of Baltic Sea which any disturbances may significantly impact on the entire marine ecosystem.

We were informed that only Sweden has been consulted under the Espoo Convention. Thus, please let us know if any other country, despite Sweden, has been informed and involved in the transboundary EIA? Please present rationale under this approach.

At this place, please provide Poland with basic information about planned project and its possible impacts on the environment to decide whether or not Poland may be an Affected Party.

Poland is concerned about the Baltic Sea which is bordering with Poland. So that, we are interested in obtaining explanations and all relevant information about any impacts on the environment that will help us to decide if we should be also notified under article 3 of the Espoo Convention.”

Sif Zimmermann from the Danish Environmental Protection Agency Espoo-PoC replied by letter of 12 May 2021 to the Polish authorities that the reason for not notifying Poland was that *"the Danish authorities considered, that it was not likely to cause any significant transboundary environmental effect to other countries than Sweden"*.^{52,53}

By letter dated 2 June 2021 from the Polish AIA Department, Poland now requested to be involved as an *"Affected Party"* under Article 3(7) of the Espoo Convention.⁵⁴ By e-mail dated 3 June 2021, the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, replied to the request from Poland, stating, among other things, that *"all administrative procedures including EIA have been completed"*. She referred to the fact that the law is to be adopted *"tomorrow"* with effect from 1 July. In the same e-mail, Sif Zimmermann referred to her inquiry to Espoo-Baltic group⁷⁶ as an *"information letter"* and referred to the fact that only Finland had replied and stated that they did not want anything further. Sif Zimmermann added that *"Denmark and Sweden do still have a dialogue though."*⁵⁵

Paulina Filipiak of the Polish EIA Department replied by e-mail of 25 June 2021 to Sif Zimmermann's e-mail of 3 June 2021,⁵⁶ stating, inter alia, the following:

"Unfortunately, it took me some time to get back to you with Polish comments, mainly because of the need to involve specialist authorities. Nevertheless, having in mind information that all administrative procedures are completed, this is not a matter right now."

Paulina Filipiak submitted specific comments. These state, among other things, that

"Upon reading the provided 'factsheets' (of a very general nature) the Republic of Poland states that a potential transboundary impact on the territory of Poland cannot be excluded." ⁵⁷

After further e-mail correspondence⁵⁸ Sif Zimmermann sent an e-mail dated 19 August 2021⁵⁹ commenting on Poland's observations. She writes, among other things:

"I can inform you, that Lithuania 30. of July 2021 announced that they do not find, that the project Lynetteholm will have a significant transboundary impact on Lithuanian environment, and they do not see a need for further involvement in the process."

A memo dated 15 August 2021 prepared by Rambøll on, among other things, water flow was attached.

By e-mail dated 15 September 2021 from Paulina Filipiak to Sif Zimmermann, the Polish authorities replied as follows:

"I get back to you with Polish final statement on your project Lynetteholm. Please find attached letter in Polish and its courtesy translation.

Poland do not have any more comments on this project. Your clarifications and extract of EIA report are sufficient and Polish authorities found out that possible impacts might be of minor local and timely limited character." ⁶¹

Jan Albrecht from the Danish Civil Aviation and Railway Authority acknowledged the feedback on 1 October 2021 by writing to Dorota Toryfter-Szumanska,⁶² and on 11 October 2021 Sif Zimmermann replied to the Polish authorities (Paulina Filipiak) on some specific technical questions,⁶³ but otherwise, the correspondence with the Polish authorities seems to have ended.

b. Contact with Lithuanian authorities

Raminta Radavicienė from the Lithuanian Ministry of Environment addressed the Danish Ministry of Environment by e-mail dated 13 May 2021 on the "*potential transboundary environmental impact*" of the Lynetteholm Project.⁶⁴ Sif Zimmermann replied neutrally on 17 May 2021⁶⁵ and wrote again on 4 June 2021 to the Lithuanian Espoo-PoC.⁶⁶ She had learned via a newspaper that the Lithuanian authorities wanted more information. Similar to the inquiries to Poland, Sif Zimmermann wrote the following:

"I can inform you, that Finland on the basis of the provided information 20th of May 2021 has replied, that they do not need further information and involvement in the process. Poland is still considering and will inform Denmark in the beginning of next week, whether they wish to be notified.

The dialogue with Sweden is still ongoing as a part of the Espoo process.

I can also inform you, that all administrative procedures including the EIA-process now have been completed. The final decision regarding the project Lynetteholm took place this morning, where the law was enacted by the Danish Parliament. The law will be effective as of 1st of July."

The correspondence continued, with Mindaugas Raulinaitis of the Lithuanian Ministry of Environment and the EIA Chief Specialist requesting information on 8 June 2021 and recapitulating, in what appears to be at least an indirect criticism of the Danish authorities, a presentation of the legal basis for the Espoo process:

Sif Zimmermann wrote on 10 June 2021 to Mindaugas Raulinaitis that the translation of a "technical summaru with a special impact on potential impact on the environment on the Baltic Sea is about to be carried out"⁶⁸ and then explained why no notification had been made under the Espoo Convention:

"As to your comments on the Espoo-procedure as well as the obligations under the Helsinki Convention it was and still is the assessment of the responsible Danish authorities, that the Lynetteholm project does not have significant transboundary environmental consequences. This is the reason why no notification of the countries around the Baltic Sea has taken place under Article 3 of the Espoo Convention and Article 7 of the Helsinki Convention. However Sweden has been notified due to the project's location in the Sound, and the dialogue with Sweden is continuing although all the administrative procedures have been carried out and the law was enacted by the parliament last week.

If other countries around the Baltic Sea need more information, Denmark is off course prepared to deliver this as well as entering into discussions. So far we have received a request for more information from Lithuania, Poland and Finland. Finland thereafter has replied, that they do not see a need to be further involved, Poland is still considering. Neither Germany, Estonia, Latvia or Russia have shown a need for more information."

By e-mail of 21 June 2021 from the Danish Environmental Protection Agency Espoo-PoC to the Lithuanian authorities, the memo of 16 June 2021, "Four questions to Lynetteholm from Lithuania", was submitted, including the explanation of the authorities why the impact on the Baltic Sea is considered negligible.⁶⁹

The correspondence with the environmental authorities in Lithuania was concluded by a letter dated 30 July 2021 from Mindaugas Raulinaitis to Sif Zimmermann, which stated, among other things:

"The information has been carefully analysed by our environmental officials and the following essential facts were recognised:

impacts on biodiversity, saline water flow, water level and its quality are estimated to be local and non significant;

it is a well known fact that the renewal of the Baltic Sea waters is decreasing, which contributes to the pollution retention in the sea, thus all projects implemented in the strait, which ensures circulation between the Baltic and the North Seas are consequential.

However, due to the fact that the Lynetteholm project will be localised in the Copenhagen Harbour, it is unlikely to have a significant impact on the water circulation;

the amount of soil to be dumped in the sea is relatively insignificant;

case-specific monitoring of adverse effects will be carried out;

the need for the project is well justified and based on the need to help climate proof Copenhagen as part of protection against storm surge and the rising sea level;

Denmark, being an EU country, will ensure that the impact is minimised by fulfilling its obligations under the Water Framework Directive, Marine Strategy Framework Directive, Birds and Habitats Directives, HELCOM Convention, etc.

These facts and considerations allow us to conclude that the project will not have likely significant adverse transboundary impacts on Lithuanian environment. Therefore we consider the bilateral consultations completed and no additional transboundary Environmental Impact Assessment procedures are deemed to be necessary."

It is noted that the above assumption "*due to the fact that the Lynetteholm project will be localised in the Copenhagen Harbour*" suggests that the Lithuanian authorities have misunderstood the location of the project as being inside the harbour. The project is located in the harbour area, which in this case has been extended to areas outside the actual harbour. This may be due to the fact that as far, as can be seen, the Danish authorities have not submitted a nautical chart showing the project and indicating that the project is blocking the Kongedybet.

c. Contact with Finnish authorities

On 18 May 2021, Torsten Gejl from the Alternative wrote to various members of the Finnish Parliament about the Lynetteholm project. This prompted an inquiry on 19 May 2021 from Sieja Rantakallio, Ministerial Adviser to the Minister of the Environment of Finland, to the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, requesting information and documentation.⁷⁰ Sif Zimmermann replied by e-mail dated 19 May 2021 to Sieja Rantakallio.⁷¹

Following the circular of 20 May 2021 referred to below under point 6.d, Sieja Rantakallio from the Finnish Ministry of the Environment stated by e-mail of 1 June 2021 that "*We have considered the material and there is no further requests on the case from Finland.*"⁷²

d. Joint enquiry to the authorities of Estonia, Finland, Latvia, Lithuania, Poland, Russia, Sweden, and Germany

On 20 May 2021, the Danish Environmental Protection Agency Espoo-PoC, Sif Zimmermann, wrote to the "*Espoo-colleagues in The Baltic Subregional Group*", i.e., Estonia, Finland, Latvia, Lithuania, Poland, Russia, Sweden, and Germany.⁷³ The letter contains links to various material and comments on the organisation and legislative process. Two memos from By & Havn were attached. In relation to salinity and water flow, it was concluded that

"the effect of Lynetteholm is minor in relation to the climate-related seawater increases that will occur in the coming years."

and

"We assess, therefore, that the derived effects of the limited change to current conditions will have only a minor impact on the species of bed vegetation and bed fauna, fish and birds that are present. "⁷⁴

The process with Sweden is described in the letter as follows:

"Currently discussions on possible transboundary impact are taking place, primarily regarding the marine environment in the Sound between our two countries".

Thus, it is stated that the focus of the notification and consultation with Sweden is the impact of the project on the strait as such between Sweden and Denmark, and not the changed water flow to the Baltic Sea.

On 4 June 2021, Sif Zimmermann wrote again to the authorities in Germany, Estonia, Latvia, and Russia.⁷⁵ No reactions were reported from authorities other than the Finnish, Polish, and Lithuanian authorities.

On 13 August 2021, Sif Zimmermann sent a letter to the "Espoo Point of Contact in: Germany Poland Russia Lithuania Latvia Estonia Finland" with "Information about sand and gravel extraction activities at sea (Kriegers Flak) related to the construction of Lynetteholm."⁷⁶ No files on the reactions have been identified in the files received.

7. Construction work is underway

Work has started on the construction of Lynetteholmen. Please refer to the By & Havn's website on this subject:

<https://byoghavn.dk/lynetteholm/anlaegsarbejdet/>

8. Invalidity, respectively, inactivity of the Construction Act due to lack of consultation cf. Art. 7/ the Espoo Convention

The transnational consultations have only covered Sweden. The consultations did not cover Estonia, Finland, Latvia, Lithuania, Poland, Germany, and Russia. The main reasons why the consultation should have covered all the Baltic Sea countries are set out below. Based on this, the question may be raised whether the law was not adopted in compliance with the relevant provisions and is therefore invalid and whether the works were consequently initiated unlawfully.

Reference is made to the following:

a. Article 7 of the EIA Directive and the Espoo Convention require international consultation on certain activities

As stated under point 4 and point 8.d, the Espoo Convention and Art. 7 of the EIA/EIA Directives require consultation of Member States, respectively Parties to the Convention in relation to certain activities that are likely to have a *"significant adverse effect"*, respectively *"significant effects"* on the environment transnationally.

b. Is the Lynetteholm project an activity subject to the consultation obligation?

It is undisputed that the construction of the Lynetteholm project is an activity covered by the provisions on transboundary environmental impact, cf. Espoo Convention and EIA/EIA Directives. This was also unreservedly assumed in the preparation of the law, cf. inter alia EIA reports,⁷⁷ and is already evident from the fact that the consultation with the Swedish authorities was initiated.

c. When must a consultation be carried out?

A consultation under Article 7 of the Directives must take place *"before the adoption of the plan or programme or the initiation of the legislative procedure."* According to Article 3 of the Espoo Convention, the authority must notify *"as soon as possible and no later than when informing its own public of that proposed activity."*

d. "notification is always necessary, unless significant adverse transboundary impact can be excluded with certainty"

Under Article 3 of the Espoo Convention, consultation must take place if the activity *"is likely to cause a significant adverse transboundary environmental impact."*

Under Article 7 of the SEA Directive, consultation must take place if the activity *"is likely to have significant effects on the environment in another Member State."*

Under Article 7 of the EIA Directive, consultation must take place if *"a project is likely to have significant effects on the environment in another Member State"*.

The criteria for consultation are specified in various places.

Cf. *"Guidance on the Practical Application of the Espoo Convention"*,⁷⁸ point 28, details that *"It may be advisable to notify neighbouring Parties also of activities that appear to have a low likelihood of significant transboundary impacts."*

Cf. *"Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects"*,⁷⁹ is stated in brief in a flow chart: *"Always notify affected Parties if significant adverse transboundary effects cannot be excluded."*

For more details, see p. 6:

"The Espoo Convention requires that the Party of origin notifies affected Parties about projects listed in Appendix I and likely to cause a significant adverse transboundary impact (Article 3(2)). The notification triggers the transboundary EIA procedure. The Espoo Convention's primary aim is to 'prevent, reduce and control significant adverse transboundary environmental impact from proposed activities' (Article 2(1)), but in fact the

Party of origin is obliged to notify affected Parties (in accordance with Article 3 of the Espoo Convention) even if there is only a low likelihood of such impact. This means that notification is always necessary, unless significant adverse transboundary impact can be excluded with certainty. This interpretation is based on the precautionary and prevention principles. ⁸⁰

Therefore, it should be considered that "*...notification is always necessary, unless significant adverse transboundary impact can be excluded with certainty.*"

This is in accordance with the precautionary principle laid down in Article 191(2) of the Treaty. The Water Framework Directive and the ruling in the Weser case illustrate the application of the precautionary principle in practice.^{81,82}

e. Can a "*significant adverse transboundary impact ... be excluded with certainty*"?

To determine whether the authorities' decision not to consult Baltic Sea countries other than Sweden is justified, it must be assessed, on the basis of what has been stated under point 8.e., whether a "*significant adverse transboundary impact can be excluded with certainty.*"

For evidence that such an effect cannot be -"*excluded with certainty*", see the following:

i. The Danish authorities have not referred to the fact that a "*significant adverse transboundary impact can be excluded with certainty*"

As explained under point 4, there are no minutes or other material from the time of the decision on the scope of the transnational consultation, which shed light on the basis for this.

Only in May 2021, with the Danish Ministry of Environment's memo of 17 May 2021, is it expressed that "*... throughout the process, it has been the assessment of the environmental assessment authority that the Lynetteholm project has no transboundary environmental impact.*"⁸³

The Danish authorities have not referred to the fact that a "*significant adverse transboundary impact can be excluded with certainty.*"

The Danish authorities refer to the fact that:

"it is the assessment of the responsible Danish authorities, that the Lynetteholm project does not have significant transboundary environmental consequences" ⁶⁸

"the effect of Lynetteholm is minor in relation to the climate-related seawater increases that will occur in the coming years." ⁷⁴

and

"We assess, therefore, that the derived effects of the limited change to current conditions will have only a minor impact on the species of bed vegetation and bed fauna, fish and birds that are present." ⁷⁴

Thus, it does not address the question of whether a "*significant adverse transboundary impact can be excluded with certainty*".

ii. The EIA statement requires Sweden to be consulted without reservation

As explained under point 5 above, it has been assumed without reservation that Sweden had to be consulted in the preparation of the Construction Act, cf. inter alia the EIA reports.⁸⁴

The consultation included, among other things, the water flow to the Baltic Sea, and this is the main theme of the consultation. Reference is made to the "*3rd party evaluation of the impact assessment in relation to the saltwater inflow to the Baltic Sea*" mentioned above under point 5.e. It must be established as a well-known fact that the water flow into the Baltic Sea can affect the marine environment of the whole Baltic Sea and thus all the Baltic Sea countries. See point 8.i. for further details. It must then be possible to assume that a significant adverse effect of importance to all the Baltic Sea countries – and not only to Sweden – cannot be ruled out with certainty.

iii. The construction of Lynetteholmen changes water flow to the Baltic Sea

The environmental impact report²⁶ states that

"Overall, the dynamic flow through Øresund is reduced, corresponding to a blocking factor of up to 0.25%."

The question then is whether an adverse effect can be excluded with certainty. In connection with the construction of the Great Belt and Øresund fixed links, no change in water flow is permitted as discussed below under points iv and v.

iv. Zero solution for the Great Belt fixed link

In the context of the Great Belt fixed link construction, it was considered essential that the project did not change the water flow. This was even made quite clear by the fact that Section 5 of the Act laid down an express requirement for a so-called zero solution:

"The two stages of the construction will be carried out separately in such a way that, after completion, an unchanged water flow in the Great Belt will be ensured for the sake of the aquatic environment in the Baltic Sea."⁸⁵

The background is set out in the committee report of 19 May 1987 in reply to Question 11:

"There is no consensus among experts in different countries on the assessment of which water flow changes should be considered as leading to deterioration and which should be considered as leading to an improvement of the marine environment. Against this background, and based on recommendations from the Danish Ministry of Fisheries and the Ministry of the Environment, one of the main objectives of the studies mentioned in the answer to question 10 has been to be able to document project designs that safeguard the undisturbed state of the Baltic Sea, so-called zero blocking solutions. The political

agreement on the Great Belt and the construction bill provide that the construction will be carried out in such a way as to ensure the undisturbed state of the Baltic Sea."

v. Zero solution the Øresund fixed link

The construction of the Øresund fixed link also required a zero solution in relation to water flow. This is illustrated in U.1999.367H, inter alia with reference to then Danish Prime Minister Poul Nyrup Rasmussen's letter of 30 December 1993 to then Swedish Prime Minister Carl Bildt, in which, among other things, the following was stated:

"With regard to water flow, the Danish government will ensure the implementation of a true mathematical zero solution. This means that there must be no change in the water flow in the Øresund and in the supply of oxygen and salt to the Baltic Sea as a result of the Øresund link."

The background was – as it is stated in the judgment – that the Swedish Vattensdomstolen had resolved as follows in a ruling of 15 November 1993 from the Vattensdomstolen:

"Vattensdomstolen finds, as regards to what has been shown concerning the importance of the water flow etc. through the Øresund to the Baltic Sea, that no slowing down of this water flow may occur because of the connection. Such a slowdown could harm Swedish public interests in the Baltic Sea. Therefore, the entire connection must be designed as a zero solution. The Öresundskonsortiet also intends to do this. The Vattensdomstolen considers it technically feasible to achieve a zero solution. This shall be defined in such a way that the water flow from the Kattegat through the Øresund to the Baltic Sea shall not be slowed down so as to reduce the supply of salt and oxygen to the Baltic Sea."

It may also be mentioned that the design of the Øresund fixed link was optimised down to a blockage of the same order of magnitude as the 0.25% envisaged for Lynetteholmen (0.5% to be precise) before starting the compensatory excavations of 1.5 million m³ to achieve the zero solution

f. According to Deltares' Quotation of 30 November 2021, a legal duty to consult exists

See above point 5.f. , Deltates Quotation of 30 November 2021 states that there is a legal duty to consult under the Espoo Convention.

g. The project director for the marine environmental studies and the environmental management of the of the Great Belt and Øresund fixed links warns of serious errors and shortcomings in the Lynetteholm project

With its geographical location, Denmark has gained unique experience in construction projects that may affect the water flow to the Baltic Sea. I refer to the presentation above on the Great Belt fixed link and under points 8.e.iv and 8.e.v.

It goes without saying that a special capacity in the field is the former project director of the Danish Hydraulic Institute (DHI), civil engineer, PhD, Jacob Steen Møller, who was responsible for the marine environmental studies and environmental management carried out by DHI and LIC Engineering A/S in connection with the construction of the Great Belt and Øresund fixed links. In the light of the foregoing it has considerable professional weight,

when the former project director, in a letter of 19 May 2021 to the Minister for Transport, finds reason to

"draw the attention of the Minister and the developer to a number of serious flaws and shortcomings in the proposed project and the associated EIA study, which I consider may be critical to the international acceptability and practical implementation of the project."

I refer to:

- Annexe 1: Letter dated 19 May 2021 from Jacob Steen Møller, PhD, to Benny Engelbrecht, Minister of Transport
- Annexe 2: Letter dated 27 May 2021 from the Minister of Transport, Benny Engelbrecht, to Jacob Steen Møller, PhD
- Annexe 3: Letter dated 19 May 2021 from Jacob Steen Møller, PhD, to Benny Engelbrecht, Minister of Transport

To illustrate the basic problem of the change in the water flow to the Baltic Sea, I highlight the following from Annexe 1:⁸⁷

"The effect on water flow

The EIA study for Lynetteholmen and the underlying DHI report (hereafter collectively referred to as the EIA) take a highly controversial view of the significance of the project's blocking of the Baltic Sea's water exchange.

The EIA shows that Lynetteholmen's blockage of the water exchange through the Øresund is of the same order of magnitude as the one the Øresund fixed link would have caused without the compensatory excavations carried out. Yet, the EIA argues that climate change overpowers the blocking effect of the Lynette Holm and is therefore negligible. In doing so, the EIA relatively nonchalantly brushes aside the conclusions of Danish Parliament and the international expert panels on the Great Belt and Øresund fixed links, and opens the door to possible international criticism, which could prove very difficult to handle.

The EIA argues that "the Øresund fixed link required a zero solution, where compensatory excavation was used to try to produce conditions that resulted in a blocking factor of zero." and "Climate effects and sea-level rise will affect baseline conditions over time. Over time, therefore, there can be no talk of a zero solution. A raised water level (increased water depth), will affect the gross water flows and increase the dynamic exchange between the Kattegat and the Baltic Sea. To maintain a true zero solution over time, friction through Øresund would therefore have to be increased in other ways, for example in the form of infills such as Lynetteholmen."

The quote shows that the EIA has not understood the background to the zero solution as decided by authorities and expert panels in the bridge projects. At that time, the aim of the zero solution was not defined as "keeping conditions constant", but rather as "ensuring that the project does not affect natural changes outside the national vicinity".

h. But should countries not have reacted – especially after the inquiry of 20 May 2021 to the authorities of the Baltic Sea countries

See above, point 6.d, Sif Zimmermann from the Danish Environmental Protection Agency Espoo-PoC wrote on 20 May 2021 to "*Espoo Colleagues in The Baltic Subregional Group*". Apart from Sweden, which is involved in the consultation process, only Finland, Lithuania, and Poland responded, and these countries did not request consultation under the Espoo Convention. Questions may be raised as to whether non-compliance is excused, so to speak, by failure to respond or by the withdrawal of participation after receipt of the request.

In this regard, the following should be noted:

The fact that the authorities did not consult countries other than Sweden was based on the assumption and information from the Danish authorities that consultation was not obligatory under the Convention and the Directives. If consultation is mandatory, public participation is mandatory. There are very explicit rules and guidelines on this, see the "Guidance" issued for this purpose^{78,79} and in particular the "*Guidance on Public Participation in Environmental Impact Assessment in a Trans-boundary Context*".⁸⁸ Reference can also be made to the provisions of the Aarhus Convention on public participation, in particular Article 6. Thus, if consultation is mandatory, a country cannot waive the right to be consulted, as this would violate the public's right to participate in the consultation.

Also, by presenting the environmental concerns as locally Swedish-Danish and not explicitly stating that water flow was a key issue in the consultation process with Sweden, the Danish authorities may be said to have failed to provide fair information on the basis for the consultations. Finland's, Lithuania's, and Poland's notifications of opt-outs must be assessed in this light.

i. But is this not just an Øresund issue that concerns Denmark and Sweden, but not the other Baltic countries?

To illustrate the impact on the Baltic Sea as a whole of a change in the water flow through the Øresund, the following can be referred to from HELCOM's report "*State of the Baltic Sea*":⁸⁹

"The Baltic Sea is relatively isolated from other seas, and has only a narrow connection to the North Sea through the Sound and the Belt Seas. Hence, it takes approximately 30 years for the Baltic Sea waters to be fully exchanged (Stigebrandt 2001). Marine water enters the Baltic Sea predominantly during winter storms. These inflow events bring in water of higher salinity, and also improve oxygen conditions in the deep waters (See Box 1.1).

Freshwater reaches the Baltic Sea from numerous rivers, corresponding to about one fortieth of the total water volume per year (Bergström et al. 2001).

Together, these hydrological conditions give rise to the characteristic brackish water gradient of the Baltic Sea, where there is gradual change from a surface water salinity of 15- 18 (psu) at the entrance (the Sound), 7-8 in the Baltic Proper and 0-2 in the northeast parts (HELCOM 2016a; Figure 1.2). Salinity can also vary depending on the depth, because the density of water increases with salinity. Many sub-basins of the Baltic Sea are stratified, with more saline water near the bottom and water masses with lower salinity above."

and

“The recent configuration of the Baltic Sea, with a connection to the North Sea, was established during the Littorina transgression between 7,500 and 4,000 years before present. The entrance to the North Sea was previously wider, but narrowed due to land upheaval (Leppäranta and Myrberg 2009). The current brackish water form of the Baltic Sea was initiated only around 2,000 years ago (Emeis et al. 2003).”

It shows that over the last two thousand years, a very unique balance has been created in the Baltic Sea by the water flow into the North Sea through the Sound. It follows that a change in the water flow through the Øresund to the Baltic Sea will affect the marine environment of the whole Baltic Sea and thereby also affect all the Baltic Sea countries.

j. The environmental problems related to the Lynetteholm project are highlighted by the fact that Växjö Tingsrätt, Mark- och miljödomstolen, refused permission for a small backfill of the port of Malmö

Please refer to the judgment of 21 January 2022 of Växjö Tingsrätt, Mark- och miljödomstolen in Case no. M 778-20, cf. among other things:

“Mark- och miljödomstolen rejects Malmö Municipality's application for permission under Chapters 9 and 11 of the Environmental Code to, inter alia, fill in water area within the property Hamnen 22:164 and adjacent public water area at Norra Hamnen, Malmö.”

9. Legal problem that the law is adopted, respectively the works are started before completion and implementation of the consultation of Sweden

It has been discussed above under point 5, in particular point 5.f, that the Espoo process with Sweden was not completed before the adoption of the Construction Act and has not been completed as of today. This gives rise to considerations as to whether the adoption of the law and the commencement of the works are lawful in the light of this, as follows:

a. Excerpts from the authorities' reflections and discussions on the issue

To illustrate the authorities' considerations and discussions on concluding the Espoo process before the adoption of the Construction Act and starting the works, reference can be made to a letter dated 6 May 2021 from the Swedish Minister for Climate and the Environment, Per Bolund, to the Danish Minister for the Environment, Lea Wermelin⁹⁰:

“Therefore, I would like to stress the importance of the Swedish positions being taken into account, especially with regard to the handling of dredged material and the impact on current conditions, and that the Danish Parliament does not take a decision before the environmental effects have been investigated and the consultation can be considered closed.”

The reply of the Danish Minister for the Environment, Lea Wermelin, is not available in the material received

The question is also raised on the 4th Espoo Consultative Meeting on 17 May 2021,⁴⁷ see also point 5.e:

*"The Danish Civil Aviation and Railway Authority does not consider it realistic to carry out the evaluation prior to adoption by the Danish Parliament, but the Danish Civil Aviation and Railway Authority also noted that a mechanism has been incorporated into the Construction Act to ensure that project adaptations can be approved if appropriate."*⁴⁷

An e-mail dated 11 May 2021 from Kerry Knudten-Erkelenz of the Ministry of the Environment, Department, to the Environmental Protection Agency Espoo-PoC, Sif Zimmermann, states:⁹²

*"Dear Sif,
I just need to know if the ESPOO consultation is still going on? I understand from the Ministry of Transport that there is a desire to change the terms of the implementation statement. However, I understand from my colleague, Helle Ina, that the negotiations with Sweden are expected to be concluded before the bill and the implementation statement are debated in Parliament. ..."*

b. What does the Espoo Convention and Directives say

For clarification of the understanding of the Espoo Convention in relation to the final decision on implementation, see the Guidance on the Practical Application of the Espoo Convention:⁷⁹

"2.10 FINAL DECISION (Article 6.1)

73. The Party of origin has to provide the final decision with the reasons and considerations to the affected Party. These should also reflect the impact on the affected Party.

74. Trust may be raised by clearly specifying how comments of the authorities and the public of the affected Party and the outcome of the consultations will be dealt with. However, this does not mean that the Party of origin has to strictly follow the proposals or requests of the affected Party in detail, but it will have to take them into due account and to balance them against other items according to existing legislation."

For clarification of the understanding of the Espoo Convention in relation to the final decision on implementation, see the Guidance on the Practical Application of the Espoo Convention.⁷⁹

"The challenge for making the final decision on implementing a project lies in taking into account the overall significant adverse transboundary effects while keeping in mind the specificities of each case. Neither the EIA Directive nor the Espoo Convention explicitly require early coordination and neither specifies the organisational steps that Member States and countries concerned need to take before issuing the final decision/development consent/construction permit. But, despite the absence of detailed provisions, coordination is needed to avoid risks and ensure compliance with the applicable legislation. It is also necessary for ensuring that the project is implemented, as it could happen that a Party does not approve a project or a section of a large-scale project on its territory because of the impact that it could have from outside the Party's territory or jurisdiction."

c. Conclusion – the Construction Act should not be adopted, respectively the works should not be initiated without demonstrating how the responses of the transnational consultation are considered

The guidelines state that

"The challenge for making the final decision on implementing a project lies in taking into account the overall significant adverse transboundary effects ..."

and

"Trust may be raised by clearly specifying how comments of the authorities and the public of the affected Party and the outcome of the consultations will be dealt with."

Therefore, it follows that the Construction Act should not be adopted, or the works should not be initiated, without the authorities having demonstrated how the responses to the transnational consultation have been taken into account.

The transnational consultation with the Swedish authorities is still ongoing. As stated above in point 5.e, the essential third-party review of DHI's calculations of the impact of water flow to the 400,000 km² of the Baltic Sea, i.e. the review of the fundamental premise that the change is without negative impact on the marine environment is still pending. If the authorities are wrong in their assessment that the change in water flow is insignificant, a fundamental precondition for the project fails. In these circumstances – i.e. when such a fundamental and crucial issue in relation to the project has not been finally clarified and addressed – the law should not be adopted, and the works should not start until the consultation on this issue has been completed.

This conclusion would also be in line with the statements of the Swedish Minister for Climate and the Environment, Per Bolund, and the Danish Ministry of the Environment, Department, referred to above under point 9.a.

Based on this, the question may be raised whether the law was not adopted in compliance with the relevant provisions and is therefore invalid and whether the works were consequently initiated unlawfully.

10. Reservations about Deltares' review of the zero solution and whether a "significant adverse transboundary impact can be excluded with certainty"

To the extent that it is disputed that a "*significant adverse transboundary impact can*" not "*be excluded with certainty*" as a result of the Lynetteholm project, Deltares' review of this issue is requested.

In so far as an assessment of the EIA report in relation to a zero solution is not included in the Deltares review, an assessment of this is requested from Deltares. Once the said review is available, I reserve the right to request an answer to the question from Deltares.

11. The authorities should provide the following information:

The authorities, i.e. The Danish Ministry of Transport, By & Havn, and the Danish Ministry of Environment (the agencies as well as the departments), should respond to the following calls for further clarification of the issue:

The authorities are invited (1) to provide correspondence, notes and whatever else is available to clarify the basis for the decision not to carry out an Espoo consultation involving countries other than Sweden.

The authorities are invited (2) to clarify whether it is disputed that "*... notification is always necessary, unless significant adverse transboundary impact can be excluded with certainty*".

The authorities are invited (3) to provide the basis for the assessment that a "*significant adverse transboundary impact can be excluded with certainty*", as regards the construction of Lynetteholm.

The authorities are invited (4) to state whether Deltares has confirmed that a "*significant adverse transboundary impact can be excluded with certainty*" as regards the construction of Lynetteholm.

The authorities are invited (5) to clarify whether it is disputed that a zero solution, as for the Great Belt fixed link and the Øresund fixed link, has not been chosen for the construction of Lynetteholm.

The authorities are invited (6) to clarify whether it is disputed that the blockage of the water exchange through the Øresund by Lynetteholmen is of the same magnitude as that which the Øresund link would have caused without the compensatory excavations carried out.

The authorities are invited (7) to explain why the principle of a zero solution, as for the Great Belt fixed link and the Øresund fixed link, has not been chosen for the construction of Lynetteholm.

The authorities are invited (8) to clarify whether it is disputed that the assumption, that the changes in water flow resulting from the Lynetteholm project are of no environmental significance, is fundamental for the project, including in relation to the legislative preparation and the national and transnational consultations.

The authorities are invited (9) to clarify whether it is disputed that the Construction Act should not have been legally adopted and that the construction works of Lynetteholm should not be initiated if the changes in water flow resulting from the project have environmental implications.

The consultation of Sweden appears to refer only to the Espoo Convention and not to Article 7 of the EIA/EIA Directives. The authorities are invited (10) to clarify the reasons for this.

Copenhagen, 16 March 2022

ESKIL NIELSEN

- Annexe 1: Letter dated 19 May 2021 from Jacob Steen Møller, PhD, to Benny Engelbrecht, Minister of Transport
- Annexe 2: Letter dated 27 May 2021 from the Minister of Transport, Benny Engelbrecht, to Jacob Steen Møller, PhD
- Annexe 3: Letter dated 19 May 2021 from Jacob Steen Møller, PhD, to Benny Engelbrecht, Minister of Transport

NOTES

References in the notes are to internal archive no. as follows:

AO1: File access overview 1
 AO2: File access overview 2
 AO3: File access overview 3
 AO4: File access overview 4
 LA1: Independent file 1
 LA2:
 Independent
 file 2 LA3:
 Independent
 file 3 LA4:
 Independent
 file 4 LA5:
 Independent
 file 5

References to the trial refer to trial material from case BS-7904/2022/OLR brought by Klimabevægelsen i Danmark against the Danish Ministry of Transport and By & Havn

¹ See below under point 8.d

² Act 1157 of 11/6/2021 on the construction of Lynetteholmen (the "Construction Act")

³ See on the consultations point 5.

⁴ The Danish Ministry of the Environment has prepared the memorandum "*Lynetteholmen – notat om Espoo-proces*". There are three versions dated 28 February, 1 March, and 17 May 2021 respectively ("*Espoo process File number: 2019 – 6413File*", p. 525, File 293, p. 451, File 335, p. 653).

⁵ UNECE Convention of 25 February 1991 on Environmental Impact Assessment in a Transboundary Context with Protocol of 21 May 2003 on Strategic Environmental Assessment (SEA Protocol)

⁶ The Espoo Convention was ratified on 24 June 1997 and the SEA Protocol on 12 November 2008. The Council Decision of 20 October 2008 approves, on behalf of the European Community, the Protocol on Strategic Environmental Assessment to the 1991 UN/ECE Espoo Convention on Environmental Impact Assessment in a Transboundary Context (2008/971/EC).

⁷ EIA Directive (2011/92/EU) recital 15, and EIA Directive (2014/52/EU) recital 4, on coordination and facilitation of the environmental assessment process for consultations on transboundary environmental impacts.

⁸ Environmental Impact Assessment Directive (2001/42/EC) recital 7.

⁹ Article 3

¹⁰ Similarly, Section 38(1) of the Danish Environmental Assessment Act

¹¹ Directive of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification)

¹² As covered by the Directive.

¹³ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment

¹⁴ As covered by the Directive.

¹⁵ Susanne Kingston et al.: *European Environmental Law*, Cambridge, 2017 ("Kingston")

¹⁶ *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects* European Union, 2013

- ¹⁸ Annexe 2 of the trial
- ¹⁹ P. 1 of Annexe 2 to the trial
- ²⁰ Annexe IB
- ²¹ AO2, FILE 1, p. 12
- ²² AO4, FILE 277, p. 357
- ²³ AO4, FILE 278, p. 379
- ²⁴ AO4, FILE 287, p. 361
- ²⁵ AO4, FILE 292, p. 445
- ²⁶ Annexe 10 of the trial: Miljøkonsekvensrapport om anlæg af Lynetteholm fra november 2020, section 7 and section 32,
- ²⁷ See note 4 and point 4.f.
- ²⁸ See note 4.
- ²⁹ AO4, FILE 335, p. 653
- ³⁰ Probably Morten Rickers Østergaard from the Danish Environmental Protection Agency.
- ³¹ AO4, FILE 293, p. 452
- ³² AO4, FILE 335, p. 655
- ³³ AO1, FILE 2, p. 9
- ³⁴ Annexe p. 29 of 993. See also replies from individual authorities in Sweden.
- ³⁵ Annexe ID, p. 15.
- ³⁶ AO1, FILE 12, p. 44
- ³⁷ AO1, FILE 12, pp. 45-46
- ³⁸ Annexe IE of the trial
- ³⁹ AO1, FILE 12, p. 224
- ⁴⁰ Stated in the defence in case BS-7904/2022/OLR brought by Klimabevægelsen i Danmark against, among others, The Danish Ministry of Transport: "The Swedish side also stated that it had no further comments at this stage."
- ⁴¹ AO2, FILE 34, p. 738 f
- ⁴² AO2, FILE 65, pp. 889-895
- ⁴³ AO2, FILE 86, p. 972
- ⁴⁴ AO2, FILE 86, p. 974
- ⁴⁵ AO3, FILE 216, p. 55 f
- ⁴⁶ AO3, FILE 221, p. 839 ff.
- ⁴⁷ AO4, FILE 402, pp. 1018-1020
- ⁴⁸ LA1
- ⁴⁹ AO1, attachments to FILE 536, p. 931 f
- ⁵⁰ LA3
- ⁵¹ AO1, FILE 273, p. 613
- ⁵² AO1, FILE 301, p. 622
- ⁵³ Note that this is in contrast to the memo of 17 May 20214, which states that Sweden was involved solely for reasons of "good neighbourliness".
- ⁵⁴ AO1, FILE 407, p. 743
- ⁵⁵ AO1, FILE 419 p. 747
- ⁵⁶ AO4, FILE 488, p. 1704
- ⁵⁷ AO4, FILE 488, p. 1708
- ⁵⁸ AO4, FILE 488, pp. 1702-1704 (e-mails of 25 June 2021 with copy of translation of excerpt of EIA report of 24 November 2020 and of supplement of 31 March 2021 and December 2020 on inter alia "deepening of fairways")
- ⁵⁹ AO1, FILE 523, p. 916
- ⁶⁰ AO1, FILE 523, p. 924
- ⁶¹ AO4, FILE 543, p. 2297. See also the more official letter p. 2310, which states that "the Polish Party is interested in performance of post-project analysis"
- ⁶² AO4, FILE 556, p. 2414

⁶³ AO4, FILE 563, p. 2458

⁶⁴ AO1, FILE 310, p. 629

⁶⁵ AO1, FILE 319, p. 632

⁶⁶ AO1, FILE 435, p. 751

⁶⁷ AO1, FILE 441, p. 756

⁶⁸ AO1, FILE 459, p. 759

⁶⁹ AO1, FILE 473, p. 842

⁷⁰ AO1, FILE 336, p. 659

⁷¹ AO1, FILE 339, p. 664

⁷² AO1, FILE 403, p. 740

⁷³ AO1, FILE 351, p. 695

⁷⁴ AO1, FILE 351, p. 699

⁷⁵ AO4, FILE 437, p. 1204

⁷⁶ AO4, FILE 517, p. 1963

⁷⁷ See note 26.

⁷⁸ <https://unece.org/DAM/env/documents/2006/eia/ece.mp.eia.8.pdf>

⁷⁹ <https://ec.europa.eu/environment/eia/pdf/Transboundary%20EIA%20Guide.pdf>

⁸⁰ I note 16 here refers to that "This would be in accordance with the Guidance on the Practical Application of the Espoo Convention, paragraph 28, as endorsed by decision III/4 (ECE/MP.EIA/6, annex IV). <http://live.unece.org/fileadmin/DAM/env/documents/2004/eia/decision.III.4.e.pdf>." In note 17, see "Decision IV/2, annex I, paragraph 54, <http://live.unece.org/fileadmin/DAM/env/documents/2008/eia/decision.IV.2.e.pdf>"

⁸¹ Directive 2000/60/EC

⁸² The judgement in the Weser case may be cited in this context, which holds that, for quality element of the lowest class, any deterioration of that element constitutes, however, a "deterioration of the condition.

⁸³ Similarly, e.g. e-mail of 10 June 2021 (AO1, FILE 459, p. 759) from Espoo-Poc to Mindaugas Raulinaitis; Lithuania, according to which "it was and still is the assessment of the responsible Danish authorities, that the Lynetteholm project does not have significant transboundary environmental consequences."

⁸⁴ See EIA report of November 2020, section 7 and section 32.

⁸⁵ ACT no. 380 of 10/06/1987: <https://www.retsinformation.dk/eli/accn/A19870038030>

⁸⁶ <https://www.oresundsbron.com/da/info/press/nullosningen-er-opnaet>

⁸⁷ See note 26. Quotes from the "EIA study", p. 210

⁸⁸ "Guidance on Public Participation in Environmental Impact Assessment in a Transboundary Context" <https://unece.org/DAM/env/documents/2006/eia/ece.mp.eia.7.pdf>

⁸⁹ "State of the Baltic Sea – Second HELCOM holistic assessment 2011-2016" from <http://stateofthebalticsea.helcom.fi/in-brief/our-baltic-sea/>

⁹⁰ AO1, FILE 295, p. 619

⁹¹ By letter dated 8 February 2022 to Espoo-PoC I request "Re ACT 295: The Danish Minister of the Environment's reply to the letter of 6 May 2021 from the Swedish Minister of Climate and the Environment Per Bolund to the Minister of the Environment and any further related correspondence between the Ministers to be received. This is not included in the material and will be welcomed." By letter of 10 February 2022, it is stated that "You have received all documents in the Espoo case, so unfortunately I cannot help you with further documents."

⁹² AO4, FILE 286, p. 401

Bilag 1

Translation of original letter in Danish

Jacob Steen Møller

MSc, PhD.

Wergelands All 15

2860 Søborg

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E: Jacob.steen.moller@gmail.com

Date: May 19, 2021

To:

Transport Minister Benny Engelbrecht
Danish Parliament's Transport Committee
By & Havn I/S, att. CEO Ane Skovbro

Lynetteholmen - hydraulics and coastal engineering

In connection with the Transport Committee's expert hearing on Lynetteholmen on 20 May 2021, I would like to draw the attention of the Minister and the developer to a number of serious deficiencies in the proposed project and the associated EIA study, which I consider may be critical to the project's international acceptance and practical implementation.

The professional background for my assessment is my experience as project director for the marine environmental studies and management, which was carried out by DHI and LIC Engineering A/S in connection with the construction of the Great Belt and Øresund links.

The effect on the flow

The EIA study for Lynetteholmen and the underlying DHI report (hereinafter collectively referred to as EIA) take a highly controversial view of the importance of the projects blocking of the Baltic Sea water exchange.

EIA shows that Lynetteholmens blocking of the water change through the Sound is of the same order of magnitude as the Øresund link would have caused without the completed compensation excavations.

Nevertheless, the EIA argues that climate change drowns out the effect of Lynetteholmens blocking effect, and it is thus negligible. In this way, the EIA relatively nonchalantly sweeps aside the decisions of the Danish Parliament and the international expert panels on the Great Belt and the Øresund inks, and opens up for a possible international criticism, which may prove very difficult to deal with.

The EIA argues as follows: "In connection with the Öresund link, a zero solution was required, in which compensation excavation attempted to produce conditions that resulted in a blocking factor of zero. " and "Climate effects and sea level rises will affect baseline conditions over time. Over time, therefore, there can be no question of a zero solution. A raised water table (increased water depth) will affect the gross water flow and gradually increase the dynamic exchange between the Kattegat and the Baltic Sea. Therefore, in order to maintain a truly zero solution over time, you will need to increase friction through the Sound in other ways, for example in the form of refills such as Lynetteholmen."

The quotation shows that the EIA has not understood the reason for the zero solution as decided by authorities and expert panels on the bridge projects. At that time, the objective of the zero solution was not defined as "keeping conditions constant", but instead it was "to ensure; that the project does not affect natural changes outside the local national area".

The difference is not trivial. It was the fact that the bridge projects did not affect the natural conditions outside the local national area that ensured that the projects received international acceptance. Derogating from this decision at Lynetteholmen and thus accepting an effect, albeit small, on the Baltic Sea opens a possible international conflict over the implementation of the project under international conventions (HELCOM).

In addition to these principled aspects of blocking, the EIA contains a number of specific errors and shortcomings, which I summarize briefly here:

- Lack of control of the hydraulic model
 - The model validation is not impressive, e.g., the model evens out the vertical salinity profile too much.
 - It is not explained whether the validation was carried out on a period which is independent of the calibration.
 - The hydraulic modelling is based on a design period of one year (2018). The choice of design period lacks justification, among other things, it has not been explained whether the period is representative.
- Fallacy on model results interpretation
 - For example, it is stated about salinity: "The changes found are small in relation to the naturally occurring variations and are therefore in themselves not critical." It is not in accordance with past or general practice to use natural variations as a criterion for whether an influence is critical or not. This can be illustrated by the fact that natural temperature variations within a year are much greater than the change due to climate change, which does not render climate change unimportant.
- Methodological errors in assessing the impact from Lynetteholmen
 - The calculation of net water flow is incorrect as it does not consider the small water level increase in the Baltic Sea which will result from the blockage from Lynetteholmen (DHI's calculation is not clearly presented, so it may be that they are thought differently than they are written).
 - DHI states on salt transport: "Over time, the net transport of salt will stabilise around zero, corresponding to maintaining the existing salinity levels in the Baltic Sea". This is

not correct. There will be a slight reduction in salinity in the Baltic Sea because of the blockage from Lynetteholmen.

I am available for an in-depth explanation of the above, if desired.

Coastal Engineering

The Lynetteholmen project contains a number of summarily described 'coastal landscapes', but it has not been sufficiently explained whether these landscapes can actually be realised, let alone maintained.

Designing an attractive and stable coastal landscape requires a close interaction between landscape design and coastal technical expertise. There are several distinguished examples of this in Denmark. These include Amager Strandpark, Brøndby-Ishøj Strand, Peberholm and the design of Sprogø.

In the future detailing of the project, it is highly recommended to carry out a thorough design analysis that meets the standard that has hitherto been applicable to Danish coastal projects of the same magnitude and importance.

Best regards

Jacob Steen Møller

Bilag 2

Transport Ministry

The Minister

May 27, 2021

2021-3760

Frederiksholms Kanal 27 F

1220 København K

Telefon 41 71 27 00

Dear Jacob Steen Møller

Thank you for your inquiry on 19 May 2021 about hydraulics and coastal engineering in connection with Lynetteholm.

I have submitted your inquiry to By & Havn, which informs the following with contributions from their advisor DHI. In Espoo context, there is also a dialogue between Danish and Swedish authorities about the impact from Lynetteholmen:

"Regarding the hydraulic calculations and modelling, By & Havn has sought assistance from DHI (formerly the Danish Hydraulic Institute). DHI specialises in, among other things, aquatic environment based on extensive Danish and international research knowledge. DHI is approved as a Technological Service Institute (GTS) by the Ministry of Research, Innovation and Higher Education.

DHI notes in the face of the criticisms raised that the project brief did not require compensation dredging and the establishment of a zero solution. The project has a blocking effect, which is estimated and openly laid out.

The importance of sea level rises is included in an analysis to clarify that the effect of Lynetteholm is small compared to the changes that even smaller sea level rises will bring. It is not intended as a mitigating measure, but is intended solely to put the impact on Lynetteholm into perspective. It is therefore used as an argument that the impact is small and acceptable.

Compensation dredging will have to be carried out in a place where it gives the greatest possible effect, i.e., in the area near the Drogden sill, which is located away from Lynetteholm.

A claim for compensation dredging will therefore introduce a new impact area. The current is strong in the Drogden sill area and compensation dredging will therefore result in a relatively large dispersion of sediment spills.

In assessing an impact/change, it is always relevant to look at how much the change represents in relation to the naturally occurring variations. It tells us whether the impact remains within the natural variation known to the environment or whether the environment is being pushed into a new extreme.

The following table is taken from Frontier's | Major Baltic Inflow Statistics - Revised | Marine Science (frontier-sin.org), the year 2018 must be considered representative, as according to the modeled, it contains an inflow event in September 2018 with an intake of almost 1 GT of salt and in

December an event where 0.7 GT of salt is added through the Sound. If the inflow is distributed by 2/3 through the Great Belt and 1/3 through the Sound, you will find that the two events are at the more significant end.

Period	1896 - 1935			1936 - 1975			1976 - 2015		
	FM96	DS5	DS1	FM96	DS5	DS1	FM96	DS5	DS1
0-1 Gt	10	8	29	16	14	58	2	8	54
1-2 Gt	16	16	31	21	23	31	5	21	33
2-3 Gt	10	10	10	7	8	6	2	3	3
3-4 Gt	3	0	0	0	0	0	2	3	3
4-5 Gt	0	2	2	0	1	1	0	1	1
5-6 Gt	1	0	0	1	0	0	0	0	0
Total	40	36	72	45	44	96	11	36	94

The coastal landscape is designed with several "hardpoints" and gravel beaches in order to meet the wave and current climate that occurs along the eastern perimeter. Only concavely shaped sand beaches are established in the smaller bays, where the establishment of hardpoints ensures that the sand can be maintained within hardpoints.

It would certainly make sense to carry out a detailed design of the elements of the coastal landscape that are constructed of material that could be included in the litoral transport and thus potentially eroded away. However, the detailed design is more about how the sand should be laid out in the lagoon area (profile and orientation that ensures stability)."

Yours sincerely
Benny Engelbrecht

Bilag 3

Jacob Steen Møller

MSc., PhD.

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2860 Søborg

M: 40 98 03 99

E: Jacob.steen.moller@gmail.com

Date: May 28, 2021

To:

Transport Minister Benny Engelbrecht
Danish Parliament's Transport Committee
City and Port I/S, att. CEO Ane Skovbro

Lynetteholmen – Reply to Letter from Minister dated 27 May 2021 case: 2021-3740

Thank you for the Minister's reply to my inquiry.
Below I have included my comments in a copy of letter from the Minister.

Best regards

Jacob Steen Møller

Dear Jacob Steen Møller

Thank you for your inquiry on 19 May 2021 about hydraulics and coastal engineering in connection with Lynetteholm.

I have submitted your inquiry to By & Havn, which informs the following with contributions from their advisor DHI. In Espoo context, there is also a dialogue between Danish and Swedish authorities about the impact from Lynetteholmen:

"Regarding the hydraulic calculations and modelling, By & Havn has sought assistance from DHI (formerly the Danish Hydraulic Institute). DHI specialises in, among other things, aquatic environment based on extensive Danish and international research knowledge. DHI is approved as a Technological Service Institute (GTS) by the Ministry of Research, Innovation and Higher Education.

DHI notes in the face of the criticisms raised that the project brief did not require compensation dredging and the establishment of a zero solution. The project has a blocking effect, which is estimated and openly laid out.

JSM: It is true that the project brief has not established a design criterion for the blocking, which is reprehensible, see below. I do not believe that the lack of a criterion means that DHI should

therefore simply accept the premise of 'not zero solution', as this is contrary to previous Parliamentary decisions. Rather than being a neutral advisor, DHI advocates a 'non-zero solution'.

The importance of sea level rises is included in an analysis to clarify that the effect of Lynetteholm is small compared to the changes that even smaller sea level rises will bring. It is not intended as a mitigating measure, but is intended solely to put the impact on Lynetteholm into perspective. It is therefore used as an argument that the impact is small and acceptable.

JSM: The answer would be reasonable if Lynetteholmen were the only project that affected the flow, but Lynetteholmen is one of several projects that accumulate effect. You cannot argue that because my car is only a negligible contribution to total pollution, it is OK that I continue to pollute.

If the Danish Parliament wants to change policy and accept an effect on the flow, then a maximum must be set for the total blockage, which all projects must comply with together. The Danish Parliament took a position on this for the Great Belt. The Øresund and the Fehmarn projects as the Parliament decided that the total effect of all the projects should be zero.

Let us assume that the Parliament will now change policy and, for example, accept 1% blocking of the flow through the Øresund. We must then ensure that this is supported by the Baltic Sea countries. Is this possible, will it take a long time? In addition, Lynetteholmen will use 1/4 of the available total blocking (to be shared with Skåne). Is that a good investment? For example, it may prevent or cause restrictions for a future connection at Elsinore or reclamation projects at Malmö.

Compensation dredging will have to be carried out in a place where it gives the greatest possible effect, i.e., in the area near the Drogden sill, which is located away from Lynetteholm.

JSM: You should not start with compensation dredging, they are of course a kind of emergency solution.

As with the Øresund link, the design criteria should first be established for the project (Climate Protection, Earth Depot, Urban Development Area, Maximum Blocking Effect) and then the projects design should be optimized within these criteria. If there is then a residual blockage, it can be compensated. Whether this should be done at Drogden or locally by, for example, 'planing of the Middle Ground' has not been analysed.

A claim for compensation dredging will therefore introduce a new impact area. The current is strong in the Drogden sill area and compensation dredging will therefore result in a relatively large dispersion of sediment spills.

In assessing an impact/change, it is always relevant to look at how much the change represents in relation to the naturally occurring variations. It tells us whether the impact remains within the natural variation known to the environment or whether the environment is being pushed into a new extreme.

The following table is taken from Frontier's | Major Baltic Inflow Statistics - Revised | Marine Science (frontier-sin.org), the year 2018 must be considered representative, as according to the modeled, it contains an inflow event in September 2018 with an intake of almost 1 GT of salt and in December an event where 0.7 GT of salt is added through the Sound. If the inflow is distributed by 2/3 through the Great Belt and 1/3 through the Sound, you will find that the two events are at the more significant end.

[JSM: Table omitted here]

JSM: DHI hereby answers my specific question about the representativeness of the design period. They don't answer my other questions about the modelling.

The coastal landscape is designed with several "hardpoints" and gravel beaches in order to meet the wave and current climate that occurs along the eastern perimeter. Only concavely shaped sand beaches are established in the smaller bays, where the establishment of hardpoints ensures that the sand can be maintained within hardpoints.

JSM: Does DHI mean gravel or sand, and which grain size? Actual gravel beaches in a city will have significantly less recreational value than sand beaches. In addition gravel beaches are more risky to walk than sandy beaches.

It would certainly make sense to carry out a detailed design of the elements of the coastal landscape that are constructed of material that could be included in the litoral transport and thus potentially eroded away. However, the detailed design is more about how the sand should be laid out in the lagoon area (profile and orientation that ensures stability)."

Yours sincerely
Benny Engelbrecht