




















































## Strategic Sector Cooperation between Denmark and India on offshore wind (one year enlargement)

<p><b>Key results:</b> A centre of excellence for offshore wind that promotes an enabling environment for lowering the cost of offshore wind power based on best practice. The key vision of the cooperation is fast tracking a large-scale 3 GW turnkey project inspired by the Danish wind test center <i>Osterild</i>.</p> <p>Other key results include: a) stronger institutional, technical and administrative capacity for: maritime spatial planning, use of Geographic Information System tools for offshore wind projects and screening of selected sites, b) joint analysis of socio-economic benefits and just transition perspectives associated with offshore wind development in India, and c) increased capacity on grid connection planning for offshore wind.</p> <p><b>Justification for support:</b> Following the signing of the India-Denmark Green Strategic Partnership in September 2020 by the Indian and the Danish prime minister, it was agreed to advance the bilateral sector cooperation on energy, water and green growth, expand commercial relations and strengthen cooperation on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals.</p> <p>The Indian government is committed to rapidly increasing the share of renewable energy with a very ambitious target of 175 GW of renewable energy by 2022. Furthermore, the Ministry of New and Renewable Energy is looking into achieving a more diverse generation capacity from renewable energy. A 5 GW target for offshore wind has recently been announced on top of the 2022-target and an additional target is expected for 2030. To reach the ambitious targets the Indian partners have expressed that Danish competency (e.g. agencies and transmission system operators) with in regulation of offshore wind is in high demand. A range of tangible activities have been planned in order to boost the existing Danish-Indian cooperation on offshore wind.</p> <p><b>Major risks and challenges:</b> The COVID-19 crisis will affect possibilities for physical meetings and impede regular and close contacts between Indian and Danish partners for some time in 2021. This will be mitigated by using consultants, embedded long-term advisors and by using virtual tools. Presently, the cost of offshore wind as compared to other renewable technologies are notable but as the market matures cost differences are expected to level out.</p>	<b>File No.</b>	2018-14783																			
	<b>Country</b>	India																			
	<b>Responsible Unit</b>	GDI																			
	<b>Sector</b>	23110 – Energy policy and administrative management																			
	<b>Partner</b>	Danish Energy Agency (DEA)																			
		<i>DKK mill.</i>	<b>2020</b>	<b>2021</b>																	
	<b>Commitment</b>	4,860,000																			
	<b>Disbursements</b>			4,860,000																	
	<b>Duration</b>	12 months. January 2021 – December 2021																			
	<b>Previous grants</b>	DKK 9.5 mio. (1 mio. inception phase + 8.5 mio. phase 1)																			
	<b>Finance Act code</b>	§06.38.02.14																			
	<b>Head of unit</b>	Rasmus Abildgaard Kristensen																			
	<b>Desk officer</b>	Tilde Hellsten																			
	<b>Reviewed by CFO</b>	Christina Hedegård Hyttel																			
<b>Relevant SDGs</b> <i>[Maximum 1 – highlight with grey]</i>																					
<table border="1"> <tr> <td> No Poverty</td> <td> No Hunger</td> <td> Good Health, Wellbeing</td> <td> Quality Education</td> <td> Gender Equality</td> <td> Clean Water, Sanitation</td> </tr> <tr> <td> Affordable Clean Energy</td> <td> Decent Jobs, Econ. Growth</td> <td> Industry, Innovation, Infrastructure</td> <td> Reduced Inequalities</td> <td> Sustainable Cities, Communities</td> <td> Responsible Consumption &amp; Production</td> </tr> <tr> <td> Climate Action</td> <td> Life Below Water</td> <td> Life on Land</td> <td> Peace &amp; Justice, strong Inst.</td> <td> Partnerships for Goals</td> <td></td> </tr> </table>				 No Poverty	 No Hunger	 Good Health, Wellbeing	 Quality Education	 Gender Equality	 Clean Water, Sanitation	 Affordable Clean Energy	 Decent Jobs, Econ. Growth	 Industry, Innovation, Infrastructure	 Reduced Inequalities	 Sustainable Cities, Communities	 Responsible Consumption & Production	 Climate Action	 Life Below Water	 Life on Land	 Peace & Justice, strong Inst.	 Partnerships for Goals	
 No Poverty	 No Hunger	 Good Health, Wellbeing	 Quality Education	 Gender Equality	 Clean Water, Sanitation																
 Affordable Clean Energy	 Decent Jobs, Econ. Growth	 Industry, Innovation, Infrastructure	 Reduced Inequalities	 Sustainable Cities, Communities	 Responsible Consumption & Production																
 Climate Action	 Life Below Water	 Life on Land	 Peace & Justice, strong Inst.	 Partnerships for Goals																	

### Strategic objectives:

The strategic objective of the cooperation is to mitigate climate change while fostering technological development and sustainable economic growth by supporting a green transition in the Indian power sector.

### Justification for choice of partner:

The cooperation is based on the already existing strategic sector cooperation (SSC) with Ministry of New and Renewable Energy (MNRE) and Power (MoP) as responsible Indian authorities and National Institute for Wind Energy (NIWE).

### Summary:

Danish energy transition is of great interest to Indian partners at the central government level and at state level. By sharing the Danish expertise on developing energy systems to accommodate renewable energy sources with the Indian partners an enabling environment for making best use of offshore wind and other renewable energy in India can be created. In the initial phase, the Danish-Indian cooperation will focus on the offshore wind sector. With time, the scope can be expanded to comprise other renewable technologies.

### Budget:

Personnel – Danish Authority	1,290,000
Reimbursable costs for Danish Authority Staff	-
Activities, including Capacity development	480,000
Consultancies (max. 30% of grand total) <sup>1</sup>	3,090,000
Unallocated funds (max. 20% of grand total)	-
<b>Total DKK</b>	<b>4,860,000</b>

<sup>1</sup> A deviation from the SSC guidelines has been agreed in this specific case due to the COVID19 situation



**Project Document for Strategic Sector Co-  
operation in the  
Energy-sector**

**between**

**Denmark and India**

20181106

General information		MFA File no.
Project Title	Indo-Danish Energy Sector Programme	
Partner Country	India	
Project duration	3 years, from 20 November 2018 to 19 November 2021	
Total budget (DKK)	8.5 million	
Thematic focus	Offshore Wind Power	
Partner Public Authority Contact person and contact details	Ministry for New and Renewable Energy (MNRE) Mr. Bhanu Pratap Yadav, Joint Secretary, MNRE Email: <a href="mailto:yadavbp@cag.gov.in">yadavbp@cag.gov.in</a> Ministry of Power (MOP) Ms. Bharati, Joint Secretary, MOP (IC) Email: <a href="mailto:bharati.92@nic.in">bharati.92@nic.in</a>	
Responsible Danish Public Authority Contact person and contact data	Danish Energy Agency Ole Emmik Sørensen, Deputy Head of Division, Center for System Analysis, Energy Efficiency and Global Cooperation Email: <a href="mailto:oes@ens.dk">oes@ens.dk</a> / Phone: +45 2537 5676	
Danish Embassy Head of Representation Sector Counsellor	Peter Taksøe-Jensen, Ambassador Danish Embassy in New Delhi Stephan Skare Enevoldsen, Energy Counsellor Danish Embassy in New Delhi Email: <a href="mailto:steene@um.dk">steene@um.dk</a> / +91 88 2626 0263	
Summary of background analysis and key strategic choices	<p>India will be one of the largest markets for Renewable Energy (RE) in the coming decades and has recently set ambitious targets to start their offshore wind turbine industry. To be able to shorten the implementation time for offshore wind turbine projects, Danish assistance is in high demand. Danish authorities have specialized knowledge that can help the Indian authorities to establish framework conditions for the roll out of offshore wind power.</p> <p>The Indian onshore wind industry is nearly 30 years old and is the 4th largest onshore wind market with a total installed capacity of 33 GW which is around half of the total renewable energy capacity excluding large hydro. The supply chain is well-established with 75% localization and many global companies active throughout the supply chain. India is investing heavily in the renewable sector and</p>	

developing a market for offshore wind power which has the potential to play a substantial part of the future energy system in India.

The Indian government is committed to rapidly increasing the share of RE with a very ambitious target of 175 GW of RE by 2022. Furthermore, the Ministry of New and Renewable Energy is looking into achieving a more diverse generation capacity from RE. A new 5 GW target for offshore wind has recently been announced on top of the 2022-target and an additional target is expected for 2030.

Offshore wind is getting a lot of attention due to higher capacity factors, more reliable wind speeds, less use of land/less land availability issues, proximity to energy demand centres in coastal areas and reduced grid evacuation issues. European offshore wind farms have recently settled at contracts where the offshore wind farm itself is even subsidy free. This is a result of decade's experience of developing the offshore wind sector and the presence of a transparent regulatory framework and a well-developed supply chain. Kick starting the development of offshore wind in India as a new market would thus be expected to come with at a premium in the initial phases.

Reliable data (e.g. for wind speeds etc.) is key for the development of offshore wind in India. Further, due to the location offshore wind plants will require particular attention in the planned expansions for the grid to ensure correct evacuation of the power. Also a demand is identified in regard to grid codes, from the planning and connection stages, up to operation and power quality and fault behaviour requirements. Today, curtailment of wind power is already an issue in some areas of India, such as the state of Tamil Nadu. To avoid having to curtail offshore wind due to grid congestion, future grid development has to consider the particular geographical distribution of generation and demand as well as flexibility in the power system.

Danish energy transition is of great interest to Indian partners at the central government level and at state level. Denmark has one of the longest track records (more than 25 years) on developing offshore wind power. In 2017, 43% of electricity consumption came from wind energy with a significant share coming from offshore wind. The Danish Energy Agency (DEA) is the nodal agency developing and approving energy utilisation at sea including offshore wind. On the basis of a mature offshore oil and gas industry the DEA has since the 1990's developed an approval and consent regime, an effective tendering model, and conducted thorough marine spatial planning, accommodating for a significant offshore wind power development in Denmark and abroad. As transmission system operator (TSO), Energinet is an independent public enterprise under the Danish Ministry of Energy, Utilities and Climate. Energinet maintains security of supply and ensures well-functioning Danish electricity and gas markets and a high level of preparedness in the electricity and gas sectors. Due to the special competences as the TSO in Denmark, Energinet has world-class expertise gained from the pio-

	<p>neering work on developing and operating the unique Danish energy system. Highly skilled employees from both the Danish Energy Agency and Energinet will offer world-class technical assistance through provisions of direct exchange of experience between organisations and through the practical implementation of specific tasks.</p> <p>The focus on offshore wind power in the Strategic Sector Cooperation is confirmed and well perceived. The “one-stop-shop” concept for developing offshore wind projects is a central objective for MNRE and NIWE, especially around the permitting and licensing framework. This interest was already expressed during the meetings between the Danish Minister of Energy, Utilities and Climate and the Indian Minister of Power, Coal, New and Renewable Energy, and Chief Minister of Gujarat, in meetings in January 2017. A Danish mission to India in December 2017 confirmed a keen Indian interest in collaborating on particular offshore wind and RE integration. A high-level Indian delegation visit in Denmark in February 2018 received a first-hand impression of the Danish experiences with the expansion of offshore wind and renewable energy in general. The visit was also an occasion to have the first bilateral political joint working group meeting at the sector level between India and Denmark since 2011. More specific work package activities were agreed during a Danish mission in March 2018, including a focus on marine spatial planning.</p> <p>On the 10<sup>th</sup> of April 2018, the Indian government announced an Expression of Interest for the Development of 1 GW Offshore Wind in the State of Gujarat. The Expression of Interest is an invitation for the wind industry and international/national project developers to initiate a dialogue between MNRE and potential bidders on effective de-risking procedures (licenses, approvals and studies needed) for the 1st commercial scale offshore wind project. A similar tender process is envisaged to happen in Tamil Nadu. Several Danish companies within the offshore wind sector have shown interest in the developments in India and had exploratory meetings with MNRE officials to understand the ambitions and the future business potential of offshore wind in India.</p>
<p><b>Linkages to UN Sustainable Development Goals</b></p>	<ul style="list-style-type: none"> <li>• SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all, - is addressed as a larger share of RE is a precondition to deliver sustainable and modern energy, with increased security of supply. India has national programmes for electrification of rural areas but ensuring green affordable electricity production will be essential.</li> <li>• SDG 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,- is addressed as the programme is providing technical assistance that will help the creation of a supply chain for offshore wind power that in turn will deliver more sustainable economic growth and increased employment.</li> <li>• SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation,- is ad-</li> </ul>

	<p>dressed as the programme is providing technical assistance that will help the creation of a supply chain for offshore wind power that in turn potentially will deliver sustainable industrialization and foster innovation, as well as incentivise high quality developments.</p> <ul style="list-style-type: none"> <li>• SDG 13 - Take urgent action to combat climate change and its impacts, - is addressed as a larger share of RE will mitigate climate change and assist India to reach its NCD target for CO2 emissions.</li> <li>• SDG 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development,- is addressed as the outcome of the programme potentially can place India as a key player and potential hub in developing further the offshore wind sector in Asia and beyond.</li> </ul>
<p><b>Project Logic</b> (Theory of Change)</p>	<p>The overall project logic is that if Denmark is able to utilize its existing experience from developing an advanced offshore wind sector to support India by improving the capacities of partner institutions, and consequently incorporate this into wider policy discussions, then Indian partner institutions would be better equipped to; generate consistent and de-risked offshore wind energy policy input for decision makers, facilitate the creation of an investment-friendly offshore wind sector, improve the regulation for connection and operation of the electricity grid, and enable cost-efficient integration of offshore wind energy into the national power system.</p> <p>The theory of change of DEA’s engagement with MNRE and MoP, is that if MNRE and MoP has been empowered to implement; a better regulatory framework in the offshore wind sector, an organised roadmap, efficient support mechanisms and efficient grid integration of variable renewable generation, then MNRE and MoP is able to include offshore wind in the power mix, and India will thus be more likely to be able to reach its clean energy goals.</p> <p>In order for the support from DEA to be successful, MNRE will have attained better knowledge on offshore wind through enhanced efficient and transparent rules and processes for site allocation, and auctioning. In this context, intervening and achieving the creation of transparent and strengthened policies and site-selection frameworks for offshore wind, and the consequent expansion produced by the reduced risk of developing such projects, would provide significant support to India in achieving their low-carbon energy transition and fulfilling their targets.</p> <p>By providing MoP with the tools and methodologies to be able to better manage the integration of RE into the power system including connection to and operation of grids by updating their grid codes, the enabling environment for the low-carbon energy transition will be improved, leading ultimately to increased RE-share in the energy mix.</p> <p>The theory of change depends on the level of political interest, which would motivate policy makers to incorporate the Danish ex-</p>

	<p>perience into their processes. While their interest towards offshore wind has been stated repeatedly, their willingness to implement suggestions that are consistent with the lessons learned in Denmark will be a driver for added value and capacities in the sector. All things considered, there is potential of creating an excelling offshore wind framework that would enable both long term and short term achievement of renewable energy goals, while at the same time enabling investments and a cost-efficient deployment path.</p> <p>By provision of capacity building of those institutions in charge of implementing new regulation for offshore wind and RE- integration, the project will help India mitigating its GHG emissions as set out in domestic policy targets and in the NDC commitments made within the Paris agreement.</p>
<b>Main objective of SSC project</b>	Mitigate climate change while fostering technological development and sustainable economic growth by supporting a green transition in the Indian power sector
<b>Outcome 1</b>	India has been empowered to implement a better regulatory framework in the offshore wind sector including spatial planning, de-risking processes and efficient tendering procedures supporting its ambitious short- and long term targets
Output 1.1	Capacity building on offshore wind spatial planning, screening process and site identification within Indian authorities
Output 1.2	Increased awareness and exposure to the Danish Government de-risking process for offshore wind development, including the Danish one-stop-shop model for offshore wind
Output 1.3	Capacity improved within MNRE/NIWE/SECI [or new institution tasked to regulate commercial aspect including tenders and power purchase agreements] on the development of an efficient offshore wind tendering process through a combined series of integrated activities
Output 1.4	Technical inputs to review a standard tender document for offshore wind
<b>Outcome 2</b>	The supply chain of the Indian offshore wind industry is developing enabled by an organised roadmap and efficient support mechanisms
Output 2.1	Technical inputs to support MNRE in the development of an offshore wind roadmap
Output 2.2	Knowledge transfer on methods of financial modelling and levelized cost of energy for the determination of tariffs for offshore projects
<b>Outcome 3</b>	More efficient grid integration and operation of variable renewable generation including system flexibility and consolidated grid codes



Output 3.1	Technical and regulatory codes for renewable energy plants (including offshore wind power systems) have been reviewed and joint recommendations for improvements have been suggested
Output 3.2	Enhanced flexibility in power systems integration and operation of more variable renewable generation
<b>Assumptions and risks</b>	<p>Offshore wind projects have historically been long-term, capital intensive investments with historical lead times of 7-9 years from lease to operation.</p> <p>One risk is that the technical assistance provided is not included in new regulation and guidelines due to the urge to fast-track ambitious targets. This could compromise sufficient quality in first projects putting the development in the sector to a hold.</p> <p>Cost differentials between offshore wind and other renewable technologies, will levelize over time but will be difficult to transfer into newer markets.</p> <p>Access to low cost finance and insurance instruments is a challenge in emerging markets. Both foreign and domestic institutional investors are facing significant barriers to investment in renewable energy. The key risks facing foreign institutional investors include; off-taker risk, lack of transmission evacuation infrastructure, currency risk and regulatory risks. The key risks for domestic institutional investors include lack of liquid instruments to invest in renewable energy and low credit rating of operational assets.</p> <p>Land acquisition issues and regulatory risks are also likely to become significant.</p> <p>Offshore requires a special supply chain, ports and grids to be developed for the purpose.</p> <p>Socio-environmental impact has to be evaluated, for example in regards to fishing and shipping routes.</p> <p>Detailed environmental assessments of the impact of offshore wind installations on marine life are to be performed.</p>
<b>Management set-up</b>	<p>The Indo-Danish SSC program is based on an existing Memorandum of Understanding (MoU) on RE cooperation with the Ministry of New and Renewable Energy (MNRE), Government of the Republic of India. Hence the cooperation will be anchored with MNRE as the key partner including its affiliated institutions and authorities. (The role as nodal agency for Offshore wind is designated to the National Institute for Wind Energy (NIWE) based in Chennai, Tamil Nadu. Further it is envisioned that a separate or new institution will be tasked to regulate commercial aspect including tenders and power purchase agreements</p> <p>A MoU with the Ministry of Power (MoP) regarding RE integration is in the process of being approved. MoP is also a partner institution with a particular relevance to Outcome 3 where the Central Elec-</p>

	<p>tricity Authority as an authority under MoP is in charge of the National Electricity Plan including overall standardisation of grid codes.</p> <p>The intervention will be managed by a Steering Committee having the overall strategic dialogue between Denmark and India in relation to the Energy sector in India in accordance with the existing MoU with MNRE and the forth-coming MoU with MoP.</p> <p>A Project Management Team with participation of partner institutions, DEA and EDK will manage the day to day implementation of the programme including preparing material for the Steering Committee.</p> <p>This cooperation will be operationalized as a Cooperation Agreement between MNRE, MoP and the Danish Energy Agency (DEA).</p> <p>The Cooperation Agreement also includes a joint energy committee with the objectives of identifying areas of mutual interest and cooperation for development of new and renewable energy technologies, systems, subsystems, etc.</p> <p>In view of the significant independence of the state governments as well as the large variation in the level of capacity and amount of renewable energy resources of the states, it would be relevant to also invite state level authorities, such as from Tamil Nadu and Gujarat to strategic meetings and workshops.</p> <p>Further a keen interest between NIWE and DTU to collaborate is being revitalized in an updated MoU that links well with the new Indo-Danish SSC programme.</p>
<p><b>Contributions from Danish Public Authority</b></p>	<ul style="list-style-type: none"> <li>• Staff, consultants and experts</li> <li>• Financial management of the project and associated accounts</li> <li>• Management of the project deliverables</li> <li>• Coordination and management of Danish consultancy work packages</li> <li>• Costs associated to Danish staff travels from Denmark to India, incl. local transport and accommodation, workshops, seminars and study tours.</li> </ul>
<p><b>Contributions from partner authority</b></p>	<ul style="list-style-type: none"> <li>• Staff and experts that matches the Danish deliverables</li> <li>• Access to relevant data, laws, best practices', and any other necessary information</li> <li>• Support for coordination and logistics</li> <li>• Support for organisation of workshops and seminars</li> <li>• Infrastructure and facilities where relevant for presentations and capacity building.</li> </ul>
<p><b>Budget</b></p>	<p>DKK 8.5 million</p>

Authorised Signatures:

Name, date

Name, date

[Insert name of Danish Public Authority]

[Insert name of Partner Authority]

**Annex to  
Project Document for Strategic Sector Co-  
operation in  
the energy sector**

**between**

**Denmark and India**

**December 2020**

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 3**

<b>General information</b>		MFA File no. 2018-14783
<b>Project Title</b>	Addition to Indo-Danish Energy Sector Programme	
<b>Partner Country</b>	India	
<b>Project duration (years/months)<sup>1</sup></b>	12 months in 2021	
<b>Total budget (DKK)</b>	4,860,000 (in addition to the original 8,5 million)	
<b>Thematic focus</b>	Offshore wind power	
<b>Partner Public Authority</b>	No new partners	
<b>Contact person and contact details</b>	<p>Ministry of New and Renewable Energy (MNRE) and the nodal agency of the ministry, National Institute for Wind Energy (NIWE)</p> <p>The suggested new activities does not support the work with Ministry of Power</p>	
<b>Responsible Danish Public Authority</b>	Danish Energy Agency	
<b>Contact person and contact data</b>	<p>Elsebeth Søndergaard Krone, kontorchef, <a href="mailto:eskr@ens.dk">eskr@ens.dk</a></p> <p>Mette Cramer Buch, <a href="mailto:mcbh@ens.dk">mcbh@ens.dk</a></p>	
<b>Danish Embassy</b>	Danish Embassy, New Delhi, India	
<b>Head of Representation</b>	Freddy Svane, Ambassador	
<b>Sector Counsellor</b>	Michael Pedersen, energy counsellor, <a href="mailto:michpe@um.dk">michpe@um.dk</a>	
<b>Summary of background analysis and key strategic choices</b> (max 2 pages)	<p><b><i>Please consider the following issues:</i></b></p> <ul style="list-style-type: none"> <li><i>The work is boosting the existing SSC cooperation. Please refer to existing full project document</i></li> </ul>	

<sup>1</sup> Project start will be date of Danish MFA approval

<p><b>Sustainable Development and the Sustainable Development Goals (SDGs)<sup>2</sup></b></p>	<ul style="list-style-type: none"> <li>• <i>Please refer to existing full project document</i></li> </ul>
<p><b>Project Logic</b> (Theory of Change)  ½-1 page</p>	<p>The ToC in the original project document is still valid. In addition to the logic and ToC in the original project document, it can be noted that on the 28th September 2020 the Indian and Danish Prime Ministers signed the India-Denmark Green Strategic Partnership (GSP). Given the shared desire to remain trusted partners, the two Prime Ministers agreed to advance cooperation, expand economic relations and green growth, create jobs and strengthen cooperation on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals (SDGs). As a result of the GSP, the Prime Ministers committed to further strengthening the energy partnership over the coming years, and as a part of these efforts to also boost activities related to the existing cooperation on offshore wind. The activities described in this annex should be seen as a part in the realisation of these intentions.</p> <p>The Indian partners are continuously asking for Danish expertise and exchange of knowledge to further develop and evolve the Indian offshore wind energy sector. The specific additional activities have been gathered with a view to combine the demand and wishes from the Indian partners with areas of Danish expertise and experiences from the Danish energy transition.</p> <p>This annex presents the proposal for consolidating and performing new programme activities within the existing SSC cooperation on offshore wind in India as agreed in the advance plan as a follow up to the green strategic partnership. The activities proposed are framed within the existing SSC cooperation which will be in operation until the end of 2021. The approval of the specific activities is expected to take place at the upcoming steering committee meeting planned for 14 December 2020.</p>
<p><b>Main objective of SSC project</b></p>	<p>Mitigate climate change while fostering technological development and sustainable economic growth by supporting a green transition in the Indian power sector.</p>
<p><b>Outcome 1</b></p>	<p>A centre of excellence for offshore wind that promotes and creates an enabling environment for lowering the cost of offshore wind power using best available practice.</p> <p><i>[The wording of the outcome was adapted and approved with the approval of the climate envelope programme (INDEP). The adaptation was a result of a joint understand between the partners on both the Danish and Indian sides.]</i></p>

<sup>2</sup> **Sustainable development** meets the needs of the present without compromising the ability of future generations to meet their own needs. The SDGs (adopted 2015) is a plan of 17 interlinked and integrated goals to achieve sustainable development

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 3**

Output 1.1	An enabling framework that streamlines site selection, clearances and procurement while reducing risk to investors
Output 1.2	Development and implementation of coordinated measures for minimising grid infrastructure and supply chain obstacles to the development of the offshore wind sector
Output 1.3	Technical standards and rules that promote innovation and research
<b>Assumptions and risks</b> ½-1 page	<p>The conditions and assumptions for realisation of the project targets remains unchanged as the interest and willingness of the Indian partners as well as the perceived usefulness of Danish input remain pivotal.</p> <p>The key partners re-main the same, with MNRE and NIWE as the key partners for the new and additional activities. A key assumption is that Indian partners need to remain committed to sustained engagement and willingness to allocate staff time and inputs in-kind to engage effectively with DEA staff and other experts. The strengthened collaboration puts an intensified workload towards the Indian partners in terms of both staff time and inputs for the activities. Lack of engagement from Indian partners would have a major potential negative impact on the collaboration. However, the Prime Minister Modi signed the GSP as a commitment and high-level buy-in to the partnership and mandate to the partners to allocate the time needed. This is further underlined by the partner engagement consistently remaining high even during a troubled time with COVID-19.</p> <p>The DEA will continuously monitor and mitigate this risk through the various government-to-government instruments such as high-level meetings and visits, peer-to-peer exchange, technical assistance and day-to-day local presence through the LTAs.</p> <p>Another significant risk is that the offshore technology will not be employed in the near future. This could be due to the higher prices of the technology in comparison to other comparable renewables. However, this is always a risk in a new market, and is a known fact to the Indian stakeholders, who still direct efforts in this direction.</p>
<b>Management set-up</b>	The same management set-up applies with MNRE steering the work
<b>Contributions from Danish Public Authority</b>	Same set-up as existing SSC project
<b>Contributions from partner authority</b>	Same set-up as existing SSC project

## Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 3**

<b>Budget</b>	<i>Please insert the total budget generated with the planning and budgeting tools of annex 5 of the guidelines.</i>
---------------	---

Authorised Signatures<sup>3</sup>:

Name, date

[Insert name of Danish Public Authority]

Name, date

[Insert name of Partner Authority]

---

<sup>3</sup> The annex to the project document will be agreed upon at the forthcoming Steering Committee group meeting during 1st quarter 2021



**Annex to existing SSC project  
Results Framework and Work Plan  
for 2021  
SSC project in energy sector  
between  
Denmark and India**

2018-14783

## Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

### Results Framework and Work Plan for SSC Project in energy sector between India and Denmark

Please do not revise the template

**Project period:** only applicable for additional funds for 2021

<b>OBJECTIVE of SSC project:</b>  Mitigate climate change while fostering technological development and sustainable economic growth by supporting a green transition in the Indian power sector	<b>Status:</b> in progress. To be finalised in 2021
<b>OUTCOME 1:</b>  A centre of excellence for offshore wind that promotes and creates an enabling environment for lowering the cost of offshore wind power using best available practice	<b>Status:</b> In progress
<b>Output 1.1:</b>  An enabling framework that streamlines site selection, clearances and procurement while reducing risk to investors	<b>Status :</b> In progress
<b>Output 1.1 indicator:</b> Progress on implementation of measures for an enabling framework that streamlines site selection, clearances and procurement of offshore wind while reducing risk to investors (YES/NO updated and adjusted annually)	<b>Status :</b> in progress

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

Activity	Purpose – content - product	Partners and resources involved	Timing	Status year : 2021
Additional staff at DEA to support and lead the new activities	Boosting the level of engagement within the planned activities on all of the below items for offshore wind for 2021 requires additional DEA staff.	MNRE, NIWE and DEA  1½ ÅV from DEA  DKK 1.290.000	2021	
A comprehensive Maritime Spatial Planning study	<p>NIWE is the nodal agency for the operationalization of the Indian government’s strategy for the development of offshore. NIWE carries out the planning of the sea space and secures the permits for the coming projects. A boosted effort in planning of offshore sea space as per international standards could speed up the development of the sector. A comprehensive Maritime Spatial Planning study (10-40GW) and a subsequent fine screening of concrete feasible offshore wind sites for large scale projects would give greater clarity to investors and the involved ministries. This will also be of direct assistance to the flagship project in the advance plan.</p> <p>The site-specific assessments and analyses would be divided in 3 stages:</p>	NIWE and DEA  Consultant DKK 900.000  Study tour DKK 120.000	2021	

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

	<p>1. A rough screening/mapping exercise considering key parameters</p> <p>2. 2x Hands-on training/study tour for NIWE staff at DEA on rough screening/mapping exercise and related GIS tools for offshore wind</p> <p>3. A fine screening of selected sites from MNRE/NIWE</p>			
<p>Creation of visibility of the Centre of Excellence to local actors by primarily networking and communication activities</p>	<p>The Centre of Excellence (CoE) on offshore wind and renewable energy is an Indo-Danish initiative under the Ministry of New and Renewable Energy. The CoE has been staffed with a long-term advisor (LTA) funded by the climate envelope who is working with ministry employees in establishing the center. The proposal is to increase the visibility of the CoE to the Indian private sector by a local consultant with specific knowledge of the local actors. This would help boost the center and get the support needed from local commercial actors and knowledge stakeholders.</p>	<p>MNRE (and possibly NIWE) and DEA</p> <p>Local consultant DKK 440.000</p>	<p>2021</p>	

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

<b>Output 1.2:</b> Development and implementation of coordinated measures for minimising grid infrastructure and supply chain obstacles to the development of the offshore wind sector		<b>Status : In progress</b>		
<b>Output 1.2 indicator:</b> Implementation, updating and adjustment of measures to plan and secure investments for supporting infrastructure (YES/NO updated and adjusted annually)		<b>Status : in progress</b>		
Activity	Purpose – content - product	Partners and resources involved	Timing	Status year _____:
An analysis of jobs and growth effects of building a new sector	An analysis would be carried out in India of the same kind as was used in Denmark in 2019 on wind farm ports construction for fostering the supply chain for the wind industry and enabling jobs and employment opportunities. The analysis will look at the socio-economic benefits and just transition perspectives associated with offshore wind development in India. This would document the societal benefits and growth potential of the start up of a new labour and investment intensive sector.	MNRE and DEA  Consultants 350.000	2021	
Capacity building for grid infrastructure for offshore wind in India	Knowledge exchange seminars and hands-on training on grid connection planning for offshore wind. The knowledge exchange seminars will focus on grid planning and	MNRE, NIWE and possibly stakeholders from states, DEA  Consultants DKK 440.000	2021	

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

	<p>connection of offshore wind parks in Denmark and the role of Energinet in the development of offshore wind tender projects. Each of the knowledge exchange seminars are envisaged to engage gov. agencies at central level and the state transmission companies in Gujarat and Tamil Nadu.</p> <p>The knowledge exchange seminar will be followed by a hands-on training session in DK at Energinet. Visits at Energinet is not allowed until after Corona restrictions have been lifted as they operate critical infrastructure.</p>	<p>Study tour DKK 160.000</p>		
--	--	-------------------------------	--	--

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

<b>Output 1.3:</b> Technical standards and rules that promote innovation and research		<b>Status : In progress</b>		
<b>Output 1.3 indicator:</b> A comprehensive and updated system of standards, rules, testing and demonstration is in place (combined quantitative and qualitative analysis)		<b>Status : in progress</b>		
<b>Activity</b>	<b>Purpose – content - product</b>	<b>Partners and resources involved</b>	<b>Timing</b>	<b>Status year _____:</b>
Rolling short term stays by relevant Danish scholars	In order to assist the National Institute for Wind Energy (NIWE) in realizing their plans to establish a national test center for testing wind technology. NIWE plans to establish the test center in accordance with the model of Østerild, which is partly owned by Danish Technical University (DTU). The funds would be used specifically for funding a series of short-term stays of 3-4 weeks by relevant staff from DTU. The staff will be working in NIWE in order to develop the feasibility of the test center with NIWE staff and test the desire in the private sector for a wind turbine test centre. Furthermore, a study tour by relevant Indian staff to Denmark will be hosted. The effort should assist in removing barriers to private sector engagement and pave the way for the development of Indian supply chain. The activity will only happen when corona restrictions on travelling have	Consultants DKK 960.000 Study tours 200.000	2021	

Guidelines for Strategic Sector Cooperation 2020, **TEMPLATE 4**

	<p>been lifted, due to DTU staff policy. DTU is already a trusted partner with NIWE as the two institution have long ties and partly similar mandates.</p> <p>Related activities to assist NIWE in building internal capacity and be certified to to establish a test center is currently carried out under the Climate Envelope.</p>			
--	---	--	--	--