Danish Energy Agency

Invitation to Market Dialogue II

Regarding the procurement framework for the construction and the co-ownership of the Energy Island in the North Sea

Discussion Paper II

September 2021

Danish Energy Agency

Contents

1 Introduction

The Danish Energy Agency (DEA) hereby invites potential tenderers and relevant market operators to participate in the second market dialogue on the coming tender regarding the construction and the co-ownership of the Energy Island in the North Sea (Energy Island[1]).

The DEA is tendering out the construction and shared ownership of the Energy Island and plans to launch the tendering process during Q3 2022 and announce a winner in Q1 2024.

The first market dialogue

The first market dialogue on the coming tender was held during March 2021, where 23 market operators participated through bilateral meetings and/or written inputs.

The first market dialogue indicated among other things a clear request for more market dialogues than originally planned, and thus the DEA has decided to launch this Market Dialogue II, and will be considering the need for further market dialogues later on.

For further details from the first market dialogue, see the summary of the main findings at the DEA's webpage here:
https://ens.dk/sites/ens.dk/files/Energioer/summary_of_the_main_findings.pdf

The second market dialogue

The second market dialogue is being launched in light of the recent political agreement of 1 September 2021 (in Danish: *"Udbudsforberedende delaftale om langsigtede rammer for udbud og ejerskab af energiøen i Nordsøen"*)[2]. By setting the overall conditions for the procurement and ownership framework this and the previous political agreements[3] have moved the realisation of the Energy Island closer.

This market dialogue is an opportunity for the market and potential tenderers to learn more about the project and discuss the expected main elements of the tender with the DEA and to provide input and recommendations to the themes raised in this Discussion Paper II. For several of the sections and themes in this paper, there is a **set of questions** for the market to consider and to which the market is encouraged to provide relevant solutions and answers. At the same time, the market dialogue

[1] The Energy Island in the North Sea is one of two new energy islands. The other island is referred to as the energy island in the Baltic Sea.

[2] The agreement is available in Danish on this site: Politisk aftale bringer energiøen i Nordsøen tættere på realisering (kefm.dk). An indicative translation in English is available on this site: Tender preparing partial agreement

[3] Climate Agreement from June 2020 (only in Danish: Klimaaftale for energi og industri mv. 2020 (fm.dk)) and the agreement from February 2021 (only in Danish: Aftaletekst - Energiøer - Ejerskab og konstruktion af energiøer mv.pdf (kefm.dk))

should be seen as an open dialogue, and thus the DEA welcomes other relevant inputs than the themes and questions raised in this paper, cf. section 2 below.

A possible third market dialogue will have a preliminary version of the tender material as a starting point. This second market dialogue is thus an advantageous opportunity for providing suggestions for the material that is not already covered by this or the former dialogue.

This paper is based on initial analyses, planning assumptions as well as elements that have already been politically decided. Whilst the DEA is confident in describing the principal outline of the coming project and processes, it must be recognised that the project remains a work in progress and that changes may occur. Answers and comments to the questions raised in this paper will serve as an input in the further decision-making process.

For more information on the DEA tender, please visit our website Energy island in the North Sea | Energistyrelsen (ens.dk), where you can also sign up for the newsletter.

We look forward to receiving your feedback.

Danish Energy Agency

2 Participation in the dialogue

On 15 September 2021 the DEA held an orientation meeting which officially launched this Market Dialogue II. Information regarding the orientation meeting is available on the following site: Market dialogue on the procurement framework for the co-ownership of the Energy Island | Energistyrelsen (ens.dk).

The indicative timetable for the further process of this Market Dialogue II is:

24 September 2021	This "Discussion Paper II" is made available on Energy island in the North Sea | Energistyrelsen (ens.dk)
15 October 2021 at 12:00 noon	Deadline for submission of written comments and answers to the questions raised in this Discussion Paper II.
18 October 2021	The DEA will submit invitations to dialogue meetings to selected participants

After the launch of this Discussion Paper II, the DEA will inform about the extent of bilateral meetings with invited participants. This will be announced on the website for the market dialogue, and the exact date for meeting the selected participant will be communicated directly.

Written comments and answers

The DEA requests that written comments and answers are precise and to the point and that a summary of your main comments is included in your reply. Furthermore, the DEA requests that a short description of your interest in the project is included in your reply (i.e. whether you are a potential tenderer or otherwise interested in the project).

The DEA has made a template that could be used for submission of your reply[4], which can be found on the DEA market dialogue website. If another format is used, please insert references to the questions answered.

If potential tenderers request confidentiality of certain information for competition reasons, the DEA will be able to meet such requests, provided that they do not infringe the obligations of the Freedom of Information Act (Access to Public Administration Files Act), the Danish Public Administration Act and the Environmental Information Act and the Public Procurement rules, in particular the principles of equal treatment and transparency. Information received will under no circumstances be used in any way to provide competitive advantages to a single market player.

[4] Market dialogue on the procurement framework for the co-ownership of the Energy Island | Energistyrelsen (ens.dk)

Written comments and answers to the questions and topics raised in this paper must be submitted by e-mail to the DEA at **energyislands@ens.dk** no later than **15 October 2021 at 12:00 noon.**

Invitation to bilateral dialogue meeting

The DEA expects to arrange between 5 – 10 bilateral dialogue meetings (either virtual or physical meetings). Potential tenderers and/or relevant market operators from which the DEA receives detailed written answers and inputs may expect to be invited to a bilateral meeting with the DEA. However, the DEA reserves the right to select only those participants whose written inputs give rise to further discussion. Moreover, the DEA reserves the right to arrange less or more dialogue meetings if the DEA assesses that a detailed perspective on the themes raised in this paper can be obtained with less or more than 5-10 meetings. The selection of participants for the bilateral dialogue meetings will be based on the aim to secure a detailed perspective on the themes raised in this paper; participants who are potential tenderers will be preferred.

3 Background and vision behind the Energy Island Project

It is the ambition of the Danish government (Danish State) to utilise the huge offshore wind (OSW) energy potential in a new and cost-effective way by creating energy islands. The energy islands will benefit the green energy transition of Denmark and its neighbouring countries supporting both short-term and long-term climate policies and carbon neutrality by 2050. The ambition includes an artificial island – the Energy Island and an energy island in the Baltic Sea on the island Bornholm.

In addition, the energy island approach to OSW is expected to unlock potentials for economies of scale by connecting individual OSW projects to a single hub, which can then distribute the OSW production to several energy markets, thereby also potentially minimise the necessary grid reinforcement onshore.

The Energy Island will as a minimum contain areas to house the electrical equipment and transmission installations of the attached OSW farms and the Danish transmission system operator (TSO), Energinet[5], in order to facilitate and transmit the OSW production onshore. This will ensure that the power generation from the OSW farms and possible other OSW based activities as well as the interconnectors between Denmark and one or more neighbouring countries will be operational. The island must have an area large enough to handle an initial capacity of minimum 3

[5] https://en.energinet.dk/About-us

GW OSW farms and eventually up to 10 GW wind power. Furthermore, there may also be a potential to make the island a foundation for innovative and commercial activities related to the OSW energy utilisation and operation by adding a dedicated zone of innovation.

The realisation of the Energy Island project in the North Sea is based on three separate procurement procedures, where this Market Dialogue II is regarding no. 1:

1) The Energy Island (*construction and co-ownership of the Energy Island*)

2) The transmission system (*Energinet's equipment, operators of attached OSW farms, interconnectors etc.*) for the initial phase (minimum 3 GW).

3) OSW farms (*construction and operation of OSW farms*) for the initial phase (minimum 3 GW).

The Political Agreement of 1 September 2021

The political agreement - *Tender-preparing partial agreement regarding the long-term framework for a call for tenders for and ownership of the energy island in the North Sea* - sets the first overall procurement framework for the construction and the co-ownership of the Energy Island.

The agreement states the vision and purpose of energy islands:

> *"The energy islands are to create optimal conditions for the establishment, operation, and innovation in respect of offshore wind in order to exploit and develop the full potential of offshore wind and thereby support a cost-effective electrification of Denmark and Europe. The energy islands must support large-scale exploitation of offshore wind as inexpensive as possible and further support a development where the green transition and continued exploitation of offshore wind is driven predominantly by the market, on market terms without any government subsidies. The energy islands must also be future-proof and have the right properties with sufficient room for innovation.."*

The overall procurement framework for the Energy Island stipulated in the political agreement of 1 September 2021 as well as in the agreement - *Tillæg til klimaaftale om energi og industri af 22. juni 2020 vedr. Ejerskab og konstruktion af energiøer mv.* of 4 February 2021 - is as follows:

- It has been agreed to conduct a joint procurement procedure for the construction and co-ownership of the Energy Island.

- The Danish State and the private partner will become joint co-owners of the entire island (minimum 50.1%/maximum 49.9%[6]). It has been decided that the ownership of the Energy Island must be based on a Danish limited liability company (in Danish: *aktieselskab*) in accordance with the Danish Companies Act[7] operating on commercial terms and where the gains - in accordance with applicable law and other agreements – will be distributed in proportion to the ownership interest.

- The Energy Island is to support the cheapest possible exploitation of large-scale OSW. It is therefore important that the successful project provides the best trade-off between quality and price and that it ensures the lowest possible rent for the relevant parties on the island.

- It is emphasised that the private partner's commercial and innovative strengths must be fully exploited. It has therefore been agreed that private operators as part of their tender and within the decided framework of the ownership model must have the opportunity to propose the construction of an area that will be used for commercial and innovative purposes.

- The rent from the potential innovation area, see section 4 below, accrues to Energy Island A/S according to the ownership model. The revenue from the activities accrues to the party performing the activities (e.g. electricity storage, Power-to-X facilities, data centres etc.). It will also be possible for Energy Island A/S itself to conduct innovative activities on the island if the company sees that as the commercially most attractive solution.

The overall framework from the political agreement will in the following sections be put into perspective for the coming procurement procedure.

The name of the joint company has not been decided with this political agreement. For the sake of simplicity, it is in the following referred to as “Energy Island A/S”.

[6] In Market Dialogue I, market operators did not express a desire to have an ownership share of less than 49.9%
[7] Consolidated Act 2019-07-23 No.763 on Public and Private Limited Companies (as amended)

4 Conceptual understanding of the Energy Island

In principle, the potential activities planned for the Energy Island are divided into two: transmission activities and potentially other commercial and innovative activities.

Based on the two main activities on the island, the Energy Island may conceptually be understood in terms of three different "zones". A so-called *transmission zone,* a potential *innovation zone* and a potential *flexibility zone* for later expansion of the transmission zone (due to expansion of OSW capacity connected to the island). This division in zones should first and foremost be understood on a conceptual level. In reality the three different zones will – to a certain extent – be integrated and not physically separated.

Description of the different zones

Transmission zone (phase 1 – minimum 3 GW)

The transmission zone will be the area dedicated for the technical installations of HV-DC stations owned by Energinet that are necessary for the transmission of at least 3 GW of OSW power. This includes converting the power from the connected OSW farms to high-voltage DC power that can be transmitted over long distances with a minimum of grid loss. The owners of the connected OSW projects and the Danish TSO, Energinet, will utilise the area of the transmission zone.

Innovation zone

A potential innovation zone will be an area on the island dedicated for conducting innovative and commercial activities with the purpose of maximizing the economic potential of the Energy Island. The tenderers are urged to propose possible activities to be performed on such areas, however the actual activities shall be decided on a commercial basis by the joint company Energy Island A/S. The company can decide whether to rent out land or conduct the relevant activities itself. The activities could include e.g. Power-to-X and energy storage, but also services to OSW farms and other commercial customers.

Tenderers are expected to

- declare their interest in designing and constructing the island large enough to hold areas for commercial innovative activities,
- submit the size of such an area,
- submit relevant preconditions, bearing in mind that gains and risks from this area will be distributed in proportion to the ownership interest.

Flexibility zone

The parties behind the political agreement of 1 September 2021 has reconfirmed that the Energy Island in the long run should be able to handle a total of 10 GW capacity of OSW including the already agreed minimum of 3 GW OSW.

Consequently, it is possible that a larger island with a larger transmission area than needed for the initial 3 GW of OSW capacity will be constructed from the beginning for reasons of economies of scale.

This additional area for future transmission equipment is conceptually named the flexibility zone for the purpose of this market dialogue. Whether this additional area will be a part of the tender design depends on the coming political decision concerning the size of the island.

5 Business case

The following section covers the business case for the Energy Island project and the associated key issues. The section will focus on open topics following the initial market dialogue.

The outcome of this market dialogue will be included in the ongoing analysis of the economic framework for the project and tender process that will define the final business case of the Energy Island.

It is possible to divide the Energy Island into several economic zones that all contribute to the total business case for the project, cf. section 4: *Conceptual understanding of the Energy Island:*

- The transmission zone will be able to serve the transmission of the initial 3 GW of OSW capacity. The transmission zone will generate revenue to the joint company Energy Island A/S via rent payments paid by the main operator, the Danish TSO Energinet.
- A potential flexibility zone that can cover additional OSW capacity beyond the 3 GW of OSW that has already been decided (i.e. up to 7 GW of additional OSW capacity that has not already been politically agreed to tender out). The potential flexibility zone expectedly generates revenues via rent payments from Energinet when new OSW projects are connected to the island (above the initial 3 GW).
- A potential innovation zone, which is an area reserved for innovative and other commercial activities. Revenues can be generated from rent payments
- from companies conducting the activities or from activities conducted by Energy Island A/S.

Based on the three potential zones, the overall revenue and cost structure can be summarised in the figure below:

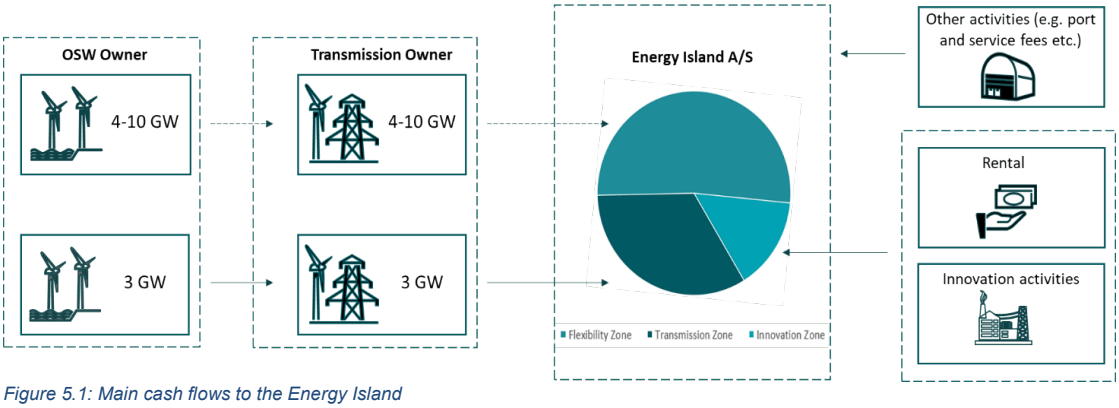


Figure 5.1: Main cash flows to the Energy Island

Within the framework set out by the political agreement and the concepts and zones of the island described above, the scope of this section is thus to cover the following key topics and themes:

1) Business case for the transmission zone
2) Business case for the potential innovation zone
3) Business case for the potential flexibility zone
4) Funding and capital structure

Business case for the transmission zone

For the transmission zone, revenues can be generated by renting out areas on the island to Energinet, which, along with the owner of the connected OSW project, will use the sites for electrical equipment and systems in order to transmit electricity on-shore.

As stated in the political agreement of September 1, 2021, one of the key aims of the Energy Island project is to "*ensure the lowest possible rent for the connected offshore wind and Energinet.*" Consequently, the project aims among other things at achieving the lowest possible rent levels and the best quality for the island and the transmission zone given the CAPEX of the island.

On an overall level, the rent level for the transmission zone is expected to primarily be driven by the following factors:

[Rent for transmission zone] = [OPEX] + [Depreciations] + [Return][8]

Where:

- OPEX cover all operational costs related to the transmission zone and necessary service facilities.
- Depreciations cover all costs related to depreciations of the transmission zone and necessary facilities.
- Return is a reasonable return on the invested capital given the expected competition and the fact that the lessee, Energinet, is a 100% state-owned company.

It is a possibility that these drivers of the transmission zone's rent will be a part of the overall tender evaluation. Thus, it is a possibility that factors contributing to determining the rent will form the basis for the evaluation of the submitted business cases.

Business case for the potential innovation zone

Great political priority is given to sufficient and appropriate conditions and space for innovative activities on the Energy Island, e.g. aiming at adding new possibilities for utilising Denmark's vast OSW resources. Indeed, as stated in the political agreement of September 1, 2021, "*It is of crucial importance to the parties in the agreement that the energy island in the North Sea provides both the sufficient and suitable framework for innovation*". A key part of the framework for the Energy Island is therefore that there is a possibility but not a requirement for the tenderers to include in their tender an innovation zone for innovative and other commercial activities.

Innovative activities will be decided on a commercial basis by Energy Island A/S, which decides whether to rent out land or conduct the relevant activities itself. The activities may include, but are not limited to, Power-to-X, energy storage, support facilities to OSW and other commercial activities, e.g. a harbour with more facilities than needed to serve the island's primary purpose. On this basis, the DEA wants to get the market's preliminary perspectives on a potential innovation zone.

The criteria for evaluation regarding the potential innovation zone are subject to further analysis. It has been politically decided that tenderers may propose different sizes of the area for the potential innovation zone and propose how Energy Island A/S could make use of such an area. Following the political decision, we are interested in receiving an indication of what the market considers a sufficient minimum area for the innovation zone, if the tenderer includes innovation in the bid, and what sizes will be required/appropriate for what activities in the market's view and what the market believes would be the best way to evaluate innovation in the tender..

[8] Depreciations of and return on investment/CAPEX.

The construction cost and OPEX related to the potential innovation zone is expected to be part of the general evaluation of price.

In addition, it is important for the State to establish the partnership for the Energy Island with a competent and innovative partner. Thus, in addition to an evaluation of price, we therefore intend to ask for a business plan, references, and proof of qualifications for utilisation of the area, thereby quantifying a possible, future income potential.

Business case for the potential flexibility zone

The flexibility zone can be included in the initial construction of the Energy Island. When fully constructed to meet the need for the additional 7 GW of capacity, the potential flexibility zone is currently projected to encompass ~28 ha.

Alternatively, the required areas for handling additional capacity of up to 7 GW can be built in one or several separate phases and/or units as further OSW may be politically decided.

Depending on the speed with which new OSW is decided, building a 10 GW Energy Island (full transmission zone for 3 GW + full flexibility zone for 7 GW) in one phase could result in the lowest total project cost (given that 10 GW OSW will be constructed before a given point in time). This is due to the realised economies of scale from only having one construction phase and the ability of a 10 GW Energy Island to service additional OSW. However, this would create the need to handle the economic risk associated with the initial 7 GW surplus area (the flexibility zone) for which commitments have not yet been secured. The cost associated with this risk is referred to as the flexibility zone's "vacancy costs".

The choice between constructing a flexibility zone from the beginning or adding the extra area in one, two or more separate phases is therefore principally a choice between preferring to handle a vacancy risk today or an expansion risk at a later stage. The preference for either risk depends on how soon additional OSW will be decided and developed. Furthermore, these possible choices come with different practical and legal implications, which are also to be considered, including inter alia the evaluation mechanism in the tender design and the assessment of potential State subsidies implied in any of the construction models.

<u>The handling and allocation of vacancy costs</u>

How to handle and allocate a potential flexibility zone's vacancy costs is an issue that defines the implied risk and reward structure of the Energy Island's partnership between the Danish State and the private partner.

It is possible to imagine several ways, models and mechanisms through and with which the vacancy costs can be handled and allocated. Our current initial framework applied to understand and organise possible solutions for these vacancy costs is established by the end points of the spectrum for possible solutions for how to handle the island's vacancy costs, in a way that underpins the overall purpose of exploiting OSW as cost effectively as possible and reflecting a fair distribution of risk and reward between the parties:

- At one end, there is the symmetrical solution where vacancy risks and costs are borne according to the ownership share of Energy Island A/S, meaning the private partner would cover 49.9% of the island's vacancy costs (and receive 49.9% of the potential financial upside).

- At the other end of the spectrum, there is the solution where the Danish State bears the risks associated with the potential flexibility zone, including the associated vacancy costs, and consequently also receives any associated financial upside. This may also include an option for the private partner to take part in the activities that may take place in the flexibility zone at a later point in time. This will, however, have to be agreed with the State on commercial terms.

Acknowledging that the public and private parties may have different preferences when it comes to the above end points, we remain open to proposals for potential models and mechanisms for minimizing and sharing the flexibility zone's risks and sharing the rewards. In relation to such proposals, please underline how the models ensure that a link between risk and reward for the parts taking on risks is established while still honoring the overall purpose of exploiting OSW as cost effectively as possible.

With the above framework in mind, we thus invite market participants to provide us with ideas and proposals, including possible technical proposals, for how best to address and allocate the Energy Island's vacancy costs in a way that can support a 10 GW island. Possible elements could include alternative uses in combination with short term leases, option arrangements, or other arrangements with the purpose of securing the owners of the Energy Island a certain level of minimum payments for a certain period of time. We encourage all market participants to provide us with ideas for elements to include and/or address – and hereof the related consequences for the implied parties – in order to ultimately minimise the Energy Island's vacancy costs.

Funding and capital structure

As previously established, one of the objectives of the Energy Island is to contribute to a cost-effective green transition of society. Achieving an optimal financial structure for the project can support this goal.

Furthermore, ownership of the Energy Island will be split so that the State as a minimum will own 50.1% of the island and the private partner will own the remaining up to 49.9%. As no financing model has currently been identified as being preferred, our current starting point is therefore that the private partner will be free to finance their 49.9% as they see fit within applicable law.

With these fundamentals in mind, we would like to engage in a discussion of what the market sees as preferred financing structures and solutions that can help the State and a private partner achieve the lowest financing costs for the project and, consequently, the lowest evaluation price(s). As such, we remain open to your ideas and proposals for how the market ideally would like to see the project financially structured.

Funding during construction period

For the financing of CAPEX, it is currently assumed that the private partner will be responsible for financing the entire construction period and thereby will be free to choose its financing structure, including the degree of leverage for CAPEX. The Danish State may pay for its part of the Energy Island after completion of the island. In such a case, the private partner shall bear the risk of any cost overruns. An alternative model could, however, include that the Danish state makes milestone payments during construction instead of a lump sum payment at the end.

Questions to the transmission zone

5.1

What special requests and/or proposals to the Energinet rental agreement for the transmission zone would a market operator make/have in general and in particular with regard to the following:

- Rental period
- Start of rental payments after the construction of the energy island
- Rent adjustments
- Other aspects and considerations, e.g. a need or desire to other later adjustments regarding the rental agreement

5.2

The political agreement states that the Energy Island must be built with an initial capacity of at least 3 GW. What risks, regarding the income from those 3 GW, if any,

do you consider necessary to mitigate, and how would this affect your required return on the investment?

Questions to the potential innovation zone

5.3

The political agreement states that room for innovation has high priority. What are the most essential framework conditions for the island (contractual, market condition, physical interfaces, etc.) to promote innovative and other commercial activities related to OSW and business cases?

What does the market consider a reasonable size for the potential innovation zone?

Please submit important matters and clarifications needed for you, in order to declare an interest in building an innovation zone and to submit a size for such an area in the final tender.

5.4

As the State will be the co-owner of the innovation zone and thereby sharing its risks and opportunities, we invite the market to provide your thoughts on the following preferred uses and assumptions for the innovation zone:

- Which cash flows from which activities does the market see the innovation zone realistically creating and sustaining over time absolute and compared to income/rent from the transmission zone for 3 GW OSW capacity? Please be as specific as possible.
- Is it realistic that the cost of building the innovation zone can be covered by the innovation activities with an attractive return on investment?
- How should innovation in the tender be evaluated? Please be as specific as possible about the reasoning behind your answer.

Please see the political agreement from 1 September for more details regarding the innovation zone.

Questions to the potential flexibility zone

5.5

From market dialogue I, it is understood that the market sees economies of scale benefits of constructing a larger Island, including lower total costs when compared to a gradual development and higher revenue potential. We therefore wish to get the market's input on how this full potential can be achieved in a partnership model where the vacancy cost is shared in the partnership according to the ownership structure

and is not covered by the State, bearing in mind that an island with surplus capacity also has possible, positive economic consequences for the private partner. We thus invite market operators to provide input on how this can be achieved, taking as a starting point the following possibilities and topics:

- What are your perspectives on constructing the island in one phase or in several phases? How do your perspectives relate to the implied risks and costs for the state and private partner, and how do they ensure that there is a link between risks and rewards?
- What are your views on a scenario where an island for 3 GW is constructed with one or several expansions at later stages?

5.6

We have described different elements of risk sharing models to handle the vacancy costs associated with development of an island with temporary excess area for handling future OSW capacity over the 3 GW agreed specifically so far.

- What is your view on possible risk minimizing and risk sharing structures and mechanisms to handle this vacancy cost risk in an equal and symmetrical partnership? Please consider how to ensure that there is a link between risks and rewards. And please be as specific as possible about your suggested structures/mechanisms and the consequences these implies.
- Do you see a potential in utilizing the areas in the flexibility zone on short-term contracts, thereby creating an income potential covering or reducing the vacancy costs?
- Bearing in mind the overall principle of symmetrical partnership in Energy Island A/S and given the long-term political expectation of 10 GW capacity OSW connected to this first energy island in the North Sea, what would be your preferred initial island size?

- How would it affect your overall interest in the Energy Island A/S if the Danish state and the private partner bear the risks associated with the potential flexibility zone, incl. the vacancy costs associated herewith, in accordance with the ownership stakes (50,1/49,9 %)?

- How would it affect your overall interest in the Energy Island A/S if the Danish state bears the risks associated with the potential flexibility zone, incl. the vacancy costs associated herewith, and consequently also receives any associated financial upside?

We strongly encourage all market operators to provide us with your comments and inputs on how best to address and allocate the Energy Island's vacancy costs related to constructing an initial island with capacity for more than 3GW.

Questions to funding and capital structure

As no preferred financing model has currently been chosen, we invite market operators to provide inputs on the financing of the project and the structuring of the State's acquisition of 50.1% of the Energy Island. The goal is to ascertain what the market sees as preferred financing structures and find solutions that can help us and a private partner achieve the best possible financing costs for the project and, consequently, the lowest evaluation price(s). Questions and topics, we would like to discuss include, but are not limited to, the following.

5.7

What is the preferable financing structure/solution for *your part* of the total CAPEX given that you will finance the full construction cost in the construction period and up to 49.9% in the operating period? E.g. what financing sources and instruments do you expect to make use of? In addition, how important, if at all, is the ability to secure Danish mortgage financing?

5.8

A potential model for the State's acquisition of its share of the Energy Island is making a single lump sum payment upon the completion of the initial construction phase – how do you view this model and would there for example be a preference for milestone payments during construction instead of the lump sum payment at the end? If yes, why and what effects would it have?

What level of expected savings could potentially be achieved through this? Please provide high-level estimates.

5.9

What is the preferred financing structure/solution for the *joint company Energy Island A/S* overall given that the state will own 50.1%?

5.10

What are your current expectations when it comes to your required return on your investment on an equity and a leveraged basis?

5.11

What degree of leverage for your investment do you find realistic given what is known about the Energy Island project and its risk profile?
Which terms and what level of financing costs do you expect?

6 Shared ownership of the Energy Island and corporate structure

The expected documents in the joint procurement procedure for construction and co-ownership of the Energy Island

The purpose of the joint procurement procedure is to find a private partner, who will construct the Energy Island and, after completion, be the private co-owner of the joint limited company.

It is expected that the tender material will consist of (a) procurement documents that will describe and set the rules for the procurement process, (b) the agreement regarding the construction of the Energy Island (for the sake of simplicity in the following referred to as the Joint Venture Agreement), and (c) the main documents that regulate the co-ownership of the Energy Island A/S, as illustrated in the following table:

(a) Procurement documents	(b) Joint Venture Agreement	(c) main documents regarding the co-ownership of the Energy Island
Description of the procurement process and description of the specific rules applicable in the procedure	*Conditions for the construction of the Energy Island between the Danish State and the private partner*	*Conditions for the co-ownership of the Energy Island A/S between the Danish State (min. 50.1%) and the private partner (max. 49.9%)*
Contract Notice	Contract regarding the establishment and construction of the Energy Island	Investment agreement
ESPD	General Conditions (FIDIC)	Articles of association
Tender specification	Particular Conditions	Rules of procedure
Appendix A: Tender evaluation	Annex 1: Employer's Requirements	Shareholders' Agreement, incl. e.g. *- Minority protection rights* *- Buyer criteria* *- Dividend Policy* *- ESG Policy and Tax Policy*
Appendix B: Additional information	Annex 2: Schedules (e.g. schedules of prices)	Governance Model
Appendix C: Negotiation plan / themes	Annex 3: The private partner's proposal for the construction and the co-ownership of the Energy Island.	*Other relevant documents.*
Appendix D: Comments to the tender documents	*Other relevant documents.*	
Appendix E: Submission letter of tender		
Appendix F: Letter of commitment		
Appendix G: Notification of personal data (if relevant)		

Table 1: The listed documents illustrate the content of the tender material in the joint procurement procedure regarding the co-ownership and the construction of the Energy Island. However, it should be noted that this table of documents is not exhaustive and may be changed.

It is expected that the Joint Venture Agreement (JV Agreement) will be based on an international standard agreement: the FIDIC Silver book[9] or the FIDIC Yellow book[10]. Accordingly, the JV Agreement is expected to follow the allocation of risk specified in the specific FIDIC book, and the agreement will set the conditions for the construction of the Energy Island[11].

When the Energy Island is completed, the partial *"taking over"* (FIDIC term) of the island by the Danish State (50.1 %) will not follow the General Conditions in FIDIC but is expected to be regulated in the Particular Conditions.

The JV Agreement will furthermore set out the conditions related to defects after the Energy Island is completed, including a potential transfer of the right to raise any claims for contractual remedies and or compensation etc. under the JV Agreement, if relevant.

A draft lease agreement between Energy Island A/S and Energinet could be a part of the tender material[12]. Such a draft lease agreement will possibly set the conditions for lease of the transmission zone (cf. the description in section 4 and question 5.1 above).

Models for the Danish State's purchase of the completed Energy Island

There is not yet a political decision on how the Danish State is to structure the purchase of Energy Island after completion and establish joint ownership with the private partner, and the DEA has not made any in-depth analyses of relevant models at this point in time.

Two overall models – there may be others - have been identified by the DEA. The models are presented below as model A and model B.

[9] FIDIC - EPC/Turnkey Contract 2nd Ed (2017 Silver Book) (ISBN13: 978-2-88432-083-2)
[10] FIDIC Plant and Design-Build Contract 2nd Ed (2017 Yellow Book) (ISBN13: 978-2-88432-082-5)
[11] Under the terminology of the FIDIC contract the Danish State will be the *"Employer"* and the Private Partner will be the *"Contractor".*
[12] It is expected that the lease agreement will have a duration of 50 years.

Model A: The Danish state establishes Energy Island A/S prior to the completion of the Energy Island. The purchase and joint ownership could be structured e.g. as follows: The Energy Island (assets in the form of real estate etc.) is transferred to the company Energy Island A/S by way of a contribution in-kind by the private partner, whereby the private partner becomes the owner of 49.9% of the company:

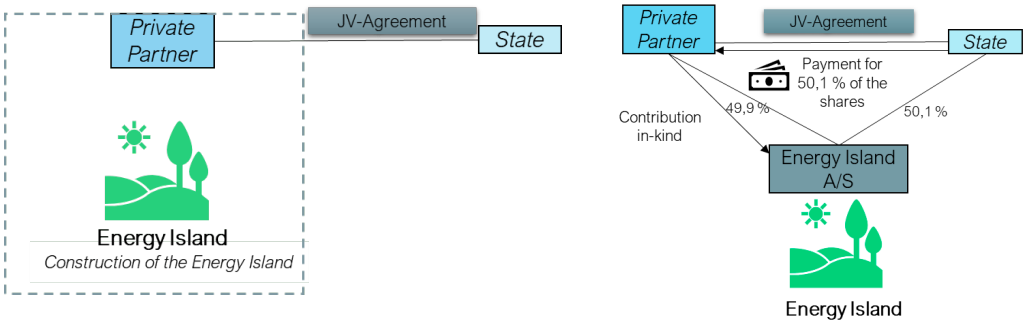


Figure 6.1: Model A – under and after construction of the Energy Island

Model B: The private partner establishes Energy Island A/S and constructs the Energy Island in this company. The private partner will ensure that the company is in a pre-agreed shape upon the purchase of minimum 50.1% of the shares in Energy Island A/S by the Danish State (and customary warranties and purchase price adjustments will apply):

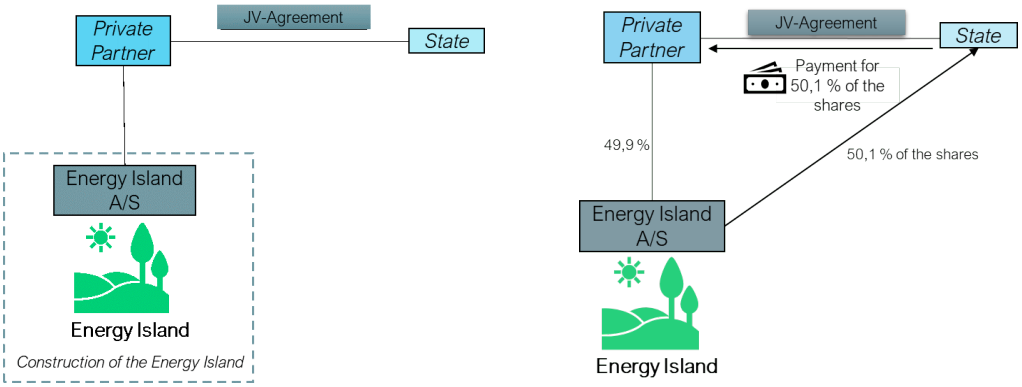


Figure 6.2: Model B – under and after construction of the Energy Island

Conditions for the co-ownership of the Energy Island A/S

Energy Island A/S will - as stated above - be established as a limited company. The Danish State will have the majority of shares (50.1%) and consequently the control of the company. The terms and conditions of the joint ownership of the Energy Island A/S will be regulated in a shareholders' agreement which will be included in the tender material.

In addition to the above, the Danish State is at the moment and among other things contemplating to include the below listed regulation in the shareholders' agreement:

- A lock-up period during which the parties must refrain from selling any shares or more than a certain percentage of shares in Energy Island A/S. Such provisions in the shareholders' agreement may impose restrictions on the private partner in terms of when a direct or indirect transfer of shares can take place, limitation on the number of shares to be transferred, requirements for prior approval by the Danish State, and authority for the Danish State to grant consent conditioned upon compliance with specific law and regulations etc.

- Pre-emptive rights in favour of the Danish State in relation to any sale of shares. Such provisions in the shareholders' agreement may require the private co-owner to serve prior notice to the Danish State offering the State to purchase the shares and/or entitlement for the Danish State to designate a third party who agrees to purchase the shares in case the Danish State itself does not wish to purchase some or all of the shares.

- A change of control clause implying that a change of ownership of either i) a controlling interest or ii) a substantial equity stake a) in the private partner, b) in any partner directly or indirectly controlling the private partner, and/or c) in any partner who is a consortium member (where the entire consortium is the private partner) requires prior written consent from the Danish state and will trigger a pre-emptive right/call option in favour of the Danish state in relation to the relevant shares in Energy Island A/S.

- A change of partners clause implying that the private partner shall be entitled to replace a consortium partner provided that i) such replacement is lawful under the applicable law, ii) prior written consent is obtained from the Danish State, and iii) the joining new partner is complying with given buyer criteria, cf. below.

- Buyer criteria setting out certain limitations in respect of eligible buyers. Such buyer criteria may include requirements ensuring that no potential buyer or natural persons associated directly or indirectly with a buyer are or recently have been the subject of sanctions imposed by the EU, US, UN, etc., and requirements to ensure that the financing of the purchase of shares does not originate from activities subject to sanctions. Furthermore, such buyer criteria may include requirements to ensure that no buyer or natural persons associated directly or indirectly with a buyer are convicted for corruption, fraud, money laundering etc., and/or that the purchase of shares, including the financing thereof, does not conflict with any applicable regulation on anti-corruption, money laundering or terrorism. Such buyer criteria may also concern whether a potential buyer has been convicted for breach of tax regulation, international law on human rights, war crimes etc. and relevant provisions

concerning screening pursuant to the Danish Act on Screening of Foreign Direct Investments; and

- Governance regarding decisions in relation to commercial use/exploitation of the potential innovation zone; mechanism for participation/non-participation in a possible expansion of the island. Such requirements are pending further analysis and should optimise both the commercial interest of the Danish State as co-owner and that of the private partner.

Energy Island A/S will be managed and operated on a commercial basis, and the management of the company and the board of directors respectively will generally have the power and authority set out in the Danish Companies Act and other agreements between the Danish State and the private partner.

It is expected that Energy Island A/S will be subject to public procurement rules due to the purpose of the company and the State owning the majority of the company. However, the procurement rules will generally not apply in relation to the subletting of areas. Decisions regarding using and/or subletting of areas in the innovation zone will be made by the management of the company based on commercial conditions. Every market operator with an interest in conducting innovative activities on the Energy Island will be able to make enquiries to the Energy Island A/S about the opportunity of gaining access to the innovation zone. The Energy Island A/S can also decide that the company itself will use the area in the innovation zone for innovative or commercial activities.

Responsible co-owner

It has been politically decided to support and demand long-term responsible co-owners within applicable rules and the framework, e.g. presented in the table above. It is therefore expected that requirements to support this purpose will be included in the procurement procedure and that requirements also will apply during the construction phase as well as upon the establishment of the joint company with the Danish State and during the ongoing ownership.

In respect of the requirements to support the identification of long-term responsible co-owners as part of the procurement procedure, it may be decided to apply both the mandatory exclusion grounds covering, *inter alia*, conviction by final judgment for corruption, fraud, money laundering etc. (see Articles 135-136 of the Danish Public Procurement Act) and the voluntary exclusion grounds set out in Article 137 of the Danish Public Procurement Act to the extent relevant). If decided, the exclusion grounds will apply both to the legal entity submitting a tender under the procurement procedure as well as persons being a member of the administrative, management or supervisory body of that legal entity or who have powers of representation, decision or control therein. In the latter case, the legal entity as such will be excluded from participating in the procurement procedure. Tenderers covered by

an exclusion ground will however always have access to self-cleaning pursuant to section 138 of the Danish Public Procurement Act.[13]

The selection criteria to apply in the prequalification phase of the procurement procedure will also be decided upon with a view to ensure and support long-term responsible co-owners. Such selection criteria may relate to minimum requirements in respect of economic and financial standing and technical and professional ability of the legal entities submitting an offer. If more applications for prequalification than the maximum number required are received, the objective and non-discriminatory criteria, to be applied in order to select and invite the candidates to the negotiations, will be set in the light of the overall intention of supporting the political wish for a long-term responsible co-owner.

Parts of the Energy Island are expected to be considered critical infrastructure within the meaning of the Danish Act on Screening of Foreign Direct Investments[14]. The contract to be concluded between the private partner and the Danish State will be a special economic agreement subject to screening if the private partner who is awarded the contract is a foreign investor according to the law and the other conditions in the law are fulfilled.
The private partner may also make one or more investments in Danish entities as part of its participation in the project that may be subject to screening if the private party is a foreign investor according to the law and the other conditions in the law are fulfilled e.g. obtains 10% direct or indirect ownership or control of the target of the investment in question[15]. The need and timing of such screening will depend on the design of the procurement process and the identity of the tenderer. See also section 10 below.

It is furthermore expected that relevant requirements to support long-term responsible ownership during both the construction phase and the ongoing co-ownership will be included in the contract which will be made available to the tenderers during the procurement procedure. The exact form and nature of the requirements to apply under the contract is still pending further analysis.

Changes in the consortium when the Energy Island has been completed

Notwithstanding the above, the Danish State acknowledges that there might be a need for the participants in a consortium to change, when the Energy Island is completed (for example, the consortium partner responsible for the construction phase may wish to resign from the consortium when the island is constructed). The framework for such changes must be specified in the tender material and, accordingly, it

[13] The Danish rules on exclusion grounds implement Article 57 of Directive 2014/24/EC.

[14] Lov om screening af visse udenlandske direkte investeringer m.v. i Danmark (investeringsscreeningsloven) (retsinformation.dk) (only in Danish)

[15] Further information can be found at Investments | Business in Denmark (virk.dk)

is of the utmost importance that the Danish State is aware of the needs of the potential tenderers in this respect. Please see question 6.5 below.

Questions

6.1

Do you have any comments on the allocation of risk in the FIDIC yellow book and the FIDIC silver book, respectively?

Stated in order of priority, which specific risks related to the construction of the island could be allocated to the State in order to reduce the remuneration to be paid by the State and by Energinet (lease of the transmission zone)?

6.2

What are your preferences and comments to model A and model B regarding the Danish State's purchase of the completed Energy Island? Or do you see any other relevant models – for instance in relation to the timing of the establishment of the shared company?

6.3

Please provide feedback on the section *"Conditions for the co-ownership of the Energy Island A/S"* set out above. We suggest limiting the feedback to the most important issues. What are your expectations to the joint ownership, including to minority rights and the Danish state as a business and/or ownership partner? This could be in relation to governance etc.

6.4

Do the expected requirements on responsible co-owners give rise to any comments?

6.5

If you expect to participate in the procurement procedure as a consortium, do you expect a need for making changes to the consortium after completion of the Energy Island (prior to the establishment of the joint ownership of Energy Island A/S)?

Please specify what the consequences will be for your interest in the project, if changes to the consortium is not allowed in order to – for example – securing an incentive to building the island according to the agreed quality.

7 Construction and technical requirements

According to the political agreement of 4 February 2021, the Energy Island must be an artificial island which will initially include electrical transmission equipment to collect and transmit minimum 3GW of offshore wind electrical power to shore in Denmark and export to other countries (*Transmission zone*). If it is not decided to construct a flexibility zone initially, the Energy Island should be designed and planned so that expansion of the island at a later stage is possible without disruption of power production and transmission on the Energy Island.. The same goes for a potential *innovation zone* if not constructed initially. Please refer to section 4 for further explanation of the various zones.

The concept of the Energy Island

The artificial reclaimed island must include a transmission zone for the transmission structures and equipment and necessary support functions such as e.g. harbour, , infrastructure, facilities for permanent staffing and storage, utilities (electricity, water supply, drainage, sewage, waste). The tenderer may be asked to propose the layout of the island as well as additional areas and necessary service facilities for the operation, maintenance and development of the Energy Island, considering the innovative or commercial activities proposed by the tenderer.

Ownership & interfaces with the Danish TSO

The artificial reclaimed island (including supporting functions and possible utilities) will be owned by Energy Island A/S, while the HVDC transmission equipment including cables etc. will be owned and maintained by the Danish TSO Energinet.

Functional requirements of the Energy Island

The DEA will define the technical requirements for the Energy Island according to which the tenderer is to plan and design the reclaimed island and facilities. The technical requirements are expected to include requirements to lifetime of the Energy Island perimeter structure, associated facilities, components etc. Requirements to withstand extreme weather events such as storms, waves, elevated water levels, currents, etc. will be defined by a return period (e.g. including 100 years storm) to consider in the design.

The DEA will define a minimum area of the transmission zone based on requirements for the Danish TSO Energinet. The tenderers are expected to define the optimal shape, construction method, utilised area and layout of the Energy Island as well as an efficient and timesaving construction sequence.

Technical requirements for harbour and a potential heliport, including needed infrastructure (buildings, roads, cranes, laydown areas, fuelling and other utilities, etc.) required for power transmission will be defined by the DEA.

Technical requirements for buildings for HVAC substations and technical equipment for HVAC/HVDC conversion, warehouses, workshops, storage facilities, accommodation, and other required support buildings, as well as interface to incoming cables and electrical equipment from future offshore windfarms and outgoing interconnector cables to Denmark and abroad will be defined.

The Energy Island must be constructed with sufficient load-bearing capacity to house the above-mentioned equipment with special attention to the requirements for heavy structures such as substations, converter stations, as well as road conditions during construction and installation of any buildings and equipment on the Energy Island.

Finally, a construction methodology designed to meet future needs should be considered. This could include considerations of parallel installation activities, preparation of construction modules (e.g., concrete caissons), materials and natural resources on the mainland for later transportation to the location of the Energy Island.

To further enlighten the work regarding the functional requirements and the tender material in general we encourage you to consider the following questions.

Questions

Construction

7.1

The DEA would expect the perimeter of the Energy Island to be constructed by concrete caissons or rock containment. Do the tenderers consider other construction methods of the perimeter of the island? And on what grounds are such methods recommended?

7.2

The DEA expects that all electrical equipment, including electrical equipment related to wind farm operation, will be located on the reclaimed island. Do the tenderers see benefits if some of the equipment is installed on foundation structures next to the Island? e.g., transformer stations on monopiles, jackets or concrete foundations etc.?

7.3

The DEA expects that the tenderer will prepare many of the large structures on the mainland with subsequent transportation to the construction site on the Energy Island. Which facilities and services do the tenderers consider on the mainland, and can they be utilised by Energinet for constructing transmission equipment?

7.4
How do the tenderers assess the possibility to optimise the areas needed for transmission equipment, housing facilities, structures and infrastructure in order to minimize the overall area footprint of the Energy Island?

7.5
What expectations do you have to the level of OPEX for the Island and do you think OPEX will be significant compared to the size of CAPEX?

Transmission

7.6
The current expectation is that the Point of Common Coupling between Energinet and the future offshore windfarm developer will be at the incoming 400kV switchgear feeder although other options are being considered. Which preferences do the tenderers have with respect to the responsibility, interface and ownership split of the electrical systems between the island owner (as provider of utilities), Energinet and the future offshore windfarm developers to consider including in our further assessments?

7.7
The current expectation is that the electrical power distribution grid on the island (as one of the supporting functions) is to be provided, owned and operated by the Energy Island owner and connected to Energinet's assets. How does this fit with your expectations and preferences? And why?

7.8
The current expectation is that the initial 3 GW OSW will export power to the island at 66kV (approx. 12 cables per GW), the following 7 GW OSW export at 220kV via offshore substations (approx. 3 cables/GW), the potential innovation plants (potentially Power-to-X, energy storage, etc.) will be connected to Energinet's assets at 400kV HVAC, and that the interconnectors to DK1 and abroad will be 525kV HVDC BiPole systems.

How does this fit with your expectations and preferences? And why? And what expectations do you have for the related design of the cable interfaces in/out of and on the island?

7.9
The tenderer's layout of the Island should allow for expansion of the transmission zone to 10GW without disruption of power production on the Energy Island. Which

risks does the tenderer expect that construction activities would pose to power production/transmission from the wind farms or the TSO during a potential expansion of the island?

Innovation

7.10
Which technical requirements should be applied in order to enable the potential innovative or commercial activities considered by the tenderers?

7.11
Which additional infrastructure related to innovative or commercial activities is expected?

7.12
Would the tenderers consider connections to the mainland other than electrical cables, such as hydrogen or gas pipelines, or others? (Ammonia?)

Environment and sustainability

7.13
How will the tenderers secure a sustainable process for the construction and maintenance of the energy island? And how can the Energy Island be classified as a sustainable economic activity?

7.14
Do the tenderers expect to certify the facilities on the Island according to DGNB, LEED, Bream or similar and, if so, which level does the tenderer expect to obtain?

7.15
Do the tenderers have requirements or prerequisites for specific or targeted EIA pre-investigations (e.g. sensitive species, Nature2000, Annex IV key species)?

8 The joint procurement process

Procurement procedure

The integrated contract on both the construction and the joint ownership of the Energy Island will be awarded in the same call for tenders based on a specific project proposal. This will make it possible for the market to form consortiums and prepare more detailed project proposals early in the process.

The procurement process will be a negotiated tender procedure. A similar procurement model is known from the DEA's procurements of OSW and it allows the Danish State to decide on the final risk allocation in the contract based, inter alia, on the proposals from the participants in the procurement procedure. The procurement procedure chosen will therefore make it possible to optimise the final tender terms during the call for tenders.

Timetables for the joint procurement process for the shared ownership and the construction of the Energy Island

The preliminary timetables for the Energy Island, including the procurement procedure and the expected deadlines after the contract regarding co-ownership and construction of the Energy Island is awarded, are outlined in the following.

Please note that all aspects of the timetables may be amended to accommodate possible changes arising from the market dialogue, the political process, or unforeseen circumstances.

Launching the procurement process – prequalification phase

A contract notice describing the terms and conditions for the call for tenders in respect of the contract regarding co-ownership and construction of the Energy Island is currently expected to be published in TED by Q3 2022, but is subject to further consolidation. Together with the contract notice, the tender material will be published. This will officially launch the procurement process.

The application period for prequalification is expected to be 30 days.

When publishing the contract noticeQ3 2022, the DEA will provide information on all relevant data and reports available at the time[16].

The tender and negotiation phase

The result of the prequalification process is expected to be announced a couple of months after the announcement of the call for tenders. All prequalified tenderers will

[16] Information regarding the preliminary site investigations, including the collection of data see: https://ens.dk/sites/ens.dk/files/Vindenergi/energinet_market_dialogue.pdf. In the autumn of 2021, a list of dates for publication of data will be published on the website of the DEA.

then have approximately 4-5 months to prepare a preliminary bid, which will form the basis for the following negotiation process, which is expected to have a duration of a couple of months depending on the number of themes to be discussed during the negotiation phase.

It is important to stress that the tender material may be modified to some degree as a result of the negotiation process. On the basis of the results of the negotiation process, the final tender material is expected to be published in mid-2023. The tenderers will be given approximately 5 months to prepare and submit final tenders. The expected deadline for final tenders is late-2023.

The timeline for the procurement procedure for the co-ownership and construction of the Energy Island is illustrated below showing that the winning tenderer is expected to be announced in Q1 2024, see **Appendix 1** in section 12 below.

Evaluation of tenders (evaluation criteria)

The criteria for evaluation of tenders are subject to further analysis. It has been decided, that the evaluation criteria should ensure the best quality according to price and the best terms and the lowest rent possible. However a final model has not yet been decided. Further, it has also been decided that if they deem it desirable, the tenderers will have the opportunity to propose different sizes of the area for the innovation zone and propose how Energy Island A/S or other companies, could make use of such area[17]. It should be noted that Energy Island A/S is free to decide how the innovation zone is to be used, cf. section 6 above. Energy Island A/S is, therefore, not expected to be bound by the proposals in the tender. This decision could lead to an evaluation of tenders with different sizes of islands, including different time schedules for completion of the proposed islands.

The evaluation will also include a technical evaluation covering, e.g., the island's layout and appearance and the technical sustainability of the island.

In light of the key role of the Energy Island project in the green transition, it is also considered whether to include the total climate impact of the Energy Island project in the award criteria or even as a requirement. A final decision on this matter will require further analysis, based *inter alia* on input from this second market dialogue. Furthermore, the possibilities of including requirements in the tender material relating to the construction phase concerning environmental and social sustainability are being considered. Such clauses could concern requirements for ensuring internships/apprenticeships or requirements for the use of specific sustainable resources in the construction phase. The potential effect on total cost and time will be analysed further.

The evaluation of the economic aspects of the tender may include evaluation of the price for minimum 50.1 % of the shares in the Energy Island A/S (50.1 % of CAPEX),

[17] It should be noted that the tenderer is free to decide how the innovation zone is to be used, cf. section 6 above. The tenderer is therefore not expected to be bound by the proposals in the tender.

the estimated OPEX, the expected return of investment, and/or the rent to be paid by Energinet.

On this basis we expect the rent level to be an indirect parameter in the evaluation of price, but we consider evaluating the different components of the total costs to ensure the best balance between costs and quality, cf. also section 5 above.

Furthermore, it is considered whether to include the Danish state's expectations to a long-term responsible co-ownership as part of the formal evaluation criteria.

Questions

8.1

The proposed timeline for the joint procurement process regarding co-ownership and construction of the Energy Island provides 30 days for application for prequalification, approximately 4-5 months for submission of preliminary tenders, approximately one and a half months for the negotiation process and approximately 5 months for submission of final tenders (including Christmas holidays and summer vacation). Are these time slots sufficient when taking into consideration that the contractual basis for the project could be based on FIDIC Silver Book and the commercial co-owner will be required to include a proposal for the construction of the Energy Island on a turn-key basis in its preliminary and in its final tender?

8.2

Do you have any comments to the considerations regarding the evaluation criteria? What would you consider appropriate criteria?

8.3

Do you have any inputs on ways to include sustainability or sustainability criteria in the award criteria? What would be the anticipated impact thereof in respect of the total cost of the island and the time for preparation of tenders? Should these be included in the tender as requirements or as part of the award criteria?

What would be the anticipated impact on cost if a requirement for internships/apprentices is included in the call for tenders and what would be a realistic scope of such a requirement in terms of the number of internships/apprentices required?

8.4

Do you have any input on potential requirements for use of renewable/sustainable resources/material/processes for the construction of the island which would significantly reduce the environmental impact of the project? If possible, please also indicate the cost and possible time effect of such requirements compared to the use of standard resources/material/processes?

9 Optimising the overall time schedule

The Energy Island project is a highly complicated project with many uncertainties and variables. Nonetheless, it is of very high priority that it will be finalised as early as possible although without compromising quality. We strongly encourage you to highlight any method of optimising processes in the overall time schedule. You are most welcome to use the time schedule in Appendix 2 as a starting point for these inputs.
In supplement to your suggestions, we also encourage you to highlight potential or added risks that would be introduced with any given suggestion for optimisation, as well as ways to mitigate these risks. Finally, please indicate who would be best to manage any added risk.

The main processes for the Energy Island project (after the identification of the winning tenderer for the construction and the co-ownership of the Energy Island) are shown in the schedule in **Appendix 2** in section 12 below.

The schedule includes three main elements, namely: Construction of the Energy Island, cf. section 7, procurement and construction of the transmission network and procurement and construction of OSW farms. The elements and underlying processes are interlinked and some of the process steps must be completed prior to the start of other processes. The construction sequence and the individual steps are expected to allow for the most efficient and earliest realisation of the full Energy Island project and its power production.

When addressing the below questions, please consider not only the island construction itself, but also the works related to the separate tenders for (1) OSW farms and (2) the Danish national TSO, Energinet's, transmission scope on and to/from the Energy Island.

9.1

With the sequence of activities outlined in **Appendix 2**:

- What are the options and effects of processes taking place in parallel?
- Which interfaces (design and construction) are central and subject to early clarification to allow for parallel processes?
- What are the constraints, barriers and risks for having parallel processes?
- Who is most suitable to manage/bear the specific risks and why and which mitigations are foreseen?

9.2

Which construction processes must run in parallel if earlier deployment of transmission equipment should be allowed?

- What are the constraints, barriers and risks for having parallel processes?

- Who is most suitable to manage/bear the risk, and which mitigations are foreseen?

9.3

Are there any effects if start of construction is initiated in autumn/winter (say October) compared to spring/summer (say April)?

- What are the key drivers for the duration of the construction activities?
- What is the expected duration of construction activities?

9.4

Will construction of a larger island from the beginning allow for sequential handover of areas and deployment of transmission equipment for 3 GW before construction of the island is finalised?

What possibilities for time optimisation can be identified by constructing a large(r) island initially?

9.5

If the island is expanded sequentially, what are the effects of construction activities on existing power transmission installed on the initial island?

9.6

Do the tenderers have suggestions as to how the process for pre-investigations is optimised in regards to time and to ensure that the design, footprint and construction methods will be covered through the pre-investigations?

9.7

Which steps do the tenderers foresee in the EIA process, and how much time is expected for the tenderers to complete the EIA process including public consultation and final permit? Please be specific on expectations to the different steps of the process.

10 Foreign Investment Screening and Risk Preparedness

Background

In February 2021, the political parties behind the Climate Agreement recognized that parts of the Energy Island in the North Sea are expected to be critical infrastructure

and decided that the Danish State has to have majority ownership of the Energy Island.

In the Agreement, the political parties noted that the Energy Island and the critical infrastructure on and in relation to the island will be governed by already existing tender and contract terms and conditions as well as new regulation and initiatives.

Risk preparedness

Rules on risk preparedness aim to reduce vulnerabilities in the energy supply system. To reduce the vulnerability of the energy system, Denmark has set up rules on risk preparedness in the electricity sector that cover production, transmission and distribution companies as well as the companies supplying the Danish TSO, Energinet, with production balancing services. In general, the greater the effect of an installation, the more control an operator holds, or the more consumers the DSO supplies with services, the stricter the requirements for risk preparedness and IT security.

The DEA finds that under the current rules all installations, meaning all offshore wind farms, transformer stations and cables in relation to the energy island, will be deemed a class 1 installation and the companies who own the installations will be deemed category 1 companies. In consequence, e.g., the wind farms, cables and IT systems which support them will be subject to a number of strict risk preparedness requirements in order to protect the energy infrastructure on or in relation to the energy island.

The Energy Island is expected to have great importance for not only Danish energy supply and security but also for the energy supply to neighboring countries projected to connect to the island. This means that risks related to cyber security, the physical security of the island and other risks must be handled. The current rules to secure the critical energy infrastructure on and in relation to the Energy Island do not fully cover the specific needs for risk preparedness and security for the Energy Island. The rules needed to ensure the Energy Island's risk preparedness and security are currently being established and analysed in detail, including by a risk and vulnerability assessment.

The DEA will adhere to the best regulatory practices when adopting rules specific to the sector or to the Energy Island in order to ensure security and risk preparedness of the Energy Island.

Foreign Direct Investment Screening

By implication of the expected status as critical infrastructure for some parts of the Energy Island, foreign direct investments or certain agreements in relation to the Energy Island will be subject to screening for threats against national security or public

order posed by the investor or contracting party. Screening of a co-owner's investment or agreement will ensure responsible private co-owner(s) of the Energy Island as well as operation and maintenance of critical infrastructure in Denmark.

The Danish parliament has adopted a definition of critical infrastructure in relation to applying the Act on screening of certain foreign direct investments, etc. in Denmark (the Investment Screening Act) and its associated rules. The Act entered into force on 1 July 2021 and took effect on 1 September 2021.

The purpose of the legislation is to prevent foreign direct investments and special economic agreements that pose a threat to national security or public order in Denmark. The Danish Business Authority (DBA) is the competent authority charged with overseeing and enforcing the rules by, *inter alia*, processing applications and notifications and can decide to subject non-notified investments or agreements to screening.

By implication of the assessment that the Energy Island is critical infrastructure, foreign direct investments and agreements covered by the investment screening legislation are subject to mandatory approval by the DBA.

The screening of a foreign direct investment or agreement concerning the Energy Island covered by the investment screening legislation is expected to take place after the award of the contract to the winner of the co-ownership and construction tender procedure and before the contract is signed. The screening will only be required if the winner of the contract is a foreign investor according to the law. Further information can be found at https://businessindenmark.virk.dk/topics/Economy/Investments. See also section 6 above.

Further, a subsequent screening may take place after the Energy Island has been constructed if the Energy Island is to be contributed into a jointly held company. Furthermore, special economic agreements between the winner of the contract and subcontractors during the construction phase may also be subject to mandatory approval by the DBA. There may be other investments or contracts in relation to the Energy Island that are subject to mandatory approval by the DBA.

It is the sole responsibility of the winner of the tender and potentially its subcontractors to ensure compliance with the Danish investment screening legislation at any given stage.

Questions

10.1

Do you have any comments or questions regarding the requirements and implications of the Investment Screening Act?

10.2

Do you have any comment or questions regarding the current regime governing security and risk preparedness, and do you envision or expect any potential or additional threats not covered by said regime?

11 Interconnectors

Interconnectors

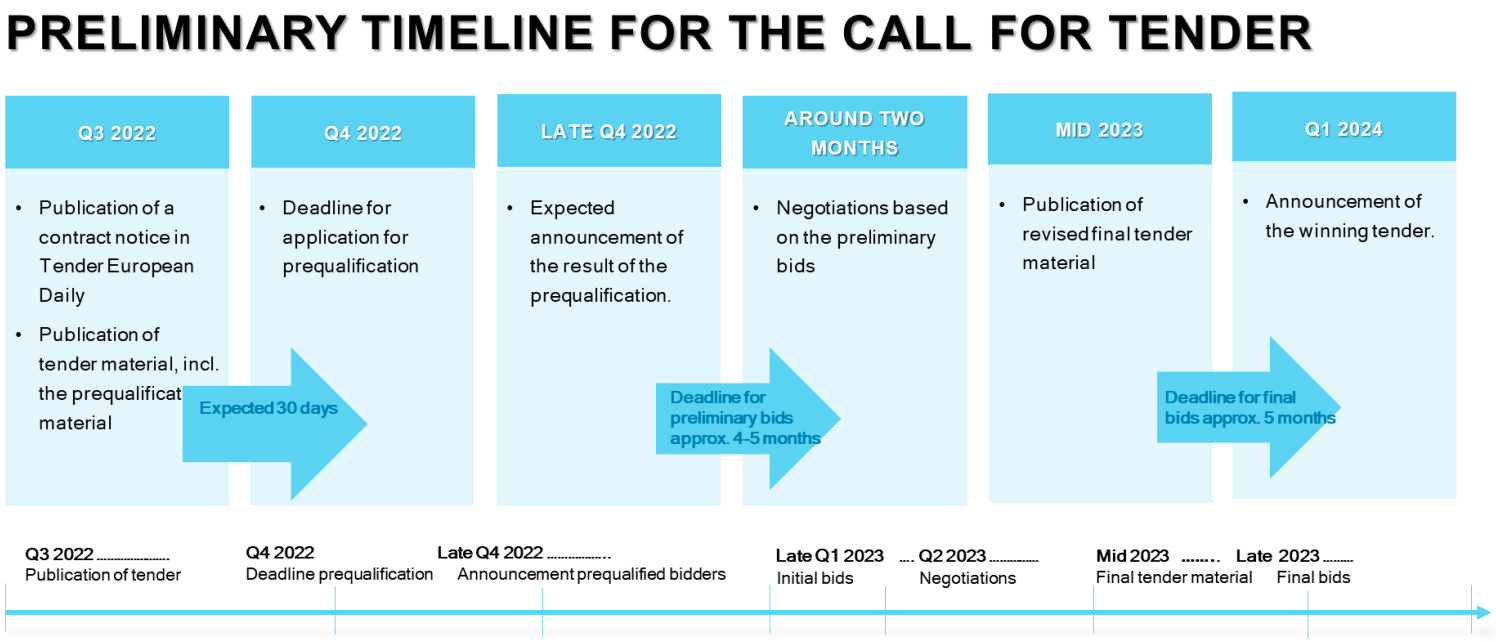
The Danish Energy Agency and transmission system operator Energinet are currently in the process of conducting site investigations, environmental studies and analysis for grid connection. Whilst the electricity transmission to Denmark is going to be built and owned by Energinet, the transmission infrastructure to other countries will be developed, built and owned in collaboration between Energinet and foreign TSOs.

Denmark has established a constructive and productive dialogue with a number of neighbouring countries with a view to establishing possible interconnectors. There is a formalised collaboration with Belgium, Germany and The Netherlands with the view to exploring possible interconnectors. An important component of this engagement is the close collaboration between the Danish Energy Agency and the Danish TSO (Energinet) and peer agencies and TSOs in the respective countries in order to gain in-depth understanding of key issues such as the technical specification for the energy hubs and transmission cables, entry-points of cables to the existing grid, as well as a host of economic and environment aspects.

The objective of the intensified dialogue is to prepare possible investment decisions for one or more interconnections to each of the energy hubs.

12 Appendices

Appendix 1 – Tentative time schedule for the joint procurement procedure



Appendix 2 - Main processes for the Energy Island project after awarding the contract covering the construction and the co-ownership of the Energy Island.