Capacity Needs Assessment for Green Banking in the MENA Region

March 2018

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Regional Center for Renewable Energy and Energy Efficiency

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About RCREEE

RCREEE, based in Cairo, Egypt, is a regional intergovernmental organization with diplomatic status that aims to enable and increase the adoption of renewable energy and energy efficiency practices in the Arab region. Through its solid alliance with the League of Arab States, RCREEE is committed to tackle each country’s specific needs and objectives through collaborating with Arab policy makers, businesses, international organizations and academic communities in key work areas: capacity development and learning, policies and regulations, research and statistics, and technical assistance. RCREEE is also involved in various local and regional projects and initiatives that are tailored to specific objectives.

Website: www.rcreee.org

About RENAC

RENAC, based in Berlin, Germany, is a leading international provider for training and capacity building in renewable energy and energy efficiency. Since 2008, over 7,500 participants from 145 countries have participated in RENAC trainings, comprising face-to-face seminars as well as e-learning programmes.

Website: www.renac.de

About GIZ

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a global service provider in the field of international cooperation that operates worldwide. GIZ works together with its partners to develop effective solutions that offer people better prospects and sustainably improve their living conditions. GIZ is a public-benefit federal enterprise and supports the German Government as well as many public and private sector clients in a wide variety of areas, including economic development and employment, energy and the environment, and peace and security.

Website: www.giz.de

About DIAPOL-CE

DIAPOL-CE is a regional project for “Policy dialogue and knowledge management on low emissions development strategies in the MENA region” (DIAPOL-CE), funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and implemented by GIZ.

About Green Banking Project

“Green Banking - Capacity Building on Green Energy and Climate Finance” is a regional project for capacity building for the finance sector to promote renewable energy and energy efficiency finance in South East Asia, funded by the German International Climate Initiative (IKI) and implemented by RENAC in five target countries: India, Indonesia, Philippines, Thailand and Vietnam.
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List of figures

Figure 2.1: Approach and methodology for conducting the Capacity Needs Assessment in four targeted countries ................................................................. 17
Figure 3.1: main topics of interest to banks and to be considered in the training program in Egypt ................................................................. 28
Figure 3.2: main energy technologies of interest for financing in Egypt .......... 28
Figure 4.1: main topics of interest to banks and to be considered in the training program in Jordan ................................................................. 38
Figure 4.2: main energy technologies of interest for financing in Jordan .......... 38
Figure 5.1: Energy mix in Morocco (IEA, 2014) ................................................. 41
Figure 5.2: main topics of interest to banks and to be considered in the training program in Morocco ................................................................. 47
Figure 5.3: main energy technologies of interest for financing in Morocco ........ 47
Figure 6.1: Installed capacity in Tunisia ............................................................ 49
Figure 6.2: main topics of interest to banks and to be considered in the training program in Tunisia ................................................................. 55
Figure 6.3: main energy technologies of interest for financing in Tunisia .......... 56
List of tables

Table 3.1: National targets for renewable energy mix in Egypt (NREA, 2016) ............20
Table 3.2: Accumulated installed capacity and deployment of renewable energy (NREA, 2016)..................................................................................................................20
Table 4.1: National targets for renewable energy mix in Jordan (AFEX, 2016).........30
Table 4.2: Status of installation and deployment of renewable energy by mid-2016 (AFEX, 2016).................................................................................................................30
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAIB</td>
<td>Arab African International Bank</td>
</tr>
<tr>
<td>ABJ</td>
<td>Association of Banks in Jordan</td>
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<tr>
<td>AFD</td>
<td>Agence Française de Développement</td>
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<tr>
<td>AFEX</td>
<td>Arab Future Energy Index</td>
</tr>
<tr>
<td>AFI</td>
<td>Alliance for Financial Inclusion</td>
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<td>AMED</td>
<td>Morocco Agency for Sustainable Energy</td>
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<tr>
<td>AMEE</td>
<td>Morocco Agency for Energy Efficiency</td>
</tr>
<tr>
<td>ANME</td>
<td>National Agency for Energy Conservation in Tunisia</td>
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<tr>
<td>ASE</td>
<td>Amman Stock Exchange</td>
</tr>
<tr>
<td>BAU</td>
<td>Business As Usual</td>
</tr>
<tr>
<td>BCP</td>
<td>Banque Centrale Populaire</td>
</tr>
<tr>
<td>BCT</td>
<td>Central Bank of Tunisia</td>
</tr>
<tr>
<td>BMCE</td>
<td>Banque Marocaine de Commerce Extérieure</td>
</tr>
<tr>
<td>BMCI</td>
<td>Banque Marocaine pour le Commerce et l'Industrie</td>
</tr>
<tr>
<td>BTE</td>
<td>Banque de Tunisie et des Emirats d’investissement</td>
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<tr>
<td>CBE</td>
<td>Central Bank of Egypt</td>
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<tr>
<td>CBJ</td>
<td>Central Bank of Jordan</td>
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<tr>
<td>CIH</td>
<td>Crédit Immobilier et Hôtelier</td>
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<tr>
<td>CNA</td>
<td>Capacity Needs Assessment</td>
</tr>
<tr>
<td>CSP</td>
<td>Concentrated Solar Power</td>
</tr>
<tr>
<td>EBRD</td>
<td>European Bank for Reconstruction and Development</td>
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<td>ECRC</td>
<td>Egyptian Corporate Responsibility Center</td>
</tr>
<tr>
<td>EDAMA</td>
<td>Energy, Water and Environment Productivity, Business Association</td>
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<tr>
<td>EE</td>
<td>Energy Efficiency</td>
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<tr>
<td>EETC</td>
<td>Egyptian Electricity Transmission Company</td>
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<tr>
<td>EFSA</td>
<td>Egyptian Financial Supervisory Authority</td>
</tr>
<tr>
<td>EIB</td>
<td>European Investment Bank</td>
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<tr>
<td>EgyptERA</td>
<td>Egyptian Electric Utility and Consumer Protection Regulatory Agency</td>
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<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>EMRC</td>
<td>Energy and Minerals Regulatory Commission</td>
</tr>
<tr>
<td>EPAP</td>
<td>Egyptian Pollution Abatement Programme</td>
</tr>
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<td>FIARI</td>
<td>Financial Inclusion for the Arab Region Initiative</td>
</tr>
<tr>
<td>FIT</td>
<td>Feed-In Tariff</td>
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<tr>
<td>FNME</td>
<td>National Fund for Energy Saving</td>
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<tr>
<td>FRA</td>
<td>Financial Regulatory Agency</td>
</tr>
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<td>FSBF</td>
<td>Moroccan banking and financial sectors’ Federation</td>
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<td>FTE</td>
<td>Fonds pour la Transition Energétique</td>
</tr>
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<td>GCF</td>
<td>Green Climate Fund</td>
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<tr>
<td>GEFF</td>
<td>Green Energy Financing Facility</td>
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<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
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<tr>
<td>GoE</td>
<td>Government of Egypt</td>
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<tr>
<td>GoJ</td>
<td>Government of Jordan</td>
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<tr>
<td>GW</td>
<td>Giga Watt</td>
</tr>
<tr>
<td>IBNM</td>
<td>Non-Monetary Banking Institutions</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IFM</td>
<td>Monetary Financial Institutions</td>
</tr>
<tr>
<td>IFNM</td>
<td>Non-Monetary Financial Institutions</td>
</tr>
<tr>
<td>IKI</td>
<td>International Climate Initiative</td>
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<tr>
<td>INDC</td>
<td>Intended Nationally Determined Contribution</td>
</tr>
<tr>
<td>IPP</td>
<td>Independent Power Producer</td>
</tr>
<tr>
<td>IRDF</td>
<td>Industrial Research Development Fund</td>
</tr>
<tr>
<td>IRESEN</td>
<td>Institute for Solar Energy and Renewable Energies Research</td>
</tr>
<tr>
<td>JEDCo</td>
<td>Jordan Enterprise Development Corporation</td>
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<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>JLGCo</td>
<td>the Jordanian Loan Guarantee Corporation</td>
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<tr>
<td>JOD</td>
<td>Jordanian Dinar</td>
</tr>
<tr>
<td>JREEEF</td>
<td>Jordanian Renewable Energy and Energy Efficiency Fund</td>
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<tr>
<td>kWh</td>
<td>kilo Watt-hour</td>
</tr>
<tr>
<td>MASEN</td>
<td>Moroccan Agency for Sustainable Energy</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
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<tr>
<td>MDA</td>
<td>Ma'an Development Area</td>
</tr>
<tr>
<td>MEMR</td>
<td>Ministry of Energy and Mineral Resources</td>
</tr>
<tr>
<td>MENA</td>
<td>Middle East and North Africa</td>
</tr>
<tr>
<td>MoERE</td>
<td>Ministry of Electricity and Renewable Energy</td>
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<tr>
<td>MSME</td>
<td>Micro, Small and Medium sized Enterprise</td>
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<tr>
<td>MSM-EDA</td>
<td>Micro, Small and Medium sized Enterprises Development Agency</td>
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<tr>
<td></td>
<td>Previously known as Social Fund for Development (SFD).</td>
</tr>
<tr>
<td>Mtoe</td>
<td>Million Tonnes of Oil Equivalent</td>
</tr>
<tr>
<td>MW</td>
<td>Mega Watt</td>
</tr>
<tr>
<td>NEEAP</td>
<td>National Energy Efficiency Action Plan</td>
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<tr>
<td>NBE</td>
<td>National Bank of Egypt</td>
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<tr>
<td>NBK</td>
<td>National Bank of Kuwait</td>
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<tr>
<td>NEPCO</td>
<td>National Power Electric Company</td>
</tr>
<tr>
<td>NES</td>
<td>National Energy Strategy</td>
</tr>
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<td>NREA</td>
<td>New and Renewable Energy Authority</td>
</tr>
<tr>
<td>ONEE</td>
<td>National Office of Electricity and Drinking Water</td>
</tr>
<tr>
<td>PPA</td>
<td>Power Purchase Agreement</td>
</tr>
<tr>
<td>PV</td>
<td>Photovoltaic</td>
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<td>RCREEE</td>
<td>Regional Center for Renewable Energy and Energy Efficiency</td>
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<tr>
<td>RE</td>
<td>Renewable Energy</td>
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<tr>
<td>REEL</td>
<td>Renewable Energy and Energy Efficiency Law</td>
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<td>REFF</td>
<td>Renewable Energy Financing Framework</td>
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<td>Renewables Academy AG</td>
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<tr>
<td>REUNET</td>
<td>Renewable Energy University Network</td>
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<td>SIE</td>
<td>Energy Investments Company</td>
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<td>SGMB</td>
<td>Société Générale Marocaine de Banques</td>
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<tr>
<td>SME</td>
<td>Small and Medium sized Enterprise</td>
</tr>
<tr>
<td>STB</td>
<td>Société tunisienne de banque</td>
</tr>
<tr>
<td>STEG</td>
<td>Tunisian Company of Electricity and Gas</td>
</tr>
<tr>
<td>STUSID</td>
<td>Société Tunisosaoudienne d'Investissement et de Développement</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
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<tr>
<td>TPES</td>
<td>Total Primary Energy Supply</td>
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<tr>
<td>TWh</td>
<td>Terawatt-hour</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
</tr>
<tr>
<td>USD</td>
<td>United States Dollar</td>
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1 Executive Summary and Recommendations

The Capacity Needs Assessment (CNA) project was conducted from August 2017 until March 2018 in four countries, namely Egypt, Jordan, Tunisia and Morocco.

The topic “Green Finance” was welcomed in the four countries and specific outcomes are elaborated in detail in this report. Overall, a strong interest in capacity building on green energy and climate finance became obvious in all participating countries, especially that the financial sector expects more improvements in the future and wants to get ready for existing opportunities and catch up with the growing potential.

The main highlights and outcomes in the respective countries could be summarized in few points:

In Egypt, there are clear targets for renewable energy (RE) contribution to the energy mix, together with a National Energy Efficiency Action Plan (NEEAP) and Intended Nationally Determined Contribution (INDC) related to climate action plan. Although the national banks have enough liquidity, the terms of the available loans do not seem suitable for the nature of projects. Besides, the bank officials need to get educated more on the nature and risks associated with these projects, to be able to evaluate it and offer customized products suitable for investors, especially the small and medium enterprises (SMEs), since the national banks have the target of directing 20% of the loans to support SMEs by 2020. The Central Bank of Egypt is also interested in building its capacity to develop a tailored model for Egypt and recognize it as a national scheme. The New and Renewable Energy Authority (NREA) stressed on the importance of establishing clear policies to create trust in the market and financial support schemes to develop the private sector.

Also in Jordan the national banks have enough funds. However, there is no clear understanding of related regulations. However, the topic for “Green Finance” is consistent with the ongoing trend of the Ministry of Environment in specific and the banking and energy sectors in general. It was also suggested that introducing this topic as a financial mechanism for SMEs would be of considerable importance to promote installation of different technologies (e.g. solar PV and solar water heaters). The national banks are interested to learn more about topics and benefits related to the operational side of RE and EE projects to estimate the related risks and environmental regulations (among other) to offer loans with favorable terms to satisfy the requirements of the investors.

While in Morocco, green energy and climate finance are considered among the priorities on the royalty agenda. With many projects expected to be launched in the near future following the ongoing developments in the market, as well as the expected opening of the small and low voltage law, this marks the right time for the capacity building on Green Energy and Climate Finance. Since banks have allocated funds to support SMEs, it was recommended to consider this topic in the proposed training program, for banks to assess the potential risks and accordingly facilitate channeling funds to support green projects. Ideally, the training program should address also the private sector (SMEs and industry), public institution, as well as banks.

Similar interests were expressed also in Tunisia, where it extended even to ministry officials, who are interested to contribute to the preparation and implementation the proposed capacity building for Green Energy and Climate Finance. There are ongoing initiatives to develop the sustainable energy field, with a national fund supporting small and medium scale projects. For that, there is a growing need for being trained on projects’ evaluation and expanding knowledge on best practices in the field. In addition, involving different participants in the market (private sector, public institutions and banks)
was perceived of relevance and importance in promoting supporting the development of the green energy and climate change fields.

Based on the outcomes of the CNA project, it can be recommended to transfer RENAC’s Accredited Green Finance Specialist Programme to the MENA region and to adapt it to better suit the local requirements and existing needs expressed during the four business trips to the targeted countries, which took place between 22nd and 27th October 2017.

The following main customization requirements of the Accredited Green Finance Specialist Programme were identified in the Capacity Needs Assessment:

- The Accredited Green Finance Specialist Programme needs to be translated and offered in French for the French speaking countries Tunisia and Morocco
- For Egypt, the programme can run in English which is frequently used in the financial sector
- Translation in Arabic would be particularly beneficial for participants in Jordan who seem to be less familiar with English
- As several comments and concerns towards the applicability of the extensive online trainings has been mentioned in almost all countries, more face to face trainings shall be integrated in the Accredited Green Finance Specialist Programme for the MENA region
- The Accredited Green Finance Specialist Programme shall be complemented with the topics related to financing of small scale RE & EE projects and Islamic banking as well as dedicated topics for SMEs on how to present bankable projects
- Local case studies and customized market information shall be included

The expected timeline for the customization, adaptation and implementation is expected to take place in 2018 and 2019, as highlighted in more details in chapter 7.
2 Introduction and Background

Most countries in the MENA region (especially Egypt, Jordan, Tunisia and Morocco) have submitted its Intended Nationally Determined Contributions (INDCs) to the global climate agreement signed in Paris 2015 (known as Paris Agreement) during the Conference of the Parties (COP21) of the United Nations Framework Convention on Climate Change (UNFCCC, 2016). It is a proof for the key role that renewable energy (RE) and energy efficiency (EE) play in the international climate change mitigation efforts. As the green markets keep gaining momentum in parallel with the improvements of the national RE and EE strategies and plans, the concept of capacity building on green energy and climate finance becomes very demanding, especially that the countries in MENA region are endowed with the natural resources necessary for the widespread implementation of RE and EE projects. Local professionals with the appropriate know-how will be able to profit from new business opportunities in a growing industry, which additionally presents manifold benefits (reduction of greenhouse gas emissions, energy security and job creation, among many others). Accordingly, the Capacity Needs Assessment (CNA) will be used for potential and future projects, highlighting the existing market gaps and recommending measures and possibilities for improvement, which could start with a customized capacity building program (scheduled for 2018-2019) that aims at increasing the availability of financing instruments for RE and EE projects in four selected counties in the MENA region, namely Egypt, Jordan, Morocco and Tunisia.

In August 2017, the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) entered into grant agreement with GIZ, to conduct a Capacity Needs Assessment for potential financing of future RE, EE and climate change mitigation projects. This CNA project is funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) through the regional project “DIAPOL-CE Policy dialogue and knowledge management on low emissions development strategies in the MENA region” and implemented by GIZ with the objective to support the League of Arab States (LAS) Energy Department in the development and implementation of the regional energy and climate strategies supported by the technical and strategic advice of RCREEE.

It is worth mentioning that the Renewables Academy AG in Berlin (RENAC) is currently implementing a “Green Banking” project in South East Asia, which is funded by the German International Climate Initiative (IKI). The Green Banking initiative pursues the following main targets in five selected countries (India, Indonesia, Philippines, Thailand and Vietnam):

- Enable financial institutions to increase the use of available financing instruments for RE and EE projects in their countries.
- Increase the willingness of the local / national financial institutions to get involved in RE and EE finance.
- Facilitate the accessibility of global climate finance options.

Since RCREEE and RENAC were keen on transferring the successful concept of the “Green Financing” project to several countries in the MENA region, they entered into partnership agreement as a first step to explore the potential for implementing a similar project in the four target countries of the MENA region (Egypt, Jordan, Morocco and Tunisia).
2.1 Scope of Work (Methodology)

For the reasons mentioned above, three main activities were conducted in each of the four target countries within the framework of this partnership agreement: (1) initial desk research (2) business mission (trips), including bilateral meetings, one workshop and customized questionnaire (survey), (3) compiling report with results and recommendations. The implementation of these activities followed the approach highlighted in Figure 2.1 and methodology explained in section 2.3.

![Figure 2.1: Approach and methodology for conducting the Capacity Needs Assessment in four targeted countries](image)

After having concluded the planned activities, the results and outcomes were discussed among RCREEE and RENAC. Finally, a report was written comprising details on the local conditions in each country and details on interest and needs regarding the capacity building programme, as communicated during the discussions with different stakeholders and also through the questionnaires. Main conclusions from each country were summarized at the end of the respective chapters and the main recommendations were presented in chapter 7 of the report.

2.2 Objectives of the CNA

The main objectives of the CNA mission were to:

1. Gain an understanding (impression) on how far the private finance sector is prepared for an increased demand in green energy finance.
2. Identifying and reaching out to the target groups, gathering and assessing different ideas useful to develop and assign methodologies to enhance the content for a future capacity building project in the field of RE, EE and climate finance, dedicated to the finance sector.
3. Identify existing capacity building needs on the management and loan officers’ level.
4. Identification of certain topics that are of specific local needs and interests in the target countries.
5. Identify the main challenges for green energy finance in the target countries in order to be able to integrate such findings into the capacity building programme.
6. Explore if similar projects on capacity building for the finance sector are already existing or planned.

2.3 Methodology

After having gathered necessary information and relevant insights about the RE, EE and Finance sectors in each of the target countries, the preparation and planning of the business trips were carried out by RCREEE (for Egypt and Jordan) and by RENAC (for Morocco and Tunisia). For each country, 2 to 3 days were planned for meetings and a workshop. RCREEE and RENAC each assigned one person from their teams to conduct the business trip.
Business trips to the respective target countries (Egypt, Jordan, Morocco and Tunisia) were executed jointly by RCREEE and RENAC during the last week of October 2017. These business trips had the main objective of assessing the capacity building needs of the target groups and to introduce the foreseen Green Financing project. The primary target groups were the interested stakeholders from the financial sector (public and private).

During the business trips, the bilateral meetings were targeted on important governmental stakeholders, as well as German institutions active in this field in the respective countries. The duration of each meeting was planned to be 60 to 90 minutes.

Objectives of the bilateral meetings:

- Understand the current situation in the country better in terms of RE and EE projects and respective financing and learn about the experience so far in financing RE/EE projects
- Learn more about the local/national policy mechanisms to encourage RE/EE investments
- Identify the options under international climate finance schemes
- Identify the RE technologies which are most interesting for the country
- Identify the EE sectors which are most interesting for the country

The workshops were targeted towards local financial institutions (regardless of their activity in the green finance area). Different banks were invited to participate and share their experiences and insights on the green energy and climate finance topics and give feedback on the proposed capacity building programme.

Objectives of the workshops:

- Reach out to many financial institutions at the same time since the visits in each country were short and bilateral meetings with many banks would not have been possible.
- Identify specific interests of the financial institutions in terms of capacity building on clean energy finance and climate finance topics
- Identify necessary changes/amendments on the “Green Finance Specialist” programme, to be customized based on the local needs and requirements.
- Get in contact with local financial institutions as they are the target group for the actual project later on
- Spread the word on the upcoming capacity building project on “Green Financing”

In addition, a detailed questionnaire was distributed to all participants during the workshop. About 10 minutes’ time was given to them to fill-in the questionnaire and hand-in to project team afterwards for evaluation and recommendations. In the follow-up emails, the link for online questionnaire was distributed again to gather experiences and preferences from different people. The questions of the questionnaire were related to:

- Personal or institutional involvement in green finance issues
- Experience with specific methodologies applied in the context of RE and EE finance
- Interest in receiving training on green finance related topics
- Experience with certain RE technologies or EE sectors
- Interest in learning more about certain RE technologies or EE sectors
The methodology of evaluating the collected questionnaires from all participants is highlighted in Annex V (section 10.5.1)
3 Capacity Needs Assessment in Egypt

3.1 Situation and framework conditions in Egypt

Egypt is located on the world’s Sun Belt and is endowed with high rates of solar irradiation (up to 3,000 kWh/m² per year), indicating high potential for solar energy applications. In addition, the area on the Red Sea (Gulf Al Suez and Gulf Al Zayt) is one of the world’s best locations for wind resources. Several studies indicated that electricity generated from wind power represents the best opportunity for RE in Egypt to reach competitive prices for electricity compared to liquid fuel and gas (Egypt ERA, 2017).

3.1.1 Renewable energy deployment and targets

With this huge potential, Egypt is considered an attractive and big market for RE deployment, especially solar and wind applications (AFEX, 2016). A national renewable energy strategy for 2020 was adopted in 2008 and updated in 2012 due to the political and economic changes at that period. The revised targets were approved in October 2016. Table 3.1 shows the targeted share of renewable energy mix by 2022 and 2035 (NREA, 2016).

<table>
<thead>
<tr>
<th>Renewable Energy Mix</th>
<th>Wind</th>
<th>Solar PV</th>
<th>Hydro</th>
<th>Solar CSP</th>
<th>Target - Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted installed capacity (MW)</td>
<td>6,850</td>
<td>2,880</td>
<td>2,800</td>
<td>n/a</td>
<td>2022</td>
</tr>
<tr>
<td>Percentage of installed capacity</td>
<td>12%</td>
<td>2%</td>
<td>6%</td>
<td>n/a</td>
<td>20% - 2022</td>
</tr>
<tr>
<td>Percentage of installed capacity*</td>
<td>14.6%</td>
<td>11.8%</td>
<td>3.2%</td>
<td>7.6%</td>
<td>37.2% - 2035</td>
</tr>
</tbody>
</table>

(*) The installed RE capacity shall increase by 2035, but only the percentage of respective technologies was available

Accordingly, Egypt is ahead of all Arab countries with regards to the targeted installed capacity of wind and solar PV (~9.53 GW), where the wind projects are mostly large scale in size (utility scale). On the other hand, the installed capacity for different RE technologies were reported early in 2016 as in Table 3.2.

<table>
<thead>
<tr>
<th>Renewable Energy Installation</th>
<th>Wind</th>
<th>Solar PV</th>
<th>Solar CSP</th>
<th>Total</th>
<th>Share in Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed capacity in 2016 (MW)</td>
<td>810</td>
<td>90</td>
<td>20</td>
<td>920</td>
<td>2.63%</td>
</tr>
</tbody>
</table>
The total installed capacity for solar PV (90 MW) is mostly attributed to the solar PV rural electrification program (supported by the UAE) and the feed-in tariff mechanism for small-scale projects. Recent study referred to the high potential for solar PV applications for irrigation purposes and presented a conservative estimation of 100 MW installations of solar pumping systems each year (Abou-Khodier & Mahmoud, 2017).

3.1.2 Political support mechanisms

The Government of Egypt (GoE) is continuously improving the policy framework and introduced different instruments to attract private investments in the sector, as well as to operate utility scale projects (AFEX, 2016). The following instruments and mechanisms were implemented:

3.1.2.1. The Feed-in Tariff

The first round of Feed-in Tariff (FiT) was introduced in October 2014 together with interim targets for the first regulatory period (2014 - 2016), targeting a capacity of 4,300 MW for both solar and wind energy as follows (AFEX, 2016):

- 300 MW for small scale solar systems
- 2,000 MW of medium and large-scale solar plants
- 2,000 MW of medium and large-scale wind plants

All FiT projects have been guaranteed access to the grid coupled with priority dispatch. Although there is still lack of detailed grid access regulations, the grid operator (EETC) is committed to purchase all the electricity generated by RE projects (AFEX, 2016).

3.1.2.2. The Net Metering

The net metering scheme was adopted in 2013, which is rather complicated yet more suitable for the electricity consumers in the highest tariff slot under the low voltage grid (AFEX, 2016).

3.1.2.3. Independent Power Producers and Competitive Bidding

The Egyptian law allows for third-party sales from Independent Power Producers (IPP), which seems to have been developed as a parallel track to the competitive bidding scheme for RE systems. For the latter, clear targets for installed capacity were set, tenders were announced and Power Purchase

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(*) expected to start operations between January and April 2018, 600 MW are currently undergoing study phase.

(**) expected to start operations between December 2017 and early 2019 (first and second phases).

(***) for projects currently undergoing study phase.
Agreements (PPA) were signed. The IPP’s competitive bidding (auctioning) reached competitive price records in wind energy and thus proved to be a successful instrument (AFEX, 2016).

3.1.2.4. Independent Regulator

A further step to liberalize the market and encourage private investment, a new electricity law was introduced in 2015 to separate the Egyptian Electric Utility and Consumer Protection Regulatory Agency (Egypt ERA) from the Ministry of Electricity and Renewable Energy (MoERE), making it independent to regulate the market (AFEX, 2016).

3.1.2.5. Subsidies Reform

The subsidy reform for the power sector is ongoing since July 2014, when the GoE announced a five-year transitional plan to phase out subsidies in the electricity sector. This plan was officially endorsed and a Prime Minister Decision was issued on July 17th, 2014. This Decision approved annual tariff increases for most user segments on July 1 each year until 2018. Some of the extra high voltage industrial users will experience the highest tariff increases – more than 20% annually. The latest tariff increase, as of July 2016 ranged from 25 to 40% depending on consumption levels. Due to economic changes in the last period, the reform program was extended for 1-2 more years.

3.1.3 The Main Actors and Stakeholders in Energy Market

There are many actors and stakeholders contributing to the energy market in Egypt (TaqaWay, 2017). The main actors are introduced in the following section.

3.1.3.1. Ministry of Electricity and Renewable Energy

The principle role of the Ministry of Electricity and Renewable Energy (MoERE) is to optimize the use of the available energy sources taking in account environmental protection measures and to provide electricity with the best quality all over the country. On another hand, one of the most important objectives of the MoERE is to develop the skills of engineers and technicians working in the electricity sector through continuous trainings.

3.1.3.2. New and Renewable Energy Authority

The New and Renewable Energy Authority (NREA) is a governmental authority operating within the framework of the MoERE, which acts as both project developer and regulator. NREA was established to act as the national focal point for expanding efforts to develop and introduce RE technologies to Egypt on a commercial scale, together with implementation of related energy conservation programs.

3.1.3.3. Egyptian Electric Utility and Consumer Protection Regulatory Agency

The Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA) aims at organizing, following up and monitoring all activities of electricity production, transmission, distribution and consumption. It ensures the availability and continuity of electricity to meet the requirements of
different usages at reasonable prices and preserved environment. It considers the interest of the producer, transporter, distributer and the consumer of electricity. It adapts fair competition in the activities of electricity production, transmission and distribution.

3.1.3.4. Egyptian Electricity Transmission Company

The Egyptian Electricity Transmission Company (EETC) is as state-owned company and is the only entity licensed for electricity transmission in Egypt. EETC is acting as an off-taker for all the large-scale projects implemented under the FiT scheme (first and second rounds). The EETC is operating also within the framework of the MoERE.

3.1.4 Highlights on the Financial Sector

The financial sector in Egypt faced serious challenges due to the political changes between 2011 and 2014, which accordingly had a negative impact on the overall rating of the country. However, with the stability of both, the political and macro-economic conditions starting 2015, the overall rating of the banking system was upgraded from negative to stable by Moody’s and Standard and Poor’s (Export.Gov, 2017). The stability of the financial sector was reflected also in increasing the foreign reserves in the Central Bank of Egypt (CBE). In general, the structure of the banking system in Egypt is deposit-based funding, hence of plentiful liquidity, which is one of the reasons for considering the banking system as healthy and well-capitalized with potential for growth and higher inclusion (Export.Gov, 2017). As for the non-banking sector and instruments (including the Capital Market, the Exchange, Insurance Services, Mortgage Finance, Financial Leasing, Factoring and Securitization), it is regulated and supervised by the Egyptian Financial Supervisory Authority (EFSA) (Mfw4a, 2017) in accordance to law 10/2009 (FRA, 2014).

3.1.4.1. The Main Actors and Stakeholders in the Financial Sector

The CBE is acting as the regulator for the Egyptian banking system according to law 88/2003. The banking system entails around 40 banks working under its umbrella. Although there are different categories of banks (commercial, non-commercial, public and private), the majority of these banks are operating as commercial banks, while few banks are specialized, such as agriculture and real estate. The three large public (state-owned) banks are: the National Bank of Egypt (NBE), Bank Misr, and Banque du Caire and they control 40% of the banking sector (Export.Gov, 2017).

Furthermore, few economic reform measures were introduced (floating exchange system, new investment legislation, restarting interbank trading) and its impact is remarkable on increasing the pipeline for project finance, as well as improving banking competition to serve a largely untapped retail segment for small and medium-sized enterprise (SME). For this purpose, the CBE has mandated 20% of bank loans to go to SMEs (either start-ups or existing) within the next years until 2020 (Export.Gov, 2017).

In addition to the banking services, most of the commercial banks have established leasing companies to expand their financial services. The leasing companies are operating under supervision of FRA.
3.1.4.2. Financing Institutions operating in Renewable Energy, Energy Efficiency and Climate Change

Development organizations and banks are cooperating with local banks to promote investments in the RE and EE projects. In addition, special instruments like the Green Climate Fund (GCF) are directing growing attention in the same sector.

1. **European Bank for Reconstruction and Development:**

The European Bank for Reconstruction and Development (EBRD) signed accreditation agreement with GCF. The GCF funds will help transform the local banking sectors to become engines of green lending, based on the EBRD’s tried-and-tested model of credit lines for sustainable energy efficiency projects (EBRD, 2017).

2. **Green Economy Financing Facility:**

The Green Economy Financing Facility (GEFF, 2015) provides finance and advice for private sector businesses to improve competitiveness, through high performance technologies and practices. The facility supports Egypt’s green economy transition with EUR 140 million of financing for energy efficiency and small-scale renewable energy investments.

3. **The National Bank of Kuwait-Egypt:**

In January, 2016, the International Finance Corporation (IFC, 2016) announced a loan of up to USD 50 million to the National Bank of Kuwait in Egypt (NBK) to boost access to finance for medium-sized businesses and promote sustainable energy financing, a programme that would be implemented over four years until 2020.

4. **Egypt Renewable Energy Financing Framework:**

The Renewable Energy Financing Framework (REFF) will support Egypt in meeting its renewable energy target of 20% by 2022, through two complementary components (GCF, 2017). The first is a comprehensive technical assistance programme to enhance renewable energy integration, policies, and planning. The second component is to scale up investments to support the development and construction of renewable energy projects totalling USD 1 billion. This will be done by blending GCF and EBRD financing to leverage debt financing from international and development financial institutions, and at a later stage from commercial banks and private sector investments.

3.2 **Planning and conduction of the CNA in Egypt**

The business trip to Cairo (Egypt) was conducted from Sunday, October 22nd until Monday, October 23rd, 2017 and was mainly organized by RCREEE.

In Egypt, five bilateral meetings were conducted in total: with the German Embassy in Cairo (Mr Sebastian Wilde), KfW office (Mr Walid Abd El-Rehim) and GIZ (Mr Hayder Baghdadi), as well as the Micro, Small and Medium Enterprises Development Agency (MSM-EDA) (Dr Walid Darwish, Mrs
3.3 Main Outcomes of the CNA in Egypt

3.3.1 Public sector

The wind power is considered the main component in the RE mix in Egypt, followed by solar power. All the large-scale projects are state-owned projects, for which NREA is the responsible for implementation and operation. Most of these projects have been implemented in cooperation with different development agencies (hence developing funds), many projects are still in the pipeline, too. Germany is the major contributor to the RE projects in Egypt (in terms of installed capacity). However, recently the socio-economic impacts of the RE projects (especially job creation) have attracted more attention from the GoE, as well as other development partners including BMZ (through KfW and GIZ). In addition, with launching the FiT scheme, private financing of RE projects was induced, especially for large scale projects.

With regards to the EE projects, there are different applications for applying EE measure in buildings (public or private) as part of development projects. Usually, the activities related to pollution abatement (in industries) are implemented as environmental projects rather than RE projects. A good example is the “Egyptian Pollution Abatement Programme” (EPAP) implemented and co-financed by KfW in 3 phases, with a component dedicated to capacity building for the banking sector serving environmental projects. The banking sector plays an important role in qualifying the projects causing pollution and to determine their eligibility for financing. Mr Abdel Rehim (KfW) mentioned that the degree of awareness about the importance of applying EE measures is higher in large corporations and industries compared to the small ones, although the potential of applying EE measures is higher in small corporations and industries compared to the large ones, since energy losses in small companies are (relatively) higher.
According to NREA, the GoE would need to establish clear policies necessary for creating trust in the market and to establish financial support schemes to develop the private sector, especially since there is no clear mechanism for financing small scale RE and EE projects in specific technologies.

Speaking of the beneficiaries, the representatives of the Ministry of Electricity and Renewable Energy (MoERE) highlighted that there is a lack of knowledge about the different instruments that banks offer to investors (beneficiaries). Therefore, it is important to have a kind of incentive for beneficiaries to go for green investments (projects), such as lower interest rates and longer grace periods.

3.3.2 Financial sector

According to KfW (Mr Abdel Rehim), the local banks have enough liquidity reserves, which allow them to invest in RE and EE projects. Most of the banks are already into SME finance. However, well-known clients are relatively favoured, especially that they could provide enough collaterals for the loans. For investors, the average interest rate from the banks is high (~16 – 17%), which could be only fulfilled by big projects or clients. NREA suggested that establishing a fund in Egypt that could use international or development loans and lend it to local banks (on-lending agreements) to be relocated to RE and EE projects at lower interest rate could be one mechanism to overcome this market barrier. In this regard, the CBE would then be directed to support and enable the local banks to assess and approve the financial aspects of these projects, while NREA would assess and approve the technical aspects.

Regarding the Islamic banks, it is operating together with commercial banks under the umbrella of the CBE. The main remarkable difference is that Islamic banks prefer equity finance to lending (KfW). Mr Abdel Rehim shared his viewpoint about one of the main challenges in the banking sector to finance RE projects: most of the equipment and systems are imported and it is not easy to guarantee sufficient supply of foreign currency and the regulatory framework is necessary.

Besides, Mr Abdel Rehim added that the micro and small-scale enterprises tend to perform its operations outside the banking system to avoid the complications of documents. In this area, the role of non-banking stakeholders prevails (for example companies operating in leasing and factoring, crowd funding, insurance companies, equity finance like business angels, venture capital, accelerators, and incubators, as well as guarantee providers). However, the GoE and CBE are working on “Financial Inclusion” project to eliminate this phenomenon, for in September 2017, the GIZ (Mr Baghdadi), Arab Monetary Fund and Alliance for Financial Inclusion (AFI) launched the Financial Inclusion for the Arab Region Initiative (FIARI).

The MSM-EDA is a public entity active in the field of providing grants (e.g. for vocational training or infrastructure) and has lately started with loans, divided into direct lending to MSMEs and indirect lending through intermediaries, primarily banks, but also NGOs or Microfinance Institutions.

MSM-EDA has activities in the “green” sector. For example, they have financed direct loans for RE projects, off grid solar pumping systems, and other national projects (such as biogas in rural areas, charcoal kilns or smelters). MSM-EDA has also provided indirect loans mainly to SMEs (corporate finance) and has provided funding criteria to their intermediaries for assessment of projects and SMEs. MSM-EDA does not have a “green credit line” yet, but if their staff (~30-35 person in charge of lending) would be trained and equipped with necessary capacities, then they could call for funds from donors and dedicate it to green finances. However, to do that, MSM-EDA mentioned that they need more knowledge and more awareness to understand more about the risk factors of renewable energy and
to have enough environmental specialists to evaluate the technical feasibility and technical aspects and environmental issues related to RE and EE, especially for the off-grid applications. Since MSM-EDA is a government entity, it can provide funds to its intermediaries at relatively low interest rates, same could be applied to banks. Accordingly, further training for the banks is important to allow them to see the projects from different perspectives and have a better understanding of the requirements of the RE projects (e.g. longer grace period during construction phase).

In general, “Green Finance” is perceived as one of the important topics, which is gaining more recognition and attention. An important concept was communicated through EBRD (GEFF-Egypt), who emphasized that the green financing should address two main areas, reducing the risk of banks, as well as supporting companies to be more productive.

The CBE is highly interested in the topic, especially that two new divisions were established recently, one for the financial inclusion for all financial service providers and the other one for sustainability topics. However, for the CBE to perform its role as regulator, it needs to know more about these topics, to build its capacities (also through peer-to-peer learning) and to exchange experiences with other banks. There is a need to have a platform of best practices, for Egypt to develop its own model and recognize it as a national scheme/model, before issuing related regulations. There is a need to start with a framework, also to link green financing with the financial inclusion, and to conclude these steps with announcing an initiative for Green Finance. Crash courses (~3-5 days) are preferred for the training.

According to the Commercial International Bank (CIB), the benefits from investing in RE and EE projects are not clear to the banks. Since ensuring the sustainability of the financed projects is very important, technical assistance should be provided through a trust-worthy entity confirming that the technical aspects of these projects are consistent with the technical (and environmental) standards (hence accrediting the projects).

In concluding the workshop, few recommendations were made regarding the importance of certain topics. Since the developers (investors) need longer tenure period (maximum period offered by banks is 10 years) and the risk of RE projects varies with the scale of the project itself, therefore the GoE needs to guarantee that the off-taker (EETC in this case) will buy the electricity and the investor will implement the project. Furthermore, there is a need to educate the banks more about the types and nature of the risk related to different RE and EE projects, which will accordingly help the banks to financially assess these projects.

### 3.3.3 Results of questionnaire

Representing the banking and finance sectors, 11 participants attended the workshop in Cairo and responded to our questionnaire. They showed interest to have trainings in the following top 5 topics among 24 different topics: Financing instruments, Support mechanisms, Risk assessment, Access to international climate funds, Country potential and Regulatory frameworks, as shown in Figure 3.1.
The attendees were also interested in receiving trainings in green technologies, especially in photovoltaics as well as in energy efficiency for industry, for communities and for the power sector. Less interest was expressed for wind energy, bioenergy and energy efficiency in buildings. These results are displayed in Figure 3.2.

Recent studies in Egypt highlighted also the growing market potential for solar pumping systems, especially for remote areas (off-grid). This topic is attracting more attention from the GoE (NREA,
Ministry of Water Resources and Irrigation, Ministry of Agriculture and Land Reclamation), especially that it serves a national project for reclaiming 3 million feddans for agriculture. In addition, promoting solar pumping systems fits perfectly to different initiatives and interests supporting the Water-Energy-Food nexus. In additions, banks are facing challenges in the financial assessment for these projects and tailor-made capacity building would fill in an existing gap in the market.

3.4 Collaboration with other projects in Egypt

There are other capacity building projects currently in the pipeline, one is in collaboration with IRENA for project developers. It is on “how to write a business case for RE projects with bankable documents” including the financial offer (not only technical) and business model (according to NREA).

In addition, an initiative called “Mostadam” (an Arabic word for “sustainable”) was launched in 2014 by the Arab African International Bank (AAIB) in cooperation with the United Nations Development Program (UNDP) and the Egyptian Corporate Responsibility Center (ECRC), focusing on capacity building, advocacy and advancing sustainable products and services. This initiative was promoted as the first platform to enact sustainable finance in Egypt (AAIB, 2014). Possibilities for collaboration and cooperation shall be considered in the following phase, if applicable.

3.5 Country conclusions: Egypt

The topic “Green Finance” was welcomed by all participants and is gaining momentum in Egypt. However, “Project Finance” for RE projects is known mostly for the large-scale RE projects, where the contribution of private stakeholders was encouraged through the two successive rounds of FiT scheme. Before that, the large-scale projects were mainly developed by governmental entity (NREA) and financed by development agencies and international financial institutions (such as KfW, AFD, EC, among others).

The MSMEs are a topic discussed often in connection with small-scale RE projects, e.g. solar pumping systems, biogas plants in rural areas or roof-top PV systems, as well as promoting private investments and creating new jobs. There seems to be a high potential and considerable political support to create a robust platform and mechanisms bringing different stakeholders together, but no real business model is yet in place show how to implement these small-scale projects in large numbers.

With the expressed importance of having a financial support scheme by NREA and having the CBE on board, with an expressed interest to learn more about the nature of RE and EE projects, its related risks, regulations and documents, would give the topic itself “Green Finance” and the proposed training program the required credibility, and would require considering also the announced targets by CBE to promote SMEs through directing 20% of loans for SMEs’ finance. The CBE could support the implementation of this program in the local banks. Besides, the CBE could support in having the customized training program adopted by the Egyptian Banking Institute (EBI), which is the affiliated entity in charge of offering professional training to the local banks in Egypt.
4 Capacity Needs Assessment in Jordan

4.1 Situation and framework conditions in Jordan

Due to insufficient natural resources, Jordan imports around 97% of its energy and fuel requirements, which represents around 20% of its GDP. However, Jordan’s wind atlas indicated that some areas in the northern and western regions of Jordan have considerable wind speed (more than 7 meters per second). In addition, the annual daily average solar irradiation is one of the highest worldwide (7 kWh/m²). Accordingly, Jordan is being endowed with wind and solar energy resources that could be exploited for power generation (Export.Gov, 2017).

Since 2003, many Independent Power Producers (IPPs) are operating in the market. The National Power Electric Company (NEPCO), which is managed by the government and the electricity regulator, owns and operates the transmission lines, while three private companies own and operate the distribution networks. Both private and public companies are active in power generation, where privately owned companies produce about 75% of the electricity (AFEX, 2016).

4.1.1 Renewable energy deployment and targets

In order to increase the contribution of RE sources to the national energy supply, and in response to the increasing prices of imported energy resources, the master strategy of the energy sector for the period 2007 – 2020 was adopted in 2007, giving major priority to RE. Later in 2012, this strategy had to be updated due to economic changes at that period. The revised targets are listed in Table 4.1 (AFEX, 2016).

Table 4.1: National targets for renewable energy mix in Jordan (AFEX, 2016)

<table>
<thead>
<tr>
<th>Renewable Energy Mix</th>
<th>Wind</th>
<th>Solar PV</th>
<th>Biomass</th>
<th>Total</th>
<th>Target - Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted installed capacity (MW)</td>
<td>800</td>
<td>1,000*</td>
<td>50</td>
<td>1,850</td>
<td>10% - 2020</td>
</tr>
</tbody>
</table>

(*) targets were updated in 2015 from 800 MW to be 1,000 MW

In addition to the target of developing 1.85 GW mostly from Solar PV and Wind power, Jordan is committed in its Intended Nationally Determined Contribution (INDC) to cutting the GHG emissions by 1.5% from the Business as Usual (BAU) levels by 2030, which could also increase to ~14% depending on securing international finance for planned activities. Moreover, there is a plan to boost the local RE deployment with a target of 11% of primary energy demand from solar, wind and hydropower sources by 2025 and to improve EE by 20% by 2020. The overall RE installation was reported by mid-2016 as detailed in Table 4.2 (AFEX, 2016).

Table 4.2: Status of installation and deployment of renewable energy by mid-2016 (AFEX, 2016)

<table>
<thead>
<tr>
<th>Renewable Energy Installation</th>
<th>Wind</th>
<th>Solar PV</th>
<th>Other</th>
<th>Total</th>
<th>Share in Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed capacity by mid-2016 (MW)</td>
<td>197</td>
<td>50</td>
<td>3.5</td>
<td>250.5</td>
<td>5.65%</td>
</tr>
</tbody>
</table>
Within two years, the share of installed RE capacity increased 14 times from 18 MW in 2014 to 250 MW in 2016. The pool of investors is diversified and includes both local and foreign investors. Over 400 MW of large scale wind and solar PV projects are in different phases of development. On average, the size of solar PV projects is rather medium, mostly under 50 MW (AFEX, 2016).

### 4.1.2 Political support mechanisms

The Government of Jordan (GoJ) is continuously improving the policy framework and introduced different instruments to attract and increase private investments in the sector, as well as to operate utility scale projects (AFEX, 2016). To meet its respective targets, the following instruments and mechanisms were implemented:

#### 4.1.2.1. The Feed-in Tariff

Jordan was among the first countries in the region to apply FiT schemes. In 2013, the GoJ adopted a system for FiT especially for solar PV and CSP systems not exceeding 500 MW. The set prices were described as a “ceiling tariff” without indicating any tranches in size. Moreover, the EMRC had the right to end this FiT scheme once the total installed capacity reaches 500 MW (Helioscsp, 2012). In the first round, the FiT was announced by the GoJ, then moved to bidding process in the second round, which would probably be the case also for the third round.

#### 4.1.2.2. The Net Metering

The energy prices, which are among the highest in the region, allowed to move forward with the implementation of the net metering scheme for the development of distributed RE projects. Net metering policies have been adopted since 2012, in accordance with the Renewable Energy and Energy Efficiency Law (REEL) No. 13 of 2012, with relatively simple schemes that have attracted smaller and big system investors (prosumers). Under this scheme, the excess electricity fed into the grid is credited for later consumption. This credited excess electricity can be used to offset electricity used at other times, when there is little or no PV electricity production (e.g. at night) (AFEX, 2016).

The REEL and its bylaws enabled Independent Power Producers (IPP) to provide electricity from renewable sources to NEPCO as part of a long-term Power Purchase Agreement (PPA). Private investors can also invest in their own PV system of up to 5 MWp to directly consume the electricity produced and offset it within a net metering scheme. The REEL also allows for the electricity to be generated on a different location than the one where the consumer is located, which is referred to “Energy Wheeling” (AFEX, 2016).

#### 4.1.2.3. Independent Regulator

Since the adoption of the Jordanian General Electricity Law in 2003, the country has initiated a fully unbundled power sector that separates the ownership of generation, transmission, and distribution. In addition, private investors are allowed to partially own and operate utility scale RE power plants.

Within the MENA region, the Energy and Minerals Regulatory Commission (EMRC) is considered to be independent in taking decisions without interference from the GoJ (AFEX, 2016).
4.1.2.4. Subsidies Reform

Jordan showed diligence in implementing subsidy reform in the electricity sector to decrease the total amount of the sector’s subsidies by 2017. The subsidy phasing out process started in 2014, and gradual increases in electricity prices for the following years were announced. The large majority of households were not directly affected with such reform. However, the industrial and commercial sectors needed to plan for considerably higher electricity tariffs. Indeed, the highest electricity tariffs were applied to Jordanian banks and hotels with an annual increase of 15%. Because of this dramatic tariff increase, a large number of RE projects are expected to be deployed in these two sectors in the near future (AFEX, 2016).

The French Development Agency (AFD) is supporting the GoJ currently with studying the tariff reform and related potential, since the electricity tariff now depends on the consumption, the higher the consumption, the higher the prices, where the category of lower consumption is highly subsidized.

4.1.2.5. Other Supporting Measures

Out of its commitment to support the implementation of RE and EE, Jordan has established clear rules specifying that all RE and EE systems qualify for full exemption from sales tax. Besides, more supporting policies were introduced to facilitate the successful implementation, such as the scheme for submission of direct proposals for the development of utility scale RE projects to the GoJ, which provides some guidance to identify appropriate sites for implementation (AFEX, 2016).

Jordan has improved its grid access conditions for RE projects since 2014. As a result, Jordan is considered to have one of the most preferential grid access conditions for small and large-scale RE projects in the region (AFEX, 2016).

4.1.3 The Main Actors and Stakeholders in Energy Market

There are many actors and stakeholders contributing to the energy market in Jordan (TaqaWay, 2017). The main actors are introduced briefly in the following section.

4.1.3.1. Ministry of Energy and Mineral Resources

The Ministry of Energy and Mineral Resources (MEMR) was established in 1984 and entrusted with administering and organizing the energy sector in a way that achieves the national objectives. The MEMR partners with international development agencies (such as KfW, AFD, JICA, GIZ, etc.) to develop and implement RE and EE projects.

4.1.3.2. The National Electricity Power Company

NEPCo is a state-owned company, in charge of operating the national power grid and managing the electricity market, including the public and private companies, such as IPPs, the Transmission System Operator (TSO) and the Distribution System Operators (DSO). In addition, NEPCo represents the GoJ in signing Power Purchase Agreements (PPA) with RE developers, under FiT scheme or direct
Capacity Needs Assessment

proposal submission. The development agency of Japan (JICA) is supporting NEPCo with laboratories for monitoring and control.

4.1.3.3. Energy & Minerals Regulatory Commission

The Energy and Minerals Regulatory Commission (EMRC) is the only authority responsible for the regulation of the energy and minerals sector, and is operating independently from the GoJ according to the Energy and Minerals law of 2014 and its amendment law 8/2017.

4.1.3.4. Jordan Renewable Energy and Energy Efficiency Fund

In 2012, the GoJ established JREEEF as a dedicated fund for RE and EE, which is assigned the mission to facilitate scaling-up of RE and EE to meet the energy needs of Jordan, in accordance with the National Energy Strategy (NES) and National Energy Efficiency Action Plan (NEEAP). JREEEF partners with international development agencies (like EU Delegation) in implementing solar PV projects and solar pumping stations. Therefore, it has double role, contributing to both, the energy market and finance market. Moreover, JREEEF offers technical and financial training programs to different beneficiaries.

4.1.3.5. Ma'an Development Area

The Ma'an Development Area (MDA) was established by the South Company for Construction and Development (SCCD), in partnership with the Jordan Industrial Estate Corporation and Al-Hussein Bin Talal University. Being owned by the King Abdullah II Fund for Development (KAFD), SCCD's mission is to develop the southern regions of the Kingdom through landmark projects that will bring about social and economic prosperity to the area, as well as to spur industrial development and innovation.

4.1.3.6. Energy, Water and Environment Productivity (EDAMA)

EDAMA is a Jordanian Business Association that seeks innovative solutions for energy and water independence and productivity, and their positive reflection on the environment. It provides different capacity building programs, required to satisfy the market with skilled labor force.

4.1.4 Highlights on the Financial Sector

Similar to other countries in the region, the political and economic conditions since 2011 had its impacts on the financial sector. According to Moody’s rating system, the Jordanian banks benefit from gradually improving operating conditions. Since 2013, the Jordanian rating jumped to “stable”, after the government pursued fiscal consolidation that stabilized the high debt numbers in the medium term (AFEX, 2016).
4.1.4.1. The Main Actors and Stakeholders in the Financial Sector

The banking sector consists of 25 banks, 15 of which are listed on the Amman Stock Exchange (ASE) and is regulated by the Central Bank of Jordan (CBJ). JREEEF is considered an important stakeholder and player in the financial sector, since it acts as an intermediary between the banks and the investors (or projects’ developers), through taking over the settlement of loans’ interest fees to the banks, while on-lending the loans free of interest to respective investors.

Moreover, Jordan has established entities that offer equity products to new and established companies focusing on RE projects. The Jordan Enterprise Development Corporation (JEDCO) is a governmental organization dedicated to supporting start-up companies by allowing up to 80% of equity in their RE projects, as well as small and medium sized enterprises (SMEs), with a focus on industrial, service and agribusiness sectors (JEDCo, 2016). Since JEDCO only requires 10% return on any profits, this significantly reduces the cost of equity. The Jordanian fund has not been heavily used. However, with the increasing electricity prices, JEDCO expects a higher demand for RE systems and their offered services.

In addition, there are two initiatives providing capital subsidies: (1) the Jordan Chamber of Industry Factories Support Program offers a non-refundable capital subsidy for small industrial enterprises to install either solar PV or solar water heaters. The objective is to install small projects in order to familiarize industry with the technology. The subsidy covers up to 35% of the product costs, if imported, and up to 50% if the product is Jordanian made. (2) The Higher Council for Science and Technology Industrial Research and Development Fund (IRDF) provides industrial organizations with grants of up to EUR 32,792 for implementing a solar PV project in partnership with an academic institution. Out of the two initiatives, the Jordan Chamber of Industry Factories Support Program has been the most successful one in attracting beneficiaries.

4.1.4.2. Financing Institutions operating in Renewable Energy, Energy Efficiency and Climate Change

Development organizations and banks are cooperating with local banks to promote investments in the RE and EE projects. In addition, special instruments like the Green Climate Fund (GCF) are attracting growing attention in the same sector. However, it was not possible to develop a distinct list of banks which are actively involved in loans for RE or EE projects.

**European Bank for Reconstruction and Development:**

The European Bank for Reconstruction and Development (EBRD) signed an accreditation agreement with GCF. The GCF funds will help transform the local banking sectors to become engines of green lending, based on the EBRD’s tried-and-tested model of credit lines for sustainable energy efficiency projects (EBRD, 2017).

For the purpose of concluding this report, we were not able to identify more financing entities (commercial or development banks, local or foreign entities) that offer specific loans for RE and EE projects.
4.2 Planning and conduction of the CNA in Jordan

The business trip to Amman (Jordan) was conducted from Wednesday, October 25th until Thursday, October 26th, 2017 and was mainly organized by RCREEE.

Four bilateral meetings were conducted with: JREEEF (Mr Rasmy Hamzeh and Eng. Diana Athamneh), EDAMA (Ms Rund Awwad and Ms Bushra Hattab) as well as two meetings with GIZ (Mr Hussien Muhsen and Ms Katharina Braun). The final meeting schedule is available in Annex II (section 10.2.1).

The workshop was organized and hosted by the Association of Banks in Jordan (ABJ) on October 23rd, 2017 in cooperation with the Jordanian Renewable Energy and Energy Efficiency Fund (JREEEF). In total, 22 participants from a banking background (Islamic and commercial banks) joined the workshop. The list of participants is available in Annex II (section 10.2.2).

4.3 Main Outcomes of the CNA in Jordan

4.3.1 Public sector

The electricity sector in Jordan is partially liberalized, since all the utilities are privatized. The GoJ owns the national grid, and the Transmission System Operation (TSO) as a state-owned entity acts as the single buyer of electricity generated also by private companies and IPPs. There are 3 private Distribution System Operators (DSOs), each DSO is assigned to operate in certain area in which it is the only electricity seller at highly subsidized prices.

JREEEF plays an important role in the energy market in Jordan, since it contributed to the Paris Agreement, and is currently contributing to four national action plans related to RE and EE, which are expected to be signed in the following month(s).

The climate change and its related topics (including INDCs, mitigation, adaptation and nature conservation activities) are affiliated to the Ministry of Environment (MoE). The MoE is preparing a new environmental law accompanied with by-laws in cooperation with GIZ, including the regulatory framework to implement climate change agreements, reporting, assessment, as well as Green Finance. For this reason, the Green Finance specialist program is very relevant to the interest and ongoing trend within the MoE and can get easily its support. Since the new by-laws will be discussed by the GoJ to be accredited by the cabinet, GIZ (Mr Muhsen) suggested involving representatives from the Ministry of Finance in the training program to have better understanding about the program, which will accordingly support a better decision making for related topics.

Moreover, GIZ suggested that incorporating Green Finance as a mechanism for SMEs would be extremely important, especially that SMEs are contributing to the installations of small scale solar PV and solar water heaters systems in the residential sector. Although most of these projects are promoted by JREEEF, yet there exists no clear support mechanism for individual installations for residential purposes. In addition, training the banks on financing SMEs is required to support the implementation of RE projects in the residential sector, especially that the lowest electricity consumption segment is heavily subsidized. Therefore, promoting SMEs and RE projects in the residential sector would imply also reducing the subsidy bill considerably.
4.3.2 Financial sector

The banking sector in Jordan represents 94% of the financial sector. Most of the leasing companies are owned by banks, with only one company available for Equity Finance (relatively new topic). All the banks are operating within the framework and regulations of the Central Bank of Jordan (CBJ).

Jordan is also one of the countries where the regional project for “Financial Inclusion Strategies” is being implemented. However, Green Finance is not included. This project is concerned mainly with the policy level; this is one of the reasons that prevented getting in direct contact with CBJ due to the tight schedule of the relevant persons, who were engaged in submitting important milestone for this project, which was planned for December 2017.

The CBJ supports investments in RE projects, offering a specific low interest rate to local banks of around 1.75%, allowing these banks to do the on-lending at final interest rates up to 4.5% for large-scale projects. However, banks communicated in the workshop that on the operational side the benefits of these schemes seem to be not clear enough for the local banks to operate. Probably more explanation and visualization of the process would support all these banks understand the framework and to better estimate the risks and cost of RE projects. The local banks have already enough liquidity, which encourage them to finance RE projects. In addition, in cooperation with multilateral development banks, the local banks co-finance large scale RE projects.

With regards to JREEEF’s significant contribution to the finance market with support of the CBJ, it signed 12 agreements with 12 local banks, through which JREEEF agreed to completely take over the interest payments (~4.5%), so that the investors (loan’s beneficiary) receive interest free loans with a repayment period of up to 60 to 70 months. In addition, JREEEF highlighted that it bears all additional fees for the technical feasibility studies, as well as related guarantees (~1.25%) required by the Jordanian Loan Guarantee Corporation (JLGC) to facilitate access to finance for SMEs, while the local banks would have covered the related risk of different projects. This mechanism is applied under the umbrella of CBJ without involvement of any international donor. According to the Executive Director (Mr Hamzeh), with a budget of ~ USD 18 million (~ JOD 11 million), JREEEF created a market value of RE projects worth ~ USD 70 million (~ JOD 50 million), hence leveraged the budgeted funds. Furthermore, JREEEF has running projects for applying EE measures in hotels, industries and for households (such as solar water heater, insulators, etc.).

According to ABJ (Mr Kandah), the excess reserves in the CBJ are around JOD 2.1 billion, together with the certificate deposits and required reserves would add up to around JOD 4.2 billion ready for financing projects in the banks. For this reason, more effort is required from the local banks to satisfy the market needs. The ABJ supported the idea of Green Finance training program and stressed on the importance of promoting “sustainable financing” through introducing new products, such as Green Bonds. From JREEEF’s perspective, around JOD 1 billion are required to boost the RE and EE market and would be enough to create around 50,000 new jobs. Therefore, banks might need to consider establishing separate units for Green Finance, to consider the different nature and requirements of RE and EE efficiency projects compared to others.

Despite the important role for the banks in promoting the market, many bankers do not realize the benefits of specialized capacity building program on Green Finance, as expressed by the Executive Director of EDAMA. In addition, speaking of the finance mechanism, financing SMEs is considered more important for banks (in terms of revenue) compared to project finance schemes. Since SMEs mostly serve the residential sector with RE installations, it is therefore important to consider this sector
in the training program, allowing the bankers to check the bankability and due diligence analysis and offer targeted service to SMEs leading to scaling up the RE and EE market.

The Islamic banks as well as the Gulf banks seem to have their different agendas too, as advised by GIZ representative (Ms Braun). From the discussions in the workshop, it was clear that the Islamic finance plays an important role in Jordan, different to commercial banks. In fact, Islamic banks act as intermediary between the investors and the EPC, where it enters into agreement with EPC and sell the electricity to the customers.

Bankers are not fully aware of the available environmental regulations and issues related to different RE and EE projects, including the type of documentations required by the investors to facilitate the approval of the Green loans (such as environment assessment, energy audit, local regulations and laws, etc.). Therefore, more collaboration is required between different stakeholders along the process. In addition, the importance of having reliable technical assistant for evaluating the technical feasibility of these projects was emphasized and would also facilitate the financial evaluation process in the local banks.

In general, there is a need to pave the way for Green Finance products at the strategic level of all banks. Once the strategic decision is made, a respective guarantee from the CBJ is issued for the ease of redemption of loans, together with having technical assistance for project(s), the Green Finance could be easily implemented to boost the market investment.

4.3.3 Results of questionnaire

From the participants of the workshop in Amman, 15 responded to our questionnaire. They would like to develop their knowledge in the following topics which are the top 5 among 24 topics offered: Portfolio management, Due Diligence, Project Ratio Analysis, Regulatory Frameworks and Return Measurement, as displayed in Figure 4.1.
Figure 4.1: main topics of interest to banks and to be considered in the training program in Jordan

The participants from Amman are not only interested in training on financial topics, but also in different energy technologies. The top 3 out of 8 technologies are: Concentrated Solar Power (CSP), Energy Efficiency in industry/power sector and Energy Efficiency in buildings, as shown in Figure 4.2. Again, there is less interest in wind energy and bioenergy, however, the difference is smaller compared to the results from Egypt.

Figure 4.2: main energy technologies of interest for financing in Jordan

Although the discussions revealed that implementations for solar water heaters systems are promoted and supported by JREEEF and is considered reliable also for the residential, industrial and commercial
sectors, this technology was not reflected in the questionnaire and in Figure 4.2 above. However, there is a target to install ~200,000 solar water heaters by 2020 (JREEEF, 2017).

4.4 Collaboration with other projects in Jordan

Although there are many ongoing training programs in the RE and EE sectors, there is no program dedicated to Green Banking or supporting Green Finance.

JREEEF is planning for a training program on “Green Lending”, especially to support banks in evaluating projects, reading technical reports (like energy audits), as well as calculating the risks and socio-economic impacts (direct and indirect) of RE and EE projects. The purpose is to better inform the bank officers about these projects and its special nature, to ensure that banks are making the right setup for the “Green Lending”, dealing with financing RE and EE projects as a separate unit, including design, skilled employees, training programs, CSR, etc.

Since JREEEF recognizes the need for a comprehensive concept to cover all these aspects, which is very much consistent with the proposed framework for the training program “Green Finance Specialist”, it also supports and welcomes the implementation of this project in Jordan.

Furthermore, GIZ is contributing to an EE initiative for the industrial sector, under the umbrella of the DIAPOL-CE project, which is mainly concerned with raising awareness, creating network of industries of similar processes (including green industry) and creating of networks. Therefore, this initiative has the potential of complementing the planned Green Finance training and offers a room for collaboration.

4.5 Country conclusions: Jordan

The Green Finance training program is consistent with the overall political and economic trend in Jordan and is therefore welcomed by all stakeholders and banks. In supporting RE and EE projects, financing SMEs is also gaining momentum especially for small scale projects. It is being supported by different initiatives from CBJ and JREEEF for its direct impact on reducing the subsidies bill (among other benefits). Therefore, this topic needs to be considered in the training program to suit the national context, while taking into consideration that the GoJ has plans to gradually increase the share of local industry in RE applications.

Furthermore, introducing a module to highlight the local regulations, relevant technical documents, and different aspects related to RE and EE projects would be of benefits to the participants to facilitate an educated decision making and smooth processing of the loan applications. Furthermore, better understanding of the requirements of the green projects would allow reasonable assessment of risk, credit requirements (interest rate, due life time) as well as internal customization of different banking products to satisfy the requirements for investors in RE and EE projects and SMEs operating in these sectors.

However, the banking sector seems to be hierarchical in Jordan, which would require addressing managers and decision makers in respective banks to ensure the proper implementation of the training program. Since Arabic is the official language for correspondence with Banks, for that it would be preferred to have the training program (or simultaneous translation) and related material in Arabic to maximize the outreach to the target group and overall impact. Furthermore, personal communication
(face to face) seemed to be preferred for delivering the training, compared to the virtual communication channels (online modules).

Taking note of these remarks would introduce more flexibility in designing the training program. Few suggestions that might be considered are: (1) offer a special session for managers in respective banks (~2 hours) to introduce the program to which their staff will be enrolled, to gain their internal support, (2) dedicate one module (or more) for “customized training” on a certain topic, for which in-house training for specific bank(s) could be arranged.
5 Capacity Needs Assessment in Morocco

5.1 Situation and framework conditions in Morocco

5.1.1 Energy sector overview

Morocco’s Total Primary Energy Supply (TPES) has risen considerably in recent decades, reaching 18.8 Mtoe in 2012. The energy mix is represented in Figure 5.1 (IEA O./., 2014) as follows:

In 2014, Morocco met almost 91% of its energy needs with imports from abroad. This includes oil, oil products and coal from international markets, gas from Algeria and electricity from Spain.

Purchasing oil accounted for just under a quarter of total imports and about half of the foreign trade deficit. Due to this strong and constantly increasing dependence, Morocco reacts very sensitively to exogenous shocks. This makes the country’s economic and financial equilibrium difficult to maintain. (I. García, 2016)

Morocco’s electricity generation capacity has grown in the period 2002-2012 and now has a generation capacity of 7,994 MW. In addition to the 28 TWh of electricity produced in 2014, Morocco is still importing electricity, in order to meet the demand for electricity. While net imports of electricity only amounted to one percent in 2002, they have risen by 252% within 10 years.

The large proportion of fossil fuels in the national energy mix is responsible for a high level of CO₂ emissions, whose increase is expected to closely follow the rising energy demand. (B. Schinke, 2016) However, Morocco was among the first countries of the Middle East and North Africa to cut fossil fuel subsidies. The country has gradually eliminated its subsidies for fossil fuel consumption in the hope of reducing its costly energy imports. The reform was carried out in stages from September 2013 onwards and was completed at the end of 2015 with full price liberalization. Very low oil prices at that time made it easier to cushion the shock. (Chardaire, 2016) However, there is one product, butane gas, which still receives subsidies. Used by almost all Moroccans and many farms, the subsidies in 2014 amounted to about MAD 90-100 billion, a sum equivalent to 30% of the government’s budget deficit. (IEA O./., 2014)
The share of renewable energies in the energy mix is still negligible, despite a doubling in the supply of hydropower, a tripling in the production of wind power and the expected increase in the CSP in the given decade. Morocco has abundant renewable energy resources, mainly solar, wind and hydropower. The country has set targets to increase the share of electricity generating capacity from renewables to 42% by 2020 and 52% by 2030 as well as targets for reducing energy consumption by 12% by 2020 and 15% by 2030 through energy efficiency.

The Noor Power Station realized by the Moroccan Agency for Sustainable Energy (MASEN) is expected to be the largest solar facility in the world and will help Morocco to meet its target of 14% installed solar capacity by 2020.

Morocco is also investing in wind, which is estimated to make up 14% of total installed capacity by 2020. Morocco has an estimated 25,000 MW of technical potential for wind generation.

Hydropower can be considered a traditional component of Morocco's fleet of power plants and its potential is well exploited. With 1,770 MW currently installed, Morocco is close to reaching its goal of 2,000 MW of installed hydro capacity by 2020. (Hochberg, 2016)

### 5.1.2 Political support mechanisms

The Moroccan government has implemented a comprehensive plan to increase the share of renewable energy in the energy mix and to significantly improve energy efficiency. According to its national energy strategy from 2009 Morocco aims, among other things, at optimizing the energy mix and a top priority is the design of an energy policy that is favorable for the expansion of renewable energies. With this regard, the Moroccan Government has carried out substantial reforms in order to shape a legal, regulatory and institutional framework that would stimulate renewable energy development. The scope of political action focuses primarily on electricity generation and partly on electricity consumption.

In particular, Law n° 13-09 has created a legislative framework to support the development and planned expansion of renewable energies. It allows electricity to be produced and exported by any private producer as long as they utilize renewable energy sources. Through this policy the Moroccan government opened up the energy market by facilitating new entries and by supporting independent renewable energy producers. (A. Leidreiter, 2015)

The government has also demonstrated commitment by the establishment of a series of public agencies and institutions in the past few years. The comprehensive institutional framework was set up as a means to better organize, supervise and structure the promotion of renewable energy development. (I. García, 2016)

- **AMED – Morocco Agency for Sustainable Energy**
  This is the former MASEN – Morocco Agency for Solar Energy, which was promulgated under the law n°57-09 in 2010. AMED is now responsible for the development of renewable energy power stations while ensuring guidance of studies, planning, financing, achievement, management and maintenance.

- **ONEE – National Office of Electricity and Drinking Water**
The mission of this establishment is to meet Morocco's demand for electricity at the best conditions of cost and quality of service as well as 100% electrification of the country.

- **AMEE – Morocco Agency for Energy Efficiency**
  This is the former ADEREE - National Energy Agency for the Development of Renewable Energies and Energy Efficiency, which was created under the law n°16-09 in 2010. After a modification of the law in 2016, the Agency’s missions did not concern renewable energies anymore and have focused on energy efficiency since then.

- **SIE – Energy Investments Company**
  SIE was established in 2010 and represents the financial arm of the State to accompany the national development plan for renewables.

- **IRESEN – Institute for Solar Energy and Renewable Energies Research**
  The institute, which was set up in 2011, translates the national strategy into research and development projects and ensures the implementation, financing and steering of research projects.

- **REUNET - Renewable Energy University Network**
  Set up in 2013, REUNET is a university network for promoting renewable energies and energy efficiency in Morocco.

Morocco receives financial support from a number of institutions and countries, including KfW Development Bank, the German Federal Ministry for Economic Cooperation and Development and the German Federal Ministry for the Environment.

### 5.1.3 Highlights on the Financial Sector

The Moroccan banking system is a group of banks under the patronage of a central bank (B. A. M) also known as Bank Al-Maghrib, which is entrusted by the State and plays a preeminent role in the country’s banking system. It issues the Moroccan dirham, maintains Morocco’s foreign currency reserves, controls the credit supply, oversees the government’s specialized lending organizations, and regulates the commercial banking industry. (N.A., 2018)

The Moroccan banking sector is thus divided into 4 categories of institutions:

1. Conventional deposit banks: these include the five major private banks: Attijari Wafa Bank, la Banque Marocaine du Commerce Extérieure (BMCE) and the three French subsidiaries (Banque Marocaine pour le Commerce et l'Industrie (BMCI), Société Générale Marocaine de Banques (SGMB) and Crédit du Maroc)
2. The "Crédit populaire du Maroc": composed of the Banque Centrale Populaire (BCP) and its network of regional banks (BPR)
3. Former specialised financial institutions: it is Crédit immobilier et hôtelier (CIH) and Crédit Agricole du Maroc.
4. And various of other banks such as Bank Al Amal (financing of investment projects of Moroccans living abroad)
In addition, the Moroccan banking system is characterized by a strong presence of foreign banks. Because of this fact all the big private banks of the kingdom count in their shareholding on foreign banks. (Memoire Online, N.d.)

The Moroccan city of Marrakesh hosted COP22, which moved the Paris Agreement from COP21 into the implementation phase (IEA, 2017). A month before COP22 in Marrakech, Casablanca hosted a conference focusing on the creation of a green banking market. In this context, the European Bank for Reconstruction and Development (EBRD) has teamed up with Banque Marocaine du Commerce Extérieur and BMCE Bank of Africa to involve the financial sector in the practical implementation of the Paris Agreement. (ClimaSouth, 2016)

In 2016, Bank al-Maghrib, the Moroccan central bank, bought World Bank green bonds worth USD 100 million. With this investment, the Central Bank supports the sustainable development of projects financed by the World Bank, including those in African countries. This transaction also sent a powerful message to global investors and the climate policy community in view of Morocco's commitment to climate finance. (The World Bank, 2016)

With a total amount of EUR 110 million, MorSEFF is the sustainable energy financing line for Moroccan private companies. Developed by the European Bank for Reconstruction and Development (EBRD), in cooperation with the European Investment Bank (EIB), the Agence Française de Développement (AFD), and the Kreditanstalt für Wiederaufbau (KfW), MorSEFF gives Moroccan companies access to:

- Loans or leasing for the acquisition of equipment or the implementation of energy efficiency or renewable energy projects
- An investment grant of 10% of the credit
- Free technical assistance for the evaluation, implementation and verification of the project
- Local distribution by partner banks, BMCE Bank (and its subsidiary Maghrebail) and Banque Populaire. (Morocco Sustainable Energy Financing Facility, N.d.)

5.2 Planning and conduction of the CNA in Morocco

The business trip to Morocco was conducted from Monday, October 23rd until Tuesday, October 24th, 2017 and was mainly organized by RENAC with support from the regional project partner RCREEE. Compared to the other countries of this CNA, two cities were visited for the bilateral meetings and the workshop, namely Rabat and Casablanca.

In total, RCREEE and RENAC teams conducted 5 bilateral meetings with the most relevant stakeholders, including:

- Political institutions: Moroccan Energy Efficiency Agency (AMEE), Moroccan Association of Solar and Wind Energy Industries (AMISOLE), Moroccan Employers’ Federation (CGEM) and Moroccan banking and financial sectors’ Federation (FSBF, a part of CGEM)
- Financial institutions: KfW Bankengruppe
- International institutions: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

The final meeting schedule is depicted in in Annex III (section 10.3.1).
RENAC in cooperation with the German Chamber of Commerce in Morocco (DIHK) as well as the support of RCREEE, organized and hosted an afternoon-workshop in Casablanca on October 24th, 2017.

The workshop was attended by 15 participants, mainly from a banking background who appreciated the useful and informative session and the insight and background knowledge on the Green Banking Programme and the CNA mission. The list of participants is available in Annex III (section 10.3.2).

5.3 Main Outcomes of the CNA in Morocco

5.3.1 Public sector

The results of the CNA journey to Morocco showed that the Public Institutions share a very optimistic view regarding the development of Renewable Energy and Energy Efficiency sectors in general. Several institutions mentioned that sustainable energy is currently considered as one of the top priority fields on the agenda of the country’s royalty and hence there exist a big interest in the development of Green Energy and Climate Finance in the country. Furthermore, they all had a consensus on the noticeable increase in the population’s awareness regarding this topic which is increasing the people’s will for change. Hosting COP22 as mentioned by them was one of the main reason of the increasing attention given recently to this sector.

A national strategy for the development of Renewable Energy has been put into place recently and AMEE is currently in the process of being accredited to the Green Climate Fund (GCF).

From the point of view of the interviewed public institutions, now is the ideal time for capacity building in the fields of Green Energy and Climate Finance in the country, because they expect the launch of concrete projects, which will need access to financing, in the foreseeable future, as the abovementioned implementations of inciting mechanisms provide a framework and a favorable environment for their development.

The different public institutions have put an emphasis on the implementation of “train-the-trainer” seminars and similar opportunities to enable the country to provide its own continuing education in the future.
It has been mentioned several times that the country’s SMEs have a growing need for trainings in the Green Energy and Climate Finance sectors, especially regarding project valuation and best practices in the development of “bankable” projects. According to what has been said, the banks have dedicated funds for such projects but the SMEs cannot access them seeing how poor the projects they present for financing.

Finally, it was mentioned a couple of times during the bilateral meetings that one of the main challenges in the Moroccan context right now is the new law on opening the grid for low and medium voltage. Despite the fact that the law has been announced so long ago and everyone is waiting for it however, it is still not endorsed from the Government yet. This law is expected to open the market for further engagement of the SMEs and hence they will need more trainings on how to present bankable projects to the financial institutions.

5.3.2 Financial sector

The CNA trip to Morocco showed that there is a big interest in the Green Energy and Climate Finance sectors also from financial institutions.

Banks like Attijariwafa Bank, BMCE Bank of Africa or CIH are eager to develop their business in these markets and to expand their activities in Renewable Energy and Energy Efficiency finance.

Hence, they showed great interest in the discussions conducted during the workshop and in learning more about Green Energy and Climate Finance through Green Banking trainings. They expressed a need to learn how to better evaluate project proposals and to better assess the potential risks or economic feasibility of the projects they are presented with.

One of the points highlighted during the discussions is that special focus has to be given on how to benefit from the training afterwards after being customized to each country’s special condition. Some of the present banks expressed their interest in having such a course as face to face courses not just online courses to avoid losing focus or interests to complete the course in the middle as similar courses based on their previous experience.

Moreover, almost everyone present in the workshop agreed that the program should not be purely academic, but should give more practical examples and more on field experiences. Not only should the banks benefit from such a program, but also the SMEs should attend in order to have the two faces of the coin. They should attend the same program sharing their fears and barriers and how to cooperate together and overcome it to achieve the optimum results.

5.3.3 Results of questionnaire

12 participants from the workshop in Morocco responded to our questionnaire. The top 5 topics among 24 for the participants from Morocco regarding training on financial issues in the context of “green finance” are as follows: Feasibility assessment, Risk assessment, Project ratio analysis, Access to international climate funds and Loan agreement, as displayed in Figure 5.2.
Professional training in different energy technologies is also appreciated. The top 3 among 8 are Photovoltaics, Energy efficiency in industry and concentrated solar power (CSP). From the diagram in Figure 5.3 below we see, however, that the difference in interest on the 8 topics is rather low.

5.4 Collaboration with other projects in Morocco

During the CNA journey to Morocco, RCREEE and RENAC teams met with international institutions and with the aforementioned public institutions to present the Green Banking project and to exchange experiences and align with their activities. All listed parties were interested in and supportive of Green Banking. During bilateral meetings with RENAC, they assured their willingness to cooperate.
Mr. Ahmed Squalli (who has different roles and inter alia represents AMISOLE) provided RENAC and RCREEE with the contact details of a number of persons of interest in the industry and various local and international institutions.

During the bilateral meeting with the general confederation for enterprises in Morocco (la CGEM), they addressed a possible future cooperation between itself and the Green Banking programme. CGEM offered to inform private sector companies of the existence of the programme and would in the future need more information regarding timing of the implementation, contents etc.

### 5.5 Country conclusions: Morocco

Throughout the CNA to Morocco, various bilateral meetings and a workshop event were realized, which demonstrated an overall strong interest and support for the Green Banking project.

With regard to the training contents, the various training components offered within the Green Finance Specialist programme seem to fit quite well to the different requirements and demands.

Through the interviews in bilateral meetings and the questionnaire distributed during the workshop, a strong demand for trainings in the photovoltaic and wind energy sectors as well as in the field of energy efficiency was detected. Consequently, the Green Finance Specialist face to face trainings in Morocco should cover those topics.

It was mentioned by workshop participants that the training outline (20 weeks online teaching and 3 days seminars) was possibly not ideally adapted to the cultural framework of the country. Several participants mentioned that more face-to-face seminars should take place and the online part should be reduced or even replaced by face to face sessions in less time frames. Furthermore, it was mentioned that the program should be in French to overcome the language barrier and to benefit the best from it.

One of the most frequently asked questions during bilateral meetings was the nature of participants that will be able to attend the trainings. It was mentioned that a part of the participants should come from private sector SMEs and from public institutions as there is a strong need for trainings in the field of Green Energy and Climate Finance with all the different actors in the whole industry. Moreover, related to this question, the main question was who will be funding such kind of trainings.

One concern however, was mentioned by many counterparts in the bilateral meetings as well as the workshop: The country’s grid has yet to be “opened” to IPPs on the low- and medium-voltage levels in practice. The liberalization of the energy market, especially regarding the access to the low- and medium-voltage grids for IPPs, which gained momentum through the publication of the Law 13-09 and the subsequent Law 58-15 (passed in January of 2016) still suffers from the lack of an appropriate application decree, which has not yet been published. This circumstance is slowing down the development of smaller projects and the market as a whole.
6 Capacity Needs Assessment in Tunisia

6.1 Situation and framework conditions in Tunisia

6.1.1 Energy sector overview

In the 1970s and 1980s, Tunisia was still an export country for oil and gas. Since the 1990s, however, the tide has turned and the country has become an importer of raw materials due to an explosive increase in consumption.

Primary energy sources decreased by more than 7% per year during the period 2010-2016 from 7.8 Mtoe in 2010 to 5.4 Mtoe in 2016. Simultaneously there has been an increase in primary energy needs by 2% per year during the period 2010-2015 from 8.3 Mtoe in 2010 to 9.1 Mtoe in 2016. The energy deficit in primary energy has rose almost six folds in five years from 0.6 Mtoe in 2010 to 3.7 Mtoe in 2016. (Baccari, 2017)

Tunisia’s current energy mix based on installed capacity is displayed in Figure 6.1 as follows:

![Installed Capacity in Tunisia](image)

Figure 6.1: Installed capacity in Tunisia

Most of the fossil fuels that dominate the national energy mix are imported. Today, oil and natural gas are the main energy resources. (Cessac, 2014)

In 2014, the installed renewable energy capacity represented nearly 7% of the total capacity, or 311 MW. This installed capacity is divided between wind (244 MW), hydropower (62 MW) and photovoltaic (5 MW). Tunisia is also exploring the potential of using marine energy, biomass and waste recovery. Finally, substantial effort is being made in terms of energy efficiency (building, cogeneration, district cooling). The share of electricity generated by renewable energies is 1.6% in 2013.

Tunisia is looking to find new options to meet its future energy needs as the domestic production of gas is expected to start declining by 2020 while the demand will still be increasing. Thanks to its high renewables potential and geographical location, Tunisian government has decided to strengthen its strategy in the renewable Energy and has made the choice to focus on the private sector through wind and solar plan, using a specific plan with a targeted share of 30% of RE in 2030.
The country currently has only 15 MW of installed PV capacity and a 10 MW PV project under construction by Italian developer Ternienergia. Nevertheless, the government aimed to launch a tender for 70 megawatts of solar energy projects and 140 megawatts of Wind energy projects in November 2017. The auction will mark the first major expansion by the country in its nascent renewable energy sector.

The auctioned wind energy capacity shall be distributed into small and large-scale. A total of 20 MW of capacity will be offered in the size of up to 5 MW each, while 120 MW of capacity will be auctioned in project sizes of up to 30 MW each (Mahapatra, Saurabh, 2017).

It is worth mentioning that the northern regions of Tunisia, wind measurements revealed wind speeds of 7-10 m/s, indicating strong potential for wind power development. The annual produced capacity of wind farms is about 150 GWh. (N.a., Renewable Energy World, N.d.) (N.a., Action de Sensibilisation à l’énergie éolienne dans la région de Bizerte, N.d.)

6.1.2 Political support mechanisms

At an organizational level, the stakeholders involved in renewable energies are currently the following:

- The Ministry of Industry, which is both the licensing and regulatory authority. Its main mission is to define the strategic orientations of the energy sector, to set energy tariffs, the transfer prices of surplus electricity generated by auto-producers and the price of transmission through the grid.
- ANME - The National Agency for Energy Conservation designs and runs energy efficiency and renewable energies development programs. It intervenes in the implementation of State policy and the proposal of regulatory texts.
- STEG – Tunisian Company of Electricity and Gas is with an installed capacity of 240 MW of wind turbines, the main generator of electricity from EnR, conducts the electrical system, operates the transmission system, and is the sole purchaser of surplus electricity from EnR's auto generators.
- STEG Renewable Energies is the subsidiary created by the public operator to manage its renewable energy production units and offer assistance services to private developers in the design and implementation of their renewable energy projects.
- Industrial, agricultural or tertiary establishments engaged in electricity generation projects based on renewable energies within the framework of Law 2009-7.

The Tunisian Solar Plan, initially formulated in 2012 and updated in 2015, is Tunisia's official long-term plan for renewable energies. In this plan, Tunisia shows its ambition to exploit its renewable energy resources, with a view to promoting its sustainable development objectives. With a planned amount of EUR 5.5 billion in public and private investment, it provides for a contribution of renewable energies to the energy mix of 30% of electricity production by 2030. With regard to technologies it includes specific targets for investments in wind, solar photovoltaic and concentrated solar energy. Aware of its dependence on fossil fuels, Tunisia has been promoting since the 2000s a gradual integration of renewable energies into the energy mix.

On 11 May 2015, Tunisia adopted its third law on the production of electricity from renewable energy sources. The first two (2004 and 2009) introduced renewable energies into the Tunisian energy mix but suffered from weakness, particularly in incentives for private investment, despite the introduction of the self-producer status in 2009.
The text of 2015, promulgated on 21 May, introduces three novelties:

- The definition of a national plan for electricity production from renewable energy sources
- The extension of the status of self-producer to local authorities, public companies and private companies with the possibility of reselling the surplus to STEG
- The authorization of the production of green electricity for export. However, since the distribution market is still under STEG's monopoly, the interest of electricity liberalization is a problem. To date, the implementing decrees have not yet been issued. (Trésor, 2016)

Act No. 2015-12, on the production of electricity from renewable energies is the most important text on renewable energy in Tunisia.

The purpose of the Law is to put in place a legal regime for the implementation of electricity production projects based on renewable energy sources, either for self-consumption or to meet the needs of local consumption or for export. It also aims to establish a legal regime governing the installations, equipment, immovable property and materials necessary to ensure the production of electricity from renewable energy sources and the transmission of it.

An implementing decree No.2016-1123 setting the terms and conditions for the implementation of projects for the production and sale of electricity from renewable energy sources, provided that electricity production projects are carried out using renewable energy sources within the framework of the needs and means determined by the national plan for electricity produced from renewable energy sources, either for the purpose of self-consumption, or with a view to the implementation of the national plan for electricity produced from renewable energy sources. (N.a., Bird & Bird , N.d.)

Despite an ambitious policy - the Tunisian Solar Plan and the regulatory reform - STEG's monopoly appears to be hampering the distribution market.

6.1.3 Highlights on the Financial Sector

The Tunisian financial system is composed of financial institutions and capital markets.

6.1.3.1. Financial Institutions

We can distinguish between two categories of financial institutions, those that have monetary creation capacity: monetary financial institutions (IFM) and those that do not: non-monetary financial institutions (IFNM).

1. Monetary financial institutions (IFM): These include, the central bank (BCT), the banks and the public treasury.
   
   i. The Central Bank of Tunisia (BCT): It is a national public institution whose general mission is to defend the value of money and to ensure its stability. It controls the circulation of money and the distribution of credit, monitors the proper functioning of the banking and financial system and conducts the monetary policy of the country. It is also the bank of the government, it manages the account of the public treasury and can grant it loans.
   
   ii. The banks: Société tunisienne de banque (STB), la Banque de Tunisie et des Emirats d'investissement (BTE), La société tunisosaoudienne d'investissement et de développement (STUSID)...
   
   iii. The public treasury: It is a set of services under the supervision of the Ministry of Finance.
2. Non-monetary financial institutions (IFNM): includes non-monetary banking institutions (IBNM) and non-bank financial institutions (IFNB).

6.1.3.2. Capital Markets

Capital markets are divided into money market, financial market and foreign exchange market.

Banks dominate the Tunisian financial system and play an important role in financing the economy. By comparison, institutional investors such as pension funds and investment companies account for a much smaller share of total assets. From 2010 onwards, banks provided 73.8% of GDP in domestic loans.

Despite the dominating position of commercial banks, the banking sector has not yet been involved in the development of commercial credit schemes for renewable energy or energy efficiency. Finance for investments in renewable energy, energy efficiency and other environment-friendly technologies relies heavily on multilateral institutions and government funding. However, businesses investing in green sectors can rely on both international credit lines and national funds. (GIZ, 2014)

Tunisian Solar Programme, launched in 2005, is a joint initiative of UNEP, Tunisian National Agency for Energy Conservation, state-utility STEG and Italian Ministry for Environment, Land and Sea. The program aims to promote the development of the solar energy sector through financial and fiscal support. PROSOL includes a loan mechanism for domestic customers to purchase Solar Water Heaters and a capital cost subsidy provided by the Tunisian government of 20% of system costs. (Zafar, 2017)

The National Fund for Energy Saving (FNME) provides financing for renewable energy and energy efficiency projects. Tunisia does not have a policy of providing financial guarantees to private investors to ensure payment under power purchase agreements. (RCREEE, 2012)

6.2 Planning and conduction of the CNA in Tunisia

The business trip to Tunis, Tunisia, was conducted from Wednesday, October 25th until Friday, October 27th, 2017. The journey was mainly organized by RENAC with support from the regional project partner RCREEE.

In total, RCREEE and RENAC staff conducted 6 bilateral meetings with relevant stakeholders, including:

- Political institutions: National Agency for Energy Conservation (ANME), Ministry of Finance, Ministry of Energy, Mining and Renewable Energies
- Financial institutions: KfW Bankengruppe
- International institutions: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), French Development Agency (AFD - Agence Francaise de Développement)

The final meeting schedule is depicted in Annex IV (section 10.4.1).

RENAC in cooperation with the German-Tunisian Chamber of Commerce (AHK) as well as the support of RCREEE, organized and hosted an afternoon-workshop in Tunis on October 26th, 2017.

The workshop was attended by 16 participants, mainly from a banking background who appreciated the useful and informative session and the insight and background knowledge on the Green Banking Programme. The list of participants is available in Annex IV (section 10.4.2).
6.3 Main Outcomes of the CNA in Tunisia

6.3.1 Public sector

The results of the CNA trip to Tunisia show that the different public institutions have a big interest in the development of Green Energy and Climate Finance in the country. The capacity building in these fields seems to be an important prerequisite to obtain, improve, and retain the skills and knowledge needed to implement RE and EE projects in the foreseeable future, especially in the banking sector. It appeared from the bilateral meetings with the Ministry of Finance and the Ministry of Energy, Mining and Renewable Energies, that a certain need for trainings is also present at the level of the country's ministries’ staff since it is, from their point of view, important to diversify the target audience.

They further explicitly showed that the modules of the accredited green finance specialist in its current state are informative and rich, however, it should be adapted to the current context in Tunisia and it should include more modules on risk analysis, project financing, benchmarking and green finance. Not only should the Ministries be involved in the preparation of such kinds of trainings but also there was an expressed need to be involved later on in the capacity building implementation.

Furthermore, one point that was highlighted during the meetings is that the program certification is an essential parameter for the project success to ensure the recognition of trained experts at National level. In addition, they stressed on the fact that it is important to set up the program in the shortest time given the pipelines of RE under development for the upcoming period. And to ensure the proper implementation both Ministries recommended to cooperate with national partners as a National coordinator in addition to RCREEE as strategic partner.

It is worth mentioning that a National fund (FTE – “Fonds pour la Transition Energétique”) of TND 100 million for the development of Renewable Energy has recently been put into place and inciting mechanisms are available to small and medium-scale projects.

From the point of view of the interviewed public institutions, now is the ideal time for capacity building in the fields of Green Energy and Climate Finance in the country, as the first tender auction for private projects was launched in November 2017, which can be regarded as a starting point for the sector, and it is highly probable that more privately implemented projects will shortly appear and thus will need financing. Furthermore, the green finance specialist program will be considered as a completion
and a reinforcement of already existing initiatives in the country such as the ANME initiative which is actually preparing a program to reinforce the capacities and expertise of the banking sector in order to raise their contribution in financing RE and EE projects. It aims to increase the awareness of national banks and to better disseminate the national regulatory and legislative framework as well as the administrative procedure, specificity of RE and EE projects and exchange and share international experience in green finance.

As in Morocco, the different public institutions have put an emphasis on the implementation of “train-the-trainer” seminars and similar opportunities to enable the country to provide its own continuing education in the future.

It has been mentioned several times that the country’s SME companies have a growing need for trainings in the Green Energy and Climate Finance sectors, especially regarding project valuation and best practices in the development of “bankable” projects.

Finally, it is worth mentioning that there has been a consensus between the Ministries and the public interviewed institutions of the need to expand the target participants of the training course and add all stakeholders at national level involved in RE and EE sectors including public sector, Tunisian Union of Industry, Trade and Handicrafts (UTICA), NGOs, Leasing and insurance companies. Not only expanding the target audience but focusing more on the National workshops compared to the e-learning program in order to ensure the commitment of the attendees, in addition to the organization of Train the Trainers courses to ensure a better dissemination of the program at national level.

6.3.2 Financial sector

The CNA trip to Tunisia showed that there is a big interest in the Green Energy and Climate Finance sectors also by financial institutions. It was clear from the discussions that enhancing the expertise of National banks, leasing and insurance sectors in green financing showed up as an emergent need in Tunisia as the current financial practices do not include specificity adapted to RE and EE technologies despite the fact that banks have allocated great interest to green finance so the current projects could perfectly fit the current requirements.

Banks like Attijari bank, Arab Tunisian Bank “ATB” or Banque de l’Habitat are eager to develop their business in these markets and to expand their activities in Renewable Energy and Energy Efficiency finance seeing that they are already active in activities and programs promoting RE and EE.

Hence, they showed great interest in the discussions conducted during the workshop and in learning more about Green Energy and Climate Finance through Green Banking trainings. They expressed a need to learn how to better evaluate project proposals and to better assess the potential risks or economic feasibility of the projects they are presented with.

However, the level of business and knowledge development currently seems to be quite heterogeneous in the banking sector: On the one hand, some market participants seem to lack basic knowledge in the fields of renewables and project finance, and on the other hand some market participants state to have real project experience. This is especially the case for Banque de l’Habitat, who stated during the workshop to already have a pipeline of five specific projects in the Renewable Energy sector.

One very important point that has been raised during the workshop as well as during the bilateral meetings, is that the market participants unanimously assess the PPA provided by state owned STEG
as “not bankable”, which is slowing down the development of projects. We have been told that the issue has already been addressed and the PPA is currently being revised.

### 6.3.3 Results of questionnaire

16 participants from the workshop in Morocco responded to our questionnaire. The results of the questionnaire responded by the attendees in the workshop in Tunis reveal that a training in risk assessment is the most desirable among 24 other topics, followed by Credit application, Project ratio analysis, Feasibility assessment and finally Financial models (MS Excel), as displayed in Figure 6.2.

![Figure 6.2: main topics of interest to banks and to be considered in the training program in Tunisia](image)

Tunisian participants were curious to learn more about energy technologies particularly in Photovoltaics, concentrated solar power and energy efficiency in industry. Those are the top 3 technologies among 8, as displayed in Figure 6.3.
6.4 Collaboration with other projects in Tunisia

During the CNA journey to Tunisia, RCREEE and RENAC teams met with international institutions such as GIZ and KfW and with the aforementioned public institutions to present the Green Banking project and to exchange experiences and align with their activities. All listed parties were interested in and supportive of Green Banking. During bilateral meetings, they assured their willingness to cooperate.

During the bilateral meeting with ANME, it appeared that ANME is preparing its own capacity development program to reinforce capacities and the expertise of the banking sector in order to raise their contribution in financing RE and EE projects. The program aims to increase the awareness of national banks and to better disseminate the national regulatory and legislative framework as well as the administrative procedure, specificity of RE and EE projects and exchange and share international experience in green finance. ANME is hence very interested to cooperate on the Green Finance Specialist project and offered to become a partner regarding the diffusion of the information on the programme, they even suggested to play the role of national coordinator for the project implementation. Furthermore, it was suggested by ANME to cooperate with DKTI/GIZ that are already working on enhancing green financing capacities.

ANME could inform public institutions as well as private sector companies of the existence of the programme and hence would in the future need more information regarding timing of the implementation, contents etc.

Also, the Ministry of Energy, Mining and Renewable Energies has demonstrated a strong interest in the Green Finance Specialist programme and offered its support regarding the implementation of the project. However, they both stressed on the fact that to ensure the proper implementation of the program it is recommended to cooperate with national partners as a coordinator in addition to RCREEE as strategic partner.
6.5 Country conclusions: Tunisia

A strong interest and support for the Green Banking project was generally demonstrated by the counterparts in the various bilateral meetings conducted during the CNA to Tunisia, as well as by the participants in the workshop event.

With regard to the training content, the various training components offered within the Green Finance Specialist programme seem to fit quite well to the different requirements and demands. However, there seem to be an increasing demand on specific topics such as how to mobilize green funds, monitoring of avoided gas emissions, financial evaluation of the project, Macro economic analysis, MRV … etc.

The situation seems to be quite similar in Tunisia as it is in Morocco in terms of demand and of contents, with the difference that the market seems to be somewhat more mature in Tunisia, as the access to the low- and medium-voltage grids is already open for IPP. This leads to a higher demand in terms of knowledge on specific project finance topics than in Tunisia, because, on the one hand the Moroccan financing banks are already starting to be approached by project initiators regarding financing and on the other hand those project initiators express needs for knowledge in the fields of project valuation and commercial feasibility assessment.

Regarding the different RE technologies, the interviewed counterparts, as well as the workshop participants, expressed a strong demand for trainings in the photovoltaic and wind energy sectors as well as in the field of energy efficiency. Therefore, the Green Finance Specialist face to face trainings in Tunisia should cover these topics in the abovementioned order of priority.

Similar to Morocco, it was mentioned by workshop participants that the training outline (20 weeks online teaching and 3 days seminars) should be adapted to the cultural realities of the region in such a way that more face-to-face seminars should take place and the online part should be decreased to a minimum extent to positively impact the RE and EE deployment in Tunisia.

As in Morocco, the nature of participants that will be able to attend the trainings is a matter of concern to the interlocutors in the bilateral meetings. They frequently mentioned that part of the participants should come from private sector SMEs and from public institutions because all the different industry actors have a strong need for trainings in the field of Green Energy and Climate Finance. Furthermore, it was also highlighted that after the implementation of such a program in Tunisia, it must be followed by the organization of Train the trainers’ course or program to ensure a better dissemination of the program at national level.

However, as mentioned above, the market development is not identical in both countries: with the electrical grid already being accessible to small- and medium-scale projects and the first private sector project initiators starting to seek financing, the Tunisian market currently seems to be more probable to yield concrete projects in the near future.
7 Findings

Based on the details and results mentioned in the previous sections in the four targeted countries (Egypt, Jordan, Morocco and Tunisia), it is obvious that the political, economic and financial sectors are equipped with respective regulations, targets and plans related to promoting and financing RE and EE applications, as well as climate change and mitigation measures. Despite the variation in the degree of market maturity in the four countries, the scene seems to be ready to incubate a Green Financing project. The different banks’ representative, who participated in the workshops expressed also their interest in promoting RE and EE projects through innovative tools and instruments and were keen on sharing the common challenges they usually face in evaluating loans’ applications for financing RE and EE projects in specific, especially those presented through SMEs operating in the sustainable energy sector.

From all the discussions during the bilateral meetings and workshops, together with the analyzed outcomes and conclusions of the CNA project, common areas could be identified where gaps already exist and for which certain supporting measures are needed and could be recommended. The main findings for the respective countries would be summarized as follows:

For Egypt: although RE projects implemented by SMES are considered useful also for creating new jobs (socio-economic impacts), the prevailing interest rates for commercial bank loans are considered high for most of the beneficiaries. Moreover, banks expressed their need for having a platform for good practices to develop its own models and recognize it as a national scheme/model, before issuing related regulations.

For Jordan: there exist different initiatives from CBJ and JREEEF to support RE and EE projects for its direct impact on reducing the subsidies bill. Among the currently announced national plans, there is a focus on increasing the share of local industry in RE applications.

For Morocco: with regards to RE and EE projects, there is a need for banks to have better and thorough understanding for the potential risks and/or economic feasibility of these projects to evaluate the projects’ proposals presented to them, allowing banks to efficiently allocate the funds dedicated to support relevant projects.

For Tunisia: for the proper implementation of different projects in RE and EE, there is a need for cooperation between various national stakeholders (including ministries and national agencies). Further, the PPA for RE and EE projects is currently undergoing revision process for further enhancements.
8 Recommendations

The following recommendations could be considered for each of the respective countries:

For Egypt: (1) there is an existing need to have incentives to encourage and promote green investments and projects, through reduced interest loans and preferably longer grace periods for loans. (2) A clear mechanism (policy and measures) to guarantee the commitment of investors to implement the project and that the off-taker will buy electricity is needed for a more stable market. (3) Therefore, it could be recommended to introduce a framework, which link the green financing with the financial inclusion measures, and to conclude these steps with announcing an initiative for Green Finance suitable for the national context.

For Jordan: to meeting the needs, it is recommended to consider the governmental plans in RE and EE sectors in customizing the training programs to promote green financing to suit the national context.

For Morocco: it is recommended (1) to design a joint program to fit for banks, but also which considers training SMEs to meet their needs of being eligible for applying to possible financing instruments through different banks through presenting their RE and EE projects in a way attractive and understandable to banks, therefore allowing SMEs to have better access to the available funds and accordingly have more sustainable business. (2) To offering a customized training programs to satisfy the needs of different stakeholders and actors in the market. (3) To introduce sustainable training program, for which it would be suggested that participants shall cover the training costs, either partially or totally, in order to ensure its continuity and sustainability.

For Tunisia: it is recommended that the national agencies (like ANME, etc.) would act as a National coordinator, while RCREEE would act as a regional and strategic partner for the foreseen training program. Consequent to having the PPA revised, it is recommended to properly address the certain needs for banks related to capacity building in the customized training programs.

From the regional perspective, the collaboration with and under patronage of the League of Arab States, and with involving the key stakeholders from interested (or targeted) countries is recommended, the idea for a “Regional Green Climate Fund” could be initiated, to cover important aspects necessary for promoting renewable energy, energy efficiency and climate change mitigation and adaptation in the MENA region.

These are the most relevant recommendations, which reflect and are based on the real outcomes of the Capacity Needs Assessment, aiming at satisfying the identified gaps to satisfy the national market requirements and contribute to the regional share in RE, EE and climate change mitigation and adaptation. These recommendations are flexible and could be implemented in parallel and could also cover as much details and activities as possible, depending on the available assigned budget.

A detailed proposal for these recommendations with the expected time frame for implementation shall follow, after acceptance of this report.
Based on the results of the Capacity Needs Assessment and the experiences with the Green Banking project in South East Asia the following approach for its implementation in the MENA region is recommended:

- Adaptation of the *Accredited Green Finance Specialist Programme* according to the described requirements
- Implementation of two *Accredited Green Finance Specialist Programmes* (one in English, one in French)
- Professionals from the entire MENA region shall be eligible for applying for the programme. Selection of participants shall be conducted by RENAC in cooperation with RCREEE and the official national agencies in each country, according to their experiences, motivations and intentions (of participants)
- Suggested venues for the face to face trainings: Cairo (for the English programme) and Tunis (for the French programme)
- Additional implementation of a Train the Trainer seminar in Berlin for 10 participants (from each country) to build up local training capacities and to provide a basis for the continuation of the *Accredited Green Finance Specialist Programme* beyond the lifetime of the Green Banking project.


9 References


