Strategic Sector Cooperation in Energy Between Denmark and Turkey, Phase II

Key results:
1) Develop relevant policies, strategies and solutions to enable a sustainable development transition of the Turkish energy sector; 2) Achieve the governments' long term objectives for energy efficiency and district energy; 3) Increase the capacity of implementation of the planned new legislation on heating and cooling; 4) Provide a strong analytical basis and give an assessment of the potential and needs within heating and cooling; 5) Support the Turkish government in preparing a roadmap for off-shore wind development in Turkey.

Justification for support:
- The energy sector in Turkey is dependent on imported energy sources. Around 75% of all Turkey's energy needs are based on imports. This heavy energy import dependence is a security concern and has a negative effect on Turkey's trade balance – energy imports account for about 60% of the foreign trade deficit.
- Energy prices are relatively high in Turkey and hits the low-income households, contributing to an increased social imbalance.
- The combined effect of the trade deficit, high-energy costs and energy supply security risks is expected to have a significant although not measureable impact on the investment climate and the economic development of Turkey.
- The Danish Model and knowledge can help kick-start the establishment of a viable and energy efficient heat market, over time leading to a green transition of the energy system in Turkey by enabling a long-term capacity increase among relevant public and regional stakeholders within the areas of district energy and offshore wind.
- Phase II will focus on the development of the district heating and cooling sectors with an emphasis on the development of secondary regulation and district heating/cooling planning and the creation of a roadmap for offshore wind in Turkey.

Major risks and challenges:
The changes that Turkey needs in the energy sector will require political attention and support. The success of the cooperation highly depends on the priority given by the Turkish counterparts. The progress in political approval of a draft Heat Market Law, availability of resources to be engaged in dialogue and the willingness to share relevant information and documents are risks.

File No.	2017-39196			
Country	Turkey			
Responsible Unit	GDI			
Sector	23110 – Energy policy and administrative management			
Partner	Ministry of Energy and Natural Resources			
DKK mill.	**2020**	**2021**	**2022**	**Total**
Commitment	10			
Projected ann. disb.	3.28	3.18	3,54	10
Duration	36 months from date of approval by MFA			
Previous grants	DKK 1,269,885 (Inception Phase); DKK 7,266,419 (Phase I)			
Finance Act code	§06.38.02.14			
Head of unit	Ole Thonke			
Desk officer	Tilde Hellsten/Jakob Haugaard			
Reviewed by CFO	NO / YES: Marie Gro Svenstrup			

Relevant SDGs *[Maximum 1 – highlight with grey]*

 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 main objective is to assist in developing relevant policies, strategies and solutions to enable a sustainable transition of the Turkish energy sector.

Justification for choice of partner:

A preparatory SSC project was undertaken from September 2015 – February 2017 in the field of energy and climate cooperation between Denmark and Turkey. The project identified MENR as the primary cooperation partner of MCEU/DEA and the main topic as being heating and cooling. In March 2017, the SSC project document was signed and Phase I of the project started. The overall title was agreed as "Efficient and Low Carbon Heating and Cooling". Phase II will carry the same title as Phase I and will also have a thematic focus on the potential for offshore wind in Turkey.

Summary:

This project addresses the challenges Turkey face regarding the significant dependence of imported energy sources. The combination of a trade deficit, high-energy costs and energy supply security makes energy a major national political focus area for the Turkish Government. The Danish Model and experience can contribute to create framework conditions for an energy efficient heat market and over time leading to a green transition of the energy system in Turkey. The Danish know-how within offshore wind will be a major contribution to create affordable and green energy in Turkey not dependent on import of foreign energy sources.

Budget:

Personnel – Danish Authority	5,672,649
Reimbursable Costs for Danish Authority Staff	838,057
Activities, Including Capacity Development	116,294
Consultancies* (max. 30% of grand total)	3,331,500
Unallocated funds (max 20% of grand total	41,500
Total	**10,000,000 DKK mill.**

2017-39196

Doc. 2.14

MFA File No: ~~2016-44990~~

Version 20.11.2019

Project Document for Strategic Sector Cooperation (SSC) in the energy sector

between Denmark and Turkey

Project: Roadmap for offshore wind in Turkey

General information	MFA File no. 2017 - 39196
Project Title	Turkish – Danish Energy Sector Cooperation, Phase 2
Partner Country	The Republic of Turkey
Project duration	January 2020 - December 2022
Total budget (DKK)	DKK 5,000,000
Thematic focus	With reference to the Memorandum of Understanding (MoU) signed between the Turkish and the Danish Governments on energy efficiency and renewable energy, Friday 22 June 2018, the Turkish Ministry of Energy and Natural Resources(MENR) and the Danish Ministry of Climate, Energy and Utilities (MCEU) have identified following areas where Danish experiences and lesson learned can support the Turkish governments' low carbon transition objectives: • **Roadmap for offshore wind in Turkey**
Partner Public Authority **Contact person and contact details**	**Turkish Ministry of Energy and Natural Resources (MENR)/General Directorate of Energy Affairs (GDEA),** **Department of Renewable Energy Development and Monitoring** • İrem Işık Çetin, Meteorological Engineer, Wind Energy Group Coordinator iisik@enerji.gov.tr • Özlem Önenç, oonenc@enerji.gov.tr.
Responsible Danish Public Authority **Contact person and contact data**	**Danish Ministry of Climate, Energy and Utilities (MCEU):** • Tania Schimmell, Head of International Department, tasch@kefm.dk • Jeppe Wraae Nielsen, Advisor, jewni@kefm.dk **Danish Energy Agency (DEA):** • Elsebeth Søndergård Krone, Director eskr@ens.dk • Bjarne Juul-Kristensen, Special Advisor, bjk@ens.dk • Gülsüm Seeberg Koc, Advisor, gk@ens.dk.
Royal Danish Embassy **Contact person and contact details**	**Royal Danish Embassy (RDE):** • Svend Olling, Danish Ambassador to the Republic of Turkey • Dennis Holte Skov-Albertsen, Sector Counsellor, denalb@um.dk

Summary of background analysis and key strategic choices **(max 2 pages)**	**Project Background** A shortened inception phase was undertaken September 2018 - January 2019 in the field of wind energy cooperation between Denmark and Turkey. The inception phase identified GDEA as the primary cooperation partner of DEA and the main topic as being offshore wind in Turkey. In March 2019, a so-called SSC Addendum 1 to the existing Strategic Sector Cooperation was signed in order to kick-start the partnership on offshore wind development. The title of the partnership was agreed as "Roadmap for offshore wind in Turkey". Phase 2 will carry the same title as Phase 1. The objective of the cooperation on OSW is to share Denmark's experiences in offshore wind development with over 25 years of history with Turkish colleagues at MENR and other relevant authorities in the project. Especially relevant is the Danish fine-tuning of the tendering process. The Danish model is characterised by detailed planning and systematic de-risking as a key to remove uncertainty for the investors and to create a cost-competitive framework for the development of offshore wind power. In addition, the Turkish partners find it relevant to take a closer look at the Danish so-called one-stop-shop approach used to gather needed information and approvals. • **General development challenges in the energy sector** The single biggest challenge for the Turkish Government in the energy sector is the significant dependence of imported energy sources. This heavy energy import dependence is not only a cause of concern related to security of supply but it also has a negative effect on Turkey's trade balance. The combination of the factors mentioned above makes energy a major national political focus area for the Turkish Government. **Offshore wind development** Since 2008, Turkey has been a significant actor in the global wind market in terms of both market and industry. This however, has all been within onshore wind installation while offshore is a new territory. The installed onshore capacity has over the last 10 years reached 7.4 GW. In early 2018, the Turkish Government announced plans to extend this development into the area of offshore wind energy. Turkey has significant renewable energy potential. The main renewable energy resources of relevance for electricity generation in Turkey are assessed to be hydro, geothermal, wind energy, solar energy and municipal waste (organic fraction). In addition, a certain biomass energy potential exists. The current installed power capacity,

	as of October 2019, has reached 91,073 MW of which 43,911 MW are from renewable energy sources, corresponding to a significant share of 48 %. In the past 10 months of 2019, around 46 % of the power production has come from renewable energy sources. <u>During the inception phase of this SSC project, the following key barriers and challenges in offshore wind energy development in Turkey have been identified:</u> • High-level of risk associated with lack and uncertainty of wind resource and seabed survey data • Data collection and gathering is difficult/limited access to information • Undefined guidance documentation for relevant stakeholders • Need for a clear long-term planning for offshore wind development creating investor confidence • Complicated permitting processes - Involvement of multiple institutions and agencies to obtain necessary permits • Unavailability of technical expertise and skilled workforce regarding offshore wind development • Lack of definitions and rules for Environmental Impact Assessment (EIA) for offshore wind projects In June 2018, Turkey launched a tender for a 1.2 GW offshore wind project. However, no bids were received by the October 2018 deadline. Therefore, this tender was postponed to an undetermined date. MENR has stressed that the focus before announcing the new date for the first offshore wind energy will be on de-risking and increasing transparency for potential bidders. This is where the connection to this SSC project can be found. More details in background analysis in Annex 1
Linkages to UN Sustainable Development Goals	**SDG 7:** Ensure access to affordable, reliable, sustainable and modern energy for all - addressed as a larger share of RE and district heating systems are a precondition to deliver sustainable and modern energy, with increased security of supply. **SDG 9**: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation - addressed as the programme will provide assistance in creation of a supply chain for offshore wind power that will foster sustainable industrialization and innovation. **SDG 11**: Make cities and human settlements inclusive, safe, resilient and sustainable – addressed as low-carbon supply solutions for heating and cooling will improve sustainable urban planning.

	SDG 13: Take urgent action to combat climate change and its impacts - addressed as a larger share of RE will mitigate climate change.
Project Logic **(Theory of Change)** **½-1 page**	The Centre for Global Cooperation at the Danish Energy Agency (DEA) has since 2012 established ongoing cooperation regarding development of offshore wind energy with countries like China, United States of America, India and Korea, where Danish lessons learned from the Danish energy transition is being used in the national as well as subnational/regional context. The experiences gathered from the international cooperation have been very useful in the approach to the formulation of this Strategic Sector Cooperation in Turkey. It is the experience that the government to government cooperation, where Denmark offers all lessons learned regarding energy transition – both technical and institutional – have been highly valued at both the political as well as the technical experts' level. The strength of the DEA's international cooperation is the direct access to all lessons learned – both institutional and technical- in regard to the Danish RE transition. When the Turkish authorities and partners during this cooperation request to include other technical inputs, there will be an open dialogue on what technologies and suppliers may be relevant in the Turkish context. The methodology of this Project Document follows up on activities from phase 1 of the ongoing cooperation (in 2019) and consists of expert strategic inputs to: • Tender design and procedures for offshore wind projects. • Financial framework for offshore wind projects. • Development of port facilities and infrastructure for offshore wind parks • Roadmap for offshore wind development in Turkey Please see attached Annex 4. The methodology will be based on mutual respect for and dialogue with Turkish authorities and partners. The budget will be spent primarily on DEA fees and on international consultants. The areas of cooperation identified are all areas, where DEA - with support from the Danish offshore wind sector in further identified areas - has specific knowledge, and where DEA is able to transfer knowledge and advice to the Turkish authorities and partners. DEA will provide a professional team to support the project. DEA allocated time input will consist of work respectively together with the Turkish parties and in Denmark. This will ensure timely and

	efficient preparation, implementation, reporting and internal exchange amongst DEA experts. The changes that Turkey needs in the energy sector will require political attention and support. The success of the cooperation highly depends on the priority given by the Turkish counterparts such as it has been indicated in the new MoU between the Turkish Ministry of Energy and Natural Resources and the Danish Ministry of Energy, Utilities and Climate which came into effect in June 2018.
Main objective of SSC project	The objective of the extended Danish-Turkish Strategic Sector Cooperation Programme (SSC) will be to assist and support the Turkish government in identifying and developing relevant solutions and procedures to prepare a roadmap for offshore wind development in Turkey. Apart from the challenges and barriers with a direct link to the offshore development, the cooperation will also share main lessons learned from the Danish long term power sector planning and the Danish approach to least cost development. The SSC will thereby assist Turkey in its endeavour to fulfil the UN Sustainable Development Goals, in particular no. 7 (affordable and clean energy) and 9.1 (reliable and sustainable infrastructure).
Outcome	The Turkish government agencies have been strengthened in implementing improved framework conditions for long term offshore wind development.
Output 1.	**The preparation of offshore wind tender documents in Turkey have been supported.**
Output 1 indicators	• Turkish government agencies have identified the best practices from Danish experiences and de-risking mechanisms used for offshore wind tenders. • Recommendations for improvements of Turkish offshore wind tender documents have been prepared.
Output 2	**Financial framework for offshore wind in Turkey has been reviewed, and recommendations for cost-effective improvements are prepared.**
Output 2 indicators	• Main principles in the Danish and Turkish financial framework for offshore wind projects, including market conditions and support mechanisms for offshore wind projects have been outlined. • Recommendations on, how the financial framework for offshore wind in Turkey can be improved, have been prepared.

Output 3	**Increased awareness of port facilities and infrastructure development for offshore wind projects have been facilitated.**
Output 3 indicators	• Potential Turkish ports suitable for logistic support to offshore wind development have been identified and needs for capacity building activities have been identified. • Twinning activities between Danish and Turkish stakeholders regarding port facilities and infrastructure for offshore wind projects have been implemented.
Output 4	**A development of a Turkish roadmap for offshore wind has been supported.**
Output 4 indicators	• Overview of findings from relevant studies and other offshore wind-activities in Turkey has been provided. • Technology data sheets regarding offshore wind and other selected technologies, e.g. technologies on onshore wind and solar PV has been prepared taking into account the Turkish context. • Danish lessons learned on long term power sector modelling has been transferred in order to assess the potential role of offshore wind in cost effective RES-deployment of Turkey. • Assistance in preparing an offshore wind roadmap for Turkey has been delivered.
Assumptions and risks **½-1 page**	• High level commitment to secure smooth project implementation • Availability of related stakeholders to be engaged in dialogue concerning the various topics and activities planned in the work programme • The willingness to share relevant information and documents
Management set-up	**The project is anchored at:** Department of Renewable Energy Development and Monitoring /General Directorate of Energy Affairs (GDEA) under the Turkish Ministry of Energy and Natural Resources (MENR) **The contracting bodies for the cooperation programme are:** • Danish Ministry of Energy, Utility and Climate (MCEU)/Danish Energy Agency (DEA) • Turkish Ministry of Energy and Natural Resources (MENR)/General Directorate of Energy Affairs (GDEA). **Steering Committee (SC)** The SC will be small and operational and established at high-level in order to secure the anchorage and political use of the outcomes.

	SC comprises appointed members of the implementing partners from the following institutions: • General Directorate of Energy Affairs (GDEA) • Department of Renewable Energy Development and Monitoring • Danish Energy Agency (DEA) • Royal Danish Embassy in Ankara (RDE) Further details on the background and function of the SC can be found in the Work Plan for Project Steering Committee (SC) in Annex 2. **Project Management Team (PMT)** The role of the PMT will be to manage the day-to-day activities and there ensure high quality of the project outputs and project implementation. PMT comprise appointed members of the implementing partners. As of the date of this Project Document, these are: • Project Manager o Gülsüm Seeberg Koc, DEA • Deputy Project Managers o İrem Işık Çetin, GDEA o Dennis Holte Skov-Albertsen, RDE • Other members o Mustafa Çalışkan Head of Department, GDEA o Özlem Önenç , GDEA o Seda Uysal, GDEA o Bjarne Juul-Kristensen, Team Leader for Turkey, DEA o NN, Advisor in wind energy, DEA o Fatma Alay, Project Coordinator, RDE. Further details on the background and function of the PMT can be found in the Work Plan for Project Management Team (PMT) in Annex 3.
Contributions from Danish Public Authority	**Danish Energy Agency (DEA)** The contact person at the DEA is Project Manager Gülsüm Seeberg Koc and Country Team Leader for Turkey Bjarne Juul Kristensen. The role of the contact persons are to: • Coordinate the activities within DEA Provide technical assistance • Manage the project, including the budget. DEA will contribute with necessary: • Danish expertise

	• Costs for Danish experts including staff resources as described in the annual Working Programs, local transport and accommodation • Costs for study tours (full details to be agreed in the PMT prior to each tour) • Costs for international and local consultants • Costs for special arrangements as seminars, workshops, etc. • Writing project administrative documents. **Royal Danish Embassy in Ankara (RDE)** The role of the embassy is to facilitate the project coordination with authorities both in Denmark and in Turkey. RDE acts as a secretariat for the project. The Sector Counsellor will – supported by the Project Coordinator - be the main contact and will support the project and the activities and will also be the anchor for cooperation with other stakeholders in Turkey. RDE will contribute with: • Staff resources as described in the annual Working Programmes • Writing project administrative documents.
Contributions from partner authority	**Turkish General Directorate of Energy Affairs (GDEA)** The Turkish authorities and partners provide professional, timely and free of charge management and staff input to the SSC project. The contact person and joint Deputy Project Manager at GDEA is: • Wind Energy Group Coordinator, İrem Işık Çetin The role of the contact person is to: • Coordinate the activities within the Turkish authorities • Make the necessary decisions on behalf of the GDEA GDEA will contribute with necessary: • Staff resources as described in the annual Working Programmes • Facilities e.g. room and training equipment for capacity building • Costs for e.g. production of information materials • Sourcing and remuneration of Turkish expertise as deemed relevant to support the project implementation.
Budget	DKK 5,000,000

Authorised Signatures:

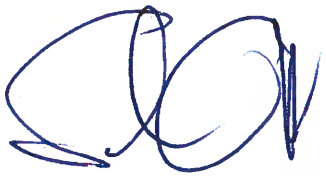
Danish Energy Agency (DEA)

Danish Ministry of Climate, Energy and Utilities (MCEU)

Date 27/11 2019

For and on behalf of the

Danish Energy Agency



Mr. Svend Olling
Ambassador of Denmark to Turkey

General Directorate of Energy Affairs (GDEA)

Republic of Turkey Ministry of Energy and Natural Resources (MENR)

Date 27/11 2019

Mr. Murat Zekeriya Aydın
Director General

Annex 9 - Quality Assurance checklist for appraisal of programmes and projects[1]

File number/F2 reference:	[2017-39196]
Programme/Project name:	"Turkey – Danish Strategic Energy Sector Cooperation " (phase II)
Programme/Project period:	36 months from February 2020. *This date differs from the date in the project document due to delay in the approval process.*
Budget:	10 mio. DKK

Presentation of quality assurance process:

The preparation of Phase II projects under the Strategic Sector Cooperation Facility follows the SSC guidelines. The preparation and decision making process consists of three steps:

1) Formulation and implementation of an inception phase project. During this process, the partners and areas of cooperation are identified;

2) Preparation of the required project document, annual work plans, budget and an updated background study, which includes a context analysis and a basic base line assessment. Prior to the official submission of the signed project document, a quality assessment dialogue takes place between the Secretariat for Strategic Sector Cooperation and the Danish authority;

3) Approval of the project document, which is signed by the local and Danish partner. The Secretariat for Strategic Sector Cooperation validates that the required information and analysis is included as per the SSC guidelines. Projects with a total value of 10 million DKK or above are approved by the Minister for Development Cooperation.

❑ **The design of the programme/project has been appraised by someone independent who has not been involved in the development of the programme/project.**

The SSC guidelines does not include an independent appraisal. However, there was a review of the overall Strategic Sector Cooperation Facility Initiative in 2017 and an evaluation is on-going (2019-2020).

[1] This Quality Assurance Checklist should be used by the responsible MFA unit to document the quality assurance process of appropriations where TQS is not involved. The checklist does not replace an appraisal, but aims to help the responsible MFA unit ensure that key questions regarding the quality of the programme/project are asked and that the answers to these questions are properly documented and communicated to the approving authority.

Two persons in the Secretariat assess the draft project documents. Subsequently, the project leader in the Danish authority makes the necessary adjustments.

- **The recommendations of the appraisal has been reflected upon in the final design of the programme/project.**

N/a (see above).

- **The programme/project complies with Danida policies and Aid Management Guidelines.**

The SSC project complies with the SSC guidelines and Danida policies. The SSC guidelines draw on the overall principles and concepts of the Aid Management Guidelines.

- **The programme/project addresses relevant challenges and provides adequate responses.**

Yes.

- **Issues related to HRBA/Gender, Green Growth and Environment have been addressed sufficiently.**

The SSC guidelines doesn't include issues related to HRBA and gender directly. Green Growth and environment issues are often covered by the SSC projects.

- **Comments from the Danida Programme Committee have been addressed (if applicable).**

N/a.

- **The programme/project outcome(s) are found to be sustainable and is in line with the partner's development policies and strategies. Implementation modalities are well described and justified.**

The focus areas are defined and the project document is elaborated in collaboration between the Danish authority and its key partner, and finally agreed at management level before submitting to the SSC Secretariat. Basic project outcomes are described in the project document.

- **The results framework, indicators and monitoring framework of the programme/project provide an adequate basis for monitoring results and outcome.**

Considering the nature of the partnership between Danish and local authorities the results framework in the project document is considered adequate.

- **The programme/project is found sound budget-wise.**

Yes. The SSC project budget follows the SSC guidelines and budget templates complying with the budget guidelines issued by the Ministry of Finance (budgetvejledningen) and the principles for the calculation of overhead for state agencies (vejledning om prisfastsættelse) from the Agency for Modernisation.

- **The programme/project is found realistic in its time-schedule.**

Flexibility in the design and implementation modalities are important features of the SSC projects, and is one of the prerequisites of the SSC approach for relevance and results. Hence, changes in the actual implementation is frequent.

- **Other donors involved in the same programme/project have been consulted, and possible harmonised common procedures for funding and monitoring have been explored.**

As part of the inception phase, phase I and phase II other donors are often consulted.

- **Key programme/project stakeholders have been identified, the choice of partner has been justified and criteria for selection have been documented.**

The Strategic Sector Cooperation Facility has many similarities with a traditional twinning scheme, which explains the partner choice.

The Danish partner was identified through a strategic match making process in 2014-15 where local demands were matched with Danish competencies in public authorities. The local partner was identified during the inception phase of the Strategic Sector Collaboration project in 2015. Typically, the Danish authority works with its "sister organisation". This is also the case in Turkey.

- **The executing partner(s) is/are found to have the capacity to properly manage, implement and report on the funds for the programme/project and lines of management responsibility are clear.**

The SSC projects are implemented directly by the Danish partner.

- **Risks involved have been considered and risk management integrated in the programme/project document.**

A basic risk assessment is included in the project document.

- **In conclusion, the programme/project can be recommended for approval: <u>yes</u>**

Date and signature of desk officer: [February 2020] Tilde Hellsten

Date and signature of management: [February 2020] Ole Thonke