Assessing investment risk in renewable energy
A survey on Southern and Eastern Mediterranean Countries

Morocco, Tunisia, Egypt, Jordan, Algeria, Libya, Lebanon
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About the survey

This RES4Africa and PwC survey is based on research conducted between June 2020 and March 2021 with 142 stakeholders active in the Med. The stakeholders include representatives of independent power producers, technology providers and EPCs, finance (corporate as well as multilateral), professional services and the public sector. As a rule, each company or institution was represented by only one survey respondent.

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Acknowledgements
RES4Africa and PwC extend a heartfelt thanks to all participants who took the time to respond to the survey.

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Mediterranean countries have growing energy demand and abundant, untapped natural renewable energy resources. They are also seeing growing political commitment to renewables, and are attracting considerable interest from international private capital investors. Despite these facts, private investment in renewable energy in the region remains limited. Why is that?

The common answer is that a range of risks are acting as barriers to investments, hindering bankability of potential RES projects and reducing the number of viable projects able to attract financing. While a lot of research has been done on this topic, we at RES4Africa and PwC find that the voice of investors is often missing.

The purpose of this survey is to gather investors’ views concerning risks and barriers to renewables investments. Policy makers in Southern and Eastern Mediterranean Countries (SEMC) have been working intensely to create favorable RES investment conditions, and investor views can provide valuable guidance on areas that deserve more focus.

This survey follows a previous edition published in 2016. Five years later, we expand our analysis to seven countries including Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, and Lebanon. To the difference of our 2016 survey, in which only the private sector participated, this time we also include the views of public stakeholders. The perception gaps between the private and the public help identify areas where greater business-to-government dialogue is needed.

As long-term advocates and proponents of a clean and sustainable energy transition in the Med, the RES4Africa Foundation and PwC are glad to act as a bridge between the European private sector and policy makers in Med countries. A heartfelt thank you goes to the 142 persons who contributed with their views and made this survey possible.

Together, we are making another small step in the direction of greening the Med energy sector, for the benefit of its citizens and of the planet.

Roberto Vigotti
Secretary General, RES4Africa Foundation

Giovanni Poggio
Partner, PwC
Executive Summary

This analysis presented in this survey is based on a consultation with an extensive pool of stakeholders, carried out by inquiring about risk perception in five areas of analysis relating to the legal, regulatory, economic, financial, infrastructural, environmental and social framework in each country.

The objectives of the survey are:

• Gathering and comparing viewpoints from a range of diverse stakeholders working on different aspects of the RES value chain
• Sounding out their risk perception to evaluate what are the barriers and / or enablers to investing in the selected countries
• Comparing the risk perception of public and private stakeholders. Areas where we see perception gaps are areas where greater business-to-government dialogue is needed
• Facilitating an earnest, unbiased discussion on strengths, weaknesses in each country and in the region more broadly
• Tracing the historical trend and identifying areas where countries are doing well
• Identifying the main risk areas where more work is needed to improve the investment climate.

We present the main findings of this survey in four key charts, followed by a summary for each country.

The countries analyzed present a diverse mix in terms of risk level

Considering that survey responses present inherently subjective views, we have sought not to give excessive focus to country rankings and comparisons. Nonetheless the big picture suggests three categories in terms of risk levels. Morocco stands out for having the lowest risk level, where policy makers have made major strides in the past years. Egypt, Jordan and Tunisia are in a medium-risk group, having made large improvements in certain risk areas but where some other areas require more policy effort. Algeria, Libya and Lebanon fall into a high-risk category, where attracting RES investments will require significant additional effort in broadly all risk areas.

Only private sector views are included.
Overall risk perception has decreased in all countries

In all four countries covered in both editions of our survey, there has been a marked decrease in risk perception over the past five years. Some, like Egypt, were starting from a high risk baseline and in 2021 were rated as having medium-risk levels. Morocco emerges as a regional champion with the overall risk perception rated as low.

Note that this chart does not include the three new countries, Algeria, Libya and Lebanon, which had not been covered by the 2016 survey.

To maintain comparability between the two surveys, only private sector views are included.

The private sector tends to see more risks than the public sector

Identifying perception gaps gives important indications on which are the areas where greater business-to-government dialogue is needed. Large perception gaps exist in Morocco, Egypt, Jordan and Tunisia – countries where policy makers have been making great strides, but investors believe further de-risking is needed.

Interestingly enough, the perception gap is smaller in high-risk countries (Algeria, Libya, and Lebanon). This speaks of a trend: while progress in medium-risk countries may be arguable, in the case of high-risk countries not open to IPPs there is little room for subjective interpretation of facts on the ground.
Grid access and risks related to financial costs are of high concern... although public and private sectors views don’t fully coincide

Top 10 risks according to private and public stakeholders

According to private sector stakeholders, grid access is the most acute risk in the region. The concerns are related to both the adequacy of rules governing market access as well as the material adequacy of grids to integrate a growing share of renewables. Public sector stakeholders seem to agree that grid access is an issue, but they only place it at the 7th spot in terms of significance. This speaks of a greater need to develop dialogue, but also to significantly step-up efforts related to grid investments, credible planning, and better governance of grid codes.

IPP market access is also a source of risk. Yet public sector stakeholders seem to overestimate its significance. Some countries do indeed need to improve laws concerning IPP market access, nonetheless private sector stakeholders frequently reported that the problem lies not in inadequate laws, but rather in inadequate implementation of otherwise rather well-formulated legal frameworks.

The group of risks relating to financial costs (availability of finance, inflation, exchange rate, capital transfer) stands out as very high. There is a stark divergence in views concerning financing availability: while 60% of private sector stakeholders consider this a high risk, only 39% of public sector stakeholders agree. Fixing the problem of financing availability will require a greater cooperation between the public sector and development finance institutions, not only on establishing financing facilities but also (some would say especially) on drafting bankable PPAs and other project documents.

Political risk and political force majeure continue to feature on the list of concerns. Here we are seeing a fragmentation of the regional split, where some countries are virtually free of political risk while in others it remains an issue of endemic proportions.
Morocco: a regional RES champion

Over the past five years, Morocco reinforced its image as a pioneering country in RES development. Building on its 2009 National Renewable Energy Strategy, the country remains committed to its 2030 RES target, and a surge in recently installed RES capacity puts it broadly on track to meet its targets on time. The government put forward a series of draft laws which, once adopted, should tackle a series of current barriers to private investments.

These positive developments are reflected in the results of our survey: Morocco was rated as a far less risky place to do business than five years ago. This is the case in all five areas of risk assessment.

But there is room for improvement. In a general sense, barriers stem from the poor or inadequate track record of implementing existing laws. Investors point to particular difficulties in grid access and IPP market access, where procedures for receiving a grid connection are perceived as opaque and not providing the satisfactory degree of predictability. Permitting is another, related barrier: in addition to standard permitting procedures, investors need to receive a positive opinion from ONEE (Office National de l’Electricité et de l’Eau Potable) on the compatibility of their proposed project with the national grid – where the issue of opaque procedures resurfaces.

Tunisia: a steady improver, with greater market opening needed

Tunisia has made major progress over the past five years in terms of reducing political risk, increasing confidence in safety and security, and improving the overall investment environment. Investors express a particularly high confidence in the skillset of the local labor force and its ability to deliver operational excellence, which speaks of the presence of a highly educated middle class. Tunisia’s authorities have also made steady efforts to promote RES by way of subsequent rounds of policy and regulatory amendments. The two main RES procurement schemes, the authorization and concession regimes, have been tested and have led to the award of a series of tenders in the past few years (including notably a 500 MW tender awarded in Dec 2019).

Room for improvement remains, particularly in the policy framework on IPP market and grid access. The incumbent utility STEG (Société Tunisienne de l’Electricité et du Gaz) is seen as exerting excessive influence over private participation in RES, and the absence of an independent regulator makes it difficult to enforce a level playing field. Investors could also benefit from greater transparency on applicable grid codes. Subsidized electricity prices are negatively affecting the financial sustainability of STEG and RES projects more broadly.
Egypt: a case of successful implementation of mega projects

Egypt has seen a major improvement in the overall investor confidence compared to our 2016 survey. The government managed to stabilize the macroeconomic picture and attract significant attention of multilateral and development finance institutions, both in the form of technical advisory and in financing schemes. The results were fast to come: Phase 2 of the Feed-in-Tariff yielded the 1.5 GW Benban solar park, among the world’s largest inaugurated in late 2019, and the 262.3 MW wind project in the Gulf of Suez. The new phase of the FiT included a set of highly bankable contract documents, prepared with extensive advisory from multilateral stakeholders.

The persisting concern of investors is that for RES investments outside of government-backed mega-projects, the legal framework is not fully adequate. The incumbent utility EETC (Egyptian Electricity Transmission Company) is seen as dominating the market and exerting undue influence. There is also a large perception gap as public sector stakeholders do not perceive regulatory issues to be of major concern.

Where investors and public sector stakeholders do agree is on inflation, tax and exchange rate risks. While the macroeconomic situation today is far more stable than some years ago, the fallout from Covid-19 and the recent round of currency erosion are raising the specter of renewed instability.

Jordan: rapid improvement in confidence, but grids are a concern

Jordan was seen as a low-risk country already in 2016, and five years later the country stands out as an example of successful implementation of a range of policies. The Direct Proposal Submission scheme (DPS) was hailed as a major success and helped the country meet its 2020 RES targets ahead of time – the first MENA country to do so. The success of the DPS scheme was tied to extensive technical assistance and advisory concerning contractual documents, which helped render projects highly bankable. The take-or-pay PPA and the sovereign guarantee on payments mitigated a vast range of risks.

But to integrate an ever higher share of RES, a set of structural issues needs to be addressed. The offtaker NEPCO (National Electric Power Company) can only operate a financially sustainable business model if cost-reflective electricity tariffs are introduced.

The poor state of the Jordanian T&D networks are a cause of major concern related to grid connection and curtailment. Indeed, as of early 2019 the government has indefinitely suspended authorizations for new RES plants until further grid studies are prepared, and the Covid-19 fallout caused a temporary curtailment of all RES plants. While risk mitigation instruments can offer a temporary risk reprieve, lasting solutions can only come from higher grid investments.
Algeria is a new addition to our 2021 survey. The country relies on oil & gas for much of its revenues and used to be rather closed to RES investments, but that is starting to change. A wave of reforms has swept over the country over the past few years, as restrictions on foreign ownership and foreign financing of RES were scrapped. The government also introduced a reverse RES auctioning scheme with a guaranteed PPA. The recently announced plan to auction off 4 GW of RES annually up until 2024 has not failed to attract the attention of the wider investor community. While being a step in the right direction, de-risking RES investments requires additional effort across the board. The country’s overall Doing Business environment remains largely unfavorable; difficulties are particularly prominent in permitting, dispute resolution and property rights. A long era of closure to foreign capital flows created an environment where access to finance is dire, and the local banking sector does not have the capacities to step up to the task. The ongoing financial crisis and the plummeting of foreign reserves is compounding the perception of uncertainty and political risk.

Libya is a new addition to our 2021 survey. The country has been living through nearly a decade of civil war which severely compromised the security situation, divided up the territory between rival factions, and caused a severe financial crisis. The World Bank categorizes Libya as one of the world’s worst places for Doing Business. The country does have a renewables strategy dating back to 2013, which targets a 22% share of RES in the electricity mix by 2030. But there is little on the ground to suggest progress towards meeting this target. The rules currently in place do not foresee any role for IPPs or foreign investments in the electricity market, although the inexistence of an electricity law leaves a lot to interpretation. There appears to be a glimmer of hope on the horizon. A transitional government has been elected in early February 2021, and the Central Bank held its first meeting in 5 years. This followed a ceasefire agreement signed by Libya’s opposing military factions, in October 2020. The hope is that this time peace is here to stay.
Lebanon: a case of macroeconomic instability

Being a new addition to our survey, we do not have hard evidence about the evolution of risk perception in Lebanon over the past years. But one thing is certain: the recent and ongoing political, economic and financial crisis has sent chills to the investor community. Once a regional financial hub, Lebanon saw its first sovereign default in March 2020 and is currently beset with capital controls, with its currency, the Lebanese pound, dwindling to a fraction of its past value. Political risk features prominently on the minds of investors, as the deep political crisis risks fracturing the society.

Aside from the current crisis, Lebanon’s legislative framework is not geared to attract private investments. Laws which formally open the market to IPPs have not been implemented, and the setup of an independent regulator – established by law back in 2002 – is yet to take place. In 2018 the Prime Minister introduced a new RES target to be met by 2030, but there is currently no technology-specific target nor is there a plan in place for how the target is to be met. Creating a new, integrated and comprehensive renewables strategy would be a first step to building investor confidence.

The low credit rating of incumbent utility EDL (Électricité du Liban) is source of counterparty risk which, if left unmitigated, can have a series of repercussions on bankability of RES projects.

### Share of participants rating the risks as high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation</td>
<td>93%</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>93%</td>
</tr>
<tr>
<td>Political Risk</td>
<td>91%</td>
</tr>
<tr>
<td>Capital Transfer</td>
<td>88%</td>
</tr>
</tbody>
</table>

*Based on 33 survey responses*
Respondent profile

The responses received

142 Persons participated in the survey
199

Responses provided. Each person was offered the possibility to assess more than one country

Of 199 responses, 108 were for the 4 countries covered in 2016 (+25%) and 91 for the 3 new countries

2016
2021
Morocco, Tunisia, Egypt, Jordan Libya, Algeria, Lebanon

Respondent profile

Professional services 31%
- Engineering
- Management Consulting
- Legal
- Financial

Industry 25%
- Independent Power Producers
- Technology Providers
- Engineering, Procurement & Construction

Finance 7%
- Investment bank
- Commercial bank
- Multilateral Development Bank

In the overall survey, 63% of stakeholders were from the private sector and 37% from the public sector

The private sector includes stakeholders from industry, finance and professional services

Regional considerations

There is some regional variation in the sector split
Method

This survey is a follow-up to our 2016 Survey on the main barriers affecting investments in RE capacity in the Mediterranean. Five years later, we added three new countries, expanded the stakeholders pool to the public sector, and offered the survey in both English and French.

The need to involve public stakeholders emerged from a recognition that perception gaps matter. Policy makers in the Med have been making great strides in creating enabling environments for RES. Comparing their views to the private sector and identifying where divergences lie can offer invaluable guidance as to where further action is needed.

To select a representative stakeholder sample, we leveraged RES4Africa’s rich network, built over the past decade of engagement in the Med. The survey was also published on social media channels such as LinkedIn and RES4Africa’s Med Platform.

Participants were asked to rate 26 risks on a scale from 1 (very low) to 4 (very high), and were given a chance to add qualitative comments. The 26 risks were clustered into five areas broadly corresponding to phases in the project cycle, as depicted below. To maintain comparability to the 2016 survey edition, risk areas were kept unchanged with only three new risks added.

Five years later: changes to the survey methodology vs 2016

We have added three new countries:

The stakeholders pool now includes also the public sector:

To facilitate accessibility, the survey was made available also in French:

Topic of investigation: 26 risks grouped in 5 areas

<table>
<thead>
<tr>
<th>Legal &amp; Regulatory Framework</th>
<th>Risk affecting revenues</th>
<th>Construction &amp; operations risks</th>
<th>Financial structuring risks</th>
<th>Environmental &amp; social issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>- starting a business</td>
<td>- risk of curtailment</td>
<td>- permitting / licensing</td>
<td>- financing availability</td>
<td>- Risk related to clarity of environmental impact assessment procedures</td>
</tr>
<tr>
<td>- property/concession rights</td>
<td>- counterparty / sovereign risk</td>
<td>- local content requirements*</td>
<td>- interest rate risks</td>
<td>- social acceptance</td>
</tr>
<tr>
<td>- political risk</td>
<td>- termination risk</td>
<td>- construction flaws*</td>
<td>- inflation risk</td>
<td>- environmental impact</td>
</tr>
<tr>
<td>- political force majeure</td>
<td>- exchange rate risk</td>
<td>- availability of local skills</td>
<td>- tax regime risks</td>
<td>assessment procedures</td>
</tr>
<tr>
<td>- dispute resolution</td>
<td>- capital transfer and convertibility risk</td>
<td>- logistics, security and safety risks</td>
<td>- financial costs</td>
<td>- natural force majeure*</td>
</tr>
<tr>
<td>- regulatory and policy risk</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>- rules concerning market access for IPPs</td>
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<td></td>
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<tr>
<td>- grid access</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- institutional actors’ roles &amp; responsibilities</td>
<td></td>
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</tr>
</tbody>
</table>

* Risks that have been added to the 2021 survey edition
Morocco

Over the past five years Morocco reinforced its image as a pioneering country in renewables development. Building on its 2009 National Renewable Energy Strategy, the country remains committed to its 2030 RES target, and a surge in recently installed RES capacity puts it broadly on track to meet its targets on time. The government put forward a series of draft laws which, once adopted, should tackle a series of current barriers to private investments.

These positive developments are reflected in the results of our survey: Morocco was rated as a far less risky place to do business than five years ago. This is the case in all five areas of risk assessment.

But there is room for improvement. In a general sense, barriers stem from the poor or inadequate track record of implementing existing laws. Investors point to particular difficulties in grid access and IPP market access, where procedures for receiving a grid connection are perceived as opaque and not providing the satisfactory degree of predictability. Permitting is another, related barrier: in addition to standard permitting procedures, investors need to receive a positive opinion from ONEE (Office National de l’Électricité et de l’Eau potable) on the compatibility of their proposed project with the national grid – where the issue of opaque procedures resurfaces.

The recommended path for Morocco is to step up investments in the grid and introduce greater transparency and predictability in related procedures. The large perception gaps between the public and the private sector suggests the need for greater dialogue between the two sides.

The historical trend
There’s been a marked decrease in overall risk perception

<table>
<thead>
<tr>
<th>Year</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td></td>
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</tbody>
</table>

Overall risk environment
Risks concerning the legal framework stand out, with a large perception gap between the private and public sector

Top 5 risks
Share of respondents who rated a risk as high or very high

- Grid Access: 54%
- Permitting: 44%
- Curtailment: 36%
- IPP Market Access: 47%
- Environmental & social: 50%

Based on 36 survey responses
Regulatory overview

Morocco’s National Energy Strategy sets a 2030 target of 10 GW of renewable energy installed capacity, equivalent to 52% of total installed capacity.

The rules and conditions of IPP access to market are governed by law 13-09, although the draft bill 40-19 is expected to introduce a series of changes aiming to open further the electricity market to IPPs.

Key developments over the past 5 years

RES deployment is proceeding at a steady pace: in 2019, 35% of installed capacity was from RES technologies.1

The national regulatory authority ANRE (Autorité Nationale de Régulation de l’Electricité), staffed in July 2020, held its inaugural meeting in October 2020, after several years of delay to its setup.

The government proposed a set of draft bills aiming to amend, among others:

- Law 13-09 on renewable energy, which introduced IPP access to market
- Law 16-09 on self-production

The amendments are intended to tackle a range of barriers in the existing RES legislative framework.

Following the COVID-19 pandemic, Morocco released a recovery plan that includes policies, measures and actions that give particular focus to the renewable energy transition.2

1. Legal framework

Recent efforts by Morocco’s policy makers to improve the investment environment have been well noted by investors: the legal framework was rated as far less risky compared to five years ago. Over 75% of survey respondents considered political risk, regulatory and policy risks, difficulties in starting a business and difficulties in getting and maintaining property rights, as of low or very low concern. All of these are a keystone to foreign investment in a country. Therefore, a positive perception by investors represents a strong basis for future investment growth.

75% of respondents are not particularly concerned about political risk, regulatory and policy risks, difficulties in starting a business and difficulties regarding property rights.

But specific challenges in the legal framework remain. The general impression is that existing laws and regulations are broadly adequate, but there seems to be an implementation gap. Many laws refer to implementing regulations which, months and sometimes years after the adoption of laws, have not been defined.

Private sector stakeholders singled out one risk in particular: grid access, rated as of high concern by 69% of respondents. The concern seems to relate both to the clarity and predictability of grid access rules, as well as the deteriorating grid quality.

Law 13-09 regulates IPP access to the grid. RES projects are not guaranteed a grid connection; rather, a project proposal needs to receive a positive opinion from ONEE concerning the project’s compatibility with the national grid. The opaqueness of the procedure for granting such opinions and the high share of projects which did not receive a positive opinion contribute to the risk perception.

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1 ONEE, 2019, Bilan à fin des réalisations de l’ONEE, Rabat http://www.one.org.ma
69% of private sector respondents rated grid access as a high or very high risk.

The opaqueness of grid access procedures is aggravated by the delayed setup of the regulatory authority ANRE. Law 48-15 from 2016 requires ANRE to draw 5-year grid investment programs, on the basis of which the institution would grant provisional project authorizations. ANRE is also the body which should set transparent access fees.

But ANRE only just held its inaugural meeting in October 2020, a delay of over four years. In the absence of a regulator, grid fees continue to be negotiated bilaterally with ONEE. This raises doubts about transparency and the existence of a level playing field where rules are the same for everyone.

The technical ability of the grid to integrate a growing share of RES appears to be a point of concern. To accommodate the targeted 10 GW of RES capacity in the near future, Morocco will need to step-up its grid investments.

IPP market access is also perceived as an acute risk. Law 58-15, in theory, grants IPP grid access to all voltage levels. However, in practice, the medium- and low-voltage grids remain out of reach for IPPs. This case highlights the implementation gap, where existing laws are strong but their weak implementation erodes investor confidence.

Overlapping roles and responsibilities of institutional actors is a concern shared by both the public and private sectors. Respondents expressed difficulty in dealing with the two authorities responsible for RES: ONEE and MASEN (Moroccan Agency for Sustainable Energy). These observations are in line with the IEA’s recommendation to unify the two institutions, or create a new one that manages all renewable energy policies.3

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid access</td>
<td>Enhance clarity of grid connection procedures and related costs</td>
</tr>
<tr>
<td></td>
<td>Prepare credible and implementable grid investment plans</td>
</tr>
<tr>
<td></td>
<td>Ensure that ANRE is fully operational and entrusted with a clear mandate</td>
</tr>
<tr>
<td></td>
<td>covering the range of grid issues</td>
</tr>
<tr>
<td>IPP market access</td>
<td>Ensure that IPPs have access to the MV network, as foreseen by Law 13-09</td>
</tr>
<tr>
<td></td>
<td>In a general sense, strive for better implementation of existing laws</td>
</tr>
<tr>
<td>Institutional</td>
<td>Strive to introduce greater coordination between authorities responsible for RES development</td>
</tr>
</tbody>
</table>

When asked about risks related to revenues from a RES asset, 81% of survey participants consider this to be an area of low or very low concern. This is a remarkable improvement compared to five years ago. The newfound investor confidence mostly pertains to counterparty and termination risk, where investors seem to put a high degree of trust in ONEE, who in most cases acts as an offtaker. This trust in the offtaker’s reliability distinguishes Morocco from neighboring countries.

What seems to worry private investors is risk of curtailment. Currently, under Law 13-09, new RES plants are not guaranteed a grid connection and there are no clear dispatching and congestion management rules. In case that curtailment does occur, there is no clarity on whether RES generators will be compensated and if so, up to what threshold and under what conditions. This is a point of concern, especially as the growing share of RES and the deteriorating state of the grid imply that curtailments are increasingly more likely to take place.

3IEA, 2019, Morocco Renewable Energy Target 2030, Paris
9 out of 10 respondents consider offtaker risk and termination risk in Morocco to be of low concern.

Public sector respondents do not share the same view on curtailment risk: while curtailment is seen as a high or very high risk by 50% of private sector stakeholders, only 20% of public sector stakeholders agree. This perception gap is indicative of the need for the public sector to engage more closely with investors and understand their concerns.

Investor confidence could benefit from a shift to a flexible exchange rate regime. Respondents recognized Morocco’s effort to move to a more flexible exchange rate regime, but found the reform pace to be slow. As recommended by the IMF, floating the Dirham would help the country ward off potential economic shocks and improve the public debt outlook.

### 3. Construction and operation risk

Risk related to permitting is a rare case where views of public and private sector respondents coincide: 50% of respondents see permitting as a high or very high risk. The root cause does not concern permitting in the pure sense of the word – in fact the 2019 World Bank Doing Business survey4 ranks Morocco in line with OECD high-income countries on the criterion “dealing with construction permits”. The difficulty is related to the grid connection aspect of RES permitting. As noted earlier, a new RES project needs to pass through the standard permitting procedures, including an Environmental Impact Assessment (EIA), to then move on to a stage where ONEE gives a positive opinion on the project’s integration into the grid. The opacity and unpredictability of this step in the permitting procedure is of concern for investors.

On the other hand, investors seem confident about the technical and administrative expertise in Morocco’s RES sector. Morocco’s manufacturing experience has grown in the past years, especially in wind turbine blades. The low risk perception concerning local content requirements suggests that Morocco’s effort to become a regional manufacturing hub is proceeding with success.

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4 World Bank, 2019, Doing Business, Washington
4. Risk affecting financial costs

When it comes to risks affecting financial structuring, Morocco stands out as a lowest-risk country among its Med neighbors. Respondents appreciated the effort made by the Moroccan government in strengthening the fiscal and economic outlook and attracting relevant funding from multilateral donors.

Nearly 80% of participants believe that there is no shortage of financing availability in Morocco. The country has been a beneficiary of a range of financing mechanisms including the EBRD’s MorSEFF credit line, putting up €110M, and the Climate Technology Fund, putting up $150M, to name a few. The wide availability of credit thanks to loose global monetary policies has certainly been a contributor. An additional role is certainly played by Morocco’s policy stability and predictability embodied in the National Renewable Energy Strategy, which is helping to attract interest of multilateral investors.

Inflation rate risk is similarly rated as being of low concern, reflecting Morocco’s cautious monetary policy based on inflation-targeting. A gradual shift to greater exchange rate flexibility could, in theory, bring on adverse inflation rate risks. Morocco’s cautious approach to forex liberalization is therefore warranted, and needs to be carefully pursued in the future.

5. Environmental and social risk

This risk category has been modified following our 2016 survey to include a risk called “natural force majeure”. The main motivation to include it was to sound out perceptions following the 2016 earthquake which damaged the Ouarzazate plant. The results came as a relative surprise: 94% of private sector respondents consider this to be a low or very low risk, a view shared by 80% of public sector participants. The relatively higher optimism among private sector stakeholders is positive news for Morocco, as it suggests that the Ouarzazate damage was seen as a one-off event, rather than a structural challenge.

Only 6% of our survey participants find social acceptance to be a high risk, a stark decline compared to 56% of respondents who thought so five years ago. The survey respondents are not identical in the two surveys, and subjectivity of human judgement plays a role. Yet, such a drastic improvement of views suggests that indeed the public opinion has become less of a risk factor for investors.

94% of respondents believe social acceptance is of low or very low concern in Morocco, compared to only 44% of respondents who thought so five years ago.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation rate risk</td>
<td>Apply a cautious approach to foreign exchange floatation, with a view to reduce inflation risk</td>
</tr>
</tbody>
</table>
Tunisia

Tunisia has made major progress over the past five years in terms of reducing political risk, increasing confidence in safety and security, and improving the overall investment environment. Investors express a particularly high confidence in the skillset of the local labor force and its ability to deliver operational excellence, which speaks of the presence of a highly educated middle class. Tunisia’s authorities have also made steady efforts to promote RES by way of subsequent rounds of policy and regulatory amendments. The two main RES procurement schemes, the authorization and concession regimes, have been tested and led to the award of a series of tenders in the past few years (including notably a 500 MW tender awarded in Dec 2019).

Room for improvement remains particularly in the policy framework on IPP market and grid access. The incumbent utility STEG (Société Tunisienne de l’Électricité et du Gaz) is seen as exerting excessive influence over private participation in RES, and the absence of an independent regulator makes it difficult to enforce a level playing field. Investors could also benefit from greater transparency on applicable grid codes. Subsidized electricity prices are negatively affecting the financial sustainability of STEG and RES projects more broadly.

The way forward includes reviewing the standard PPA to examine claims of its inadequate bankability, lack of sovereign guarantee, guarantee of convertibility and fund repatriation. Many risk areas demonstrate a high perception gap – these must be starting points for greater public-private dialogue.

The historical trend
There’s been a marked decrease in overall risk perception

<table>
<thead>
<tr>
<th>Year</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>2016</td>
<td></td>
<td></td>
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<tr>
<td>2021</td>
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</table>

Overall risk environment
Risks concerning the legal framework and financial costs stand out

Persons participated in the survey, of which 4 from the public and 21 from the private sector

Top 5 risks
Share of respondents who rated a risk as high or very high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid Access</td>
<td>66%</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>64%</td>
</tr>
<tr>
<td>Capital Transfer</td>
<td>60%</td>
</tr>
<tr>
<td>Regulatory and Policy</td>
<td>58%</td>
</tr>
<tr>
<td>IPP Market Access</td>
<td>57%</td>
</tr>
</tbody>
</table>

Based on 25 survey responses
Regulatory overview

Law 12/2015 concerning energy production from renewable sources – also known as the New Law – set a framework for opening market access for IPPs, boosting private sector investments and liberalizing the market to facilitate RES deployment. The law introduced a 2030 target for 30% share of RES and 3.8 GW of RES capacity. It also aims to reduce the debt of state-owned utility STEG.


- Self-consumption (all capacities)
- Authorization regime, capacity cap of 10 MW PV or 30 MW wind. Site is proposed by developer
- Concession regime, no capacity cap, site is proposed by ministry

Key developments over the past 5 years

- Several calls for tender have been successfully awarded: the latest include 70 MW Photovoltaic as round 4 under the authorization regime (Jun 2020) and 500 MW under concession (Dec 2019).
- In Feb 2020, the possibility was introduced to sell excess power not self-consumed to STEG under net metering rules (fixed annual limit of 30% of production). The new decree 105/2020 – amending Decree No.1123/2016 – sets out grid access conditions for RES projects used for bilateral PPAs.
- By end–2019, Tunisia had 373 MW of RES capacity of which 245 wind, 62 solar and 66 hydro, or around 6% of total generation capacity.5

1. Legal framework

Tunisia has been something of a pioneer of RES development, with the first RES support measures introduced as early as 2005. In the 5 years since our last survey, there has been an impressive improvement in overall investor confidence. Stakeholders consider risks related to political risk, property rights, starting a business and permitting to be of low concern. This improved investment environment is confirmed by the 2020 World Bank Doing Business indicator, where Tunisia has seen a steady improvement trend over the past years.

The improvement in political risk perception is particularly welcome. Tunisia lived through a period of internal turmoil which, compounded by a series of terrorist attacks, took a hit on the country’s GDP. An improved risk perception is certainly a positive development.

Despite the authorities’ multiple efforts to open the market to private investments, survey respondents continue to see some degree of risk concerning grid access and management. There are no known standards for grid integration of intermittent RES, which raises a host of related concerns including curtailment risk. The grid operator has limited experience or a track record of managing intermittent sources, as renewables currently contribute only to a small share of the electricity mix. Not least, the existing grid infrastructure is seen as antiquated

65% of respondents do not consider political risk, property rights and starting a business to be of particular concern, which speaks of an improvement in the overall investment environment

Risks rated as high or very high

<table>
<thead>
<tr>
<th>Local skills</th>
<th>Regulat. &amp; policy</th>
<th>IPP mkt access</th>
</tr>
</thead>
<tbody>
<tr>
<td>58%</td>
<td>40%</td>
<td>65%</td>
</tr>
<tr>
<td>Private</td>
<td>Public</td>
<td></td>
</tr>
</tbody>
</table>

5 IRENA, 2020, Renewable Capacity Statistics 2020, Abu Dhabi
or inadequate. Integrating a growing RES share will require sustained grid investments, transparent and effective grid codes, and strengthening grid management capacities.

Nearly 60% of respondents consider IPP market access of high concern. There seems to be a particular issue concerning a perceived resistance to change on the part of incumbent utility STEG, as time delays to the implementation of the 2015 New Law have been substantial. To date nearly all existing RES capacity is owned and operated by the incumbent and few of the awarded RES tenders have reached financial close.

66% of respondents rated grid access as a high or very high risk

There is an interesting divergence in perceptions on regulatory and policy risks: while 75% of public stakeholders consider this an area of high concern, only 40% of private stakeholders agree. This gap may be due to the difficulties in implementation. Private sector stakeholders tend to consider the laws and regulations currently in place as rather strong, but barriers stem from their inadequate, incomplete or delayed implementation.

2. Risk affecting revenues

Counterparty risk stands out as the most significant one affecting revenues, and it is also an area where public and private sector views diverge the most. While 65% of private sector stakeholders consider counterparty risk to be of very high concern, only 33% of the public sector agrees. STEG’s high debt burden, inadequate corporate governance and patchy operational track record contribute to the utility’s poor credit rating.6 The cost-irreflective electricity tariffs makes it difficult for STEG to operate a financially sustainable business model. Offtaker risk could be potentially mitigated with some form of sovereign guarantee, which is currently not included in the standard PPA.

Participants who consider counterparty risk as high

Concerns on counterparty risk are aggravated by the lack of clarity on contract termination. The standard PPA does not specify a clear mechanism to determine the compensation due by STEG in the event of a termination of the PPA; instead, it refers to an amount to be negotiated bilaterally between the parties.7 Also in this area there is an evident perception gap: where 40% of private sector stakeholders consider this a high risk, there are no public stakeholders who agree.

Risks rated as high or very high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counterparty</td>
<td>33%</td>
<td>65%</td>
</tr>
<tr>
<td>Capital transfer</td>
<td>52%</td>
<td>67%</td>
</tr>
<tr>
<td>Curtailment</td>
<td>44%</td>
<td>67%</td>
</tr>
</tbody>
</table>

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6 ERBD, 2020, VISP-STEG – Stabilization facility STEG Restructuring Facility, Tunis
7 Clifford Chance, 2019, Opportunities and Challenges in Game Changing Tunisian Solar and Wind Tenders, London
Exchange rate and capital transfer risk are considered of high concern by over 60% of respondents. A high trade deficit and growing public debt have mounted pressure on the Tunisian dinar. The Central Bank has traditionally tended to intervene to limit forex fluctuations but, in line with IMF recommendations, has recently resorted to tighter monetary policy and exchange rate flexibility. The resulting depreciation of the Tunisian dinar has been expected, and should have long-term beneficial effects in terms of financial stability and protecting from external shocks. Nonetheless, the short-term effect of decreased investor confidence is not to be neglected.

Over 66% of respondents consider exchange rate and capital transfer risk to be of high or very high concern, as a large trade deficit erodes trust in the country’s currency.

### 3. Construction and operation risk

The area of construction and operation risks stands out for a remarkably high level of investor confidence. Among private stakeholders, 90% are little or not at all concerned with construction flaws, and nearly 65% have no worries concerning local skills and local content requirements. This confidence reflects in large part on Tunisia’s relatively large and highly educated middle class, which constitutes a basis of its economic development model. While unemployment is an important obstacle to Tunisia’s economic development, investors are confident about their ability to source well-trained technicians, engineers and other expert staff from the local workforce pool.

<table>
<thead>
<tr>
<th>Risks rated as low or very low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
</tr>
<tr>
<td>0%</td>
</tr>
<tr>
<td>50%</td>
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<tr>
<td>100%</td>
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</tbody>
</table>

Logistics, safety and security is a risk where some concern remains and there is also a wide perception risk. While 47% of private sector stakeholders consider this to be a very high risk, none of the public sector stakeholders agreed. There has certainly been a remarkable improvement in Tunisia’s safety situation over the past couple of years, as evident also in the removal of foreign travel warnings. Improving investor confidence further could be done by providing dedicated security services for RES installations.

### Recommendation

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forex</td>
<td>Strive to strengthen the financial solvency and improve corporate management of STEG</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Review the financial model of STEG and consider making electricity tariffs cost-reflective, to ensure financial sustainability</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Introduce a sovereign guarantee in the PPA to mitigate risk</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Continue the effort toward socially-balanced macroeconomic stabilization</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Reduce current spending and the energy subsidies program while strengthening social-safety nets</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Introduce partial indexing of PPAs to foreign currencies</td>
</tr>
</tbody>
</table>

**IMF, 2020, Request for purchase under the rapid financing instrument, Washington**
4. Risk affecting financial costs

Financial cost risks feature prominently among investor concerns, and are also subject of a large perception gap. Some 80% of private sector stakeholders consider financing availability to be of very high concern; none of the public sector stakeholders agree. Similarly with interest rate risk which is considered high by 79% of private and only 33% of public stakeholders. In a general sense, this perception gap offers important guidance on areas where closer public-private dialogue is needed.

80%

of private sector stakeholders consider financial availability to be a high or very high risk

The problem of financing availability is two-fold. On the one hand, respondents expressed strong views about the inadequate bankability of the standard PPA under the authorization regime, which leads to difficulty in securing viable financing. Particular bankability problems concern the absence of sovereign guarantee, mitigating provisions on offtaker risk, termination clauses, and force majeure. The question of PPA’s bankability deserves to be investigated more closely.

High interest rates are another area of investor concern. As noted earlier, this is related to a broader picture of macroeconomic weakness as the country’s Central Bank struggles to maintain trust in the Tunisian dinar. But part of the high interest rate issue is also related to the high perceived risk of the standard PPA, which can be reduced via adequate de-risking measures.

5. Environmental and social risks

Environmental and social risks are perceived as generally very low. RES technologies are perceived very positively in Tunisia, in part due to their potential to promote economic growth and provide jobs in the relatively disadvantaged but resource-rich interior parts of the country. Some stakeholders do note, however, that engaging local stakeholders in decision-making concerning RES projects is not common practice.

The second aspect of financing availability concerns the limited capacity of local financial intermediaries. As noted by the EBRD, the country’s domestic banking sector is dominated by three large publicly controlled banks which have a limited track record in making informed credit decisions and properly assessing risk on RES projects.9

85%

of respondents consider social acceptance to be a low risk, although some stakeholders note that involving views of local stakeholders in decision-making processes is not common practice in the country

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9 EBRD, 2018, Tunisia Diagnostic 2018, London
Egypt

Egypt has seen a major improvement in the overall investor confidence compared to our 2016 survey. The government managed to stabilize the macroeconomic picture and attract significant attention of multilateral and development finance institutions, both in the form of technical advisory and in financing schemes. The results were fast to come: Phase 2 of the Feed-in-Tariff yielded the 1.5 GW Benban solar park, among the world’s largest, inaugurated in late 2019, and the 262.3 MW wind project in the Gulf of Suez. The new phase of the Feed-in-Tariff (FiT) included a set of highly bankable contract documents, prepared with extensive advisory from multilateral stakeholders.

The persisting concern of investors is that for RES investments outside of government-backed mega-projects, the legal framework is not fully adequate. The incumbent utility EETC (Egyptian Electric Transmission Company) is seen as dominating the market and exerting undue influence. There is also a large perception gap as public sector stakeholders do not perceive regulatory issues to be of major concern. More business to government (B2G) dialogue is needed.

Where investors and public sector stakeholders do agree is on inflation, tax and exchange rate risks. While the macroeconomic situation today is far more stable than some years ago, the fallout from COVID-19 and the recent round of currency erosion are raising the specter of renewed instability.

The historical trend

There’s been a marked decrease in overall risk perception

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
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Overall risk environment

Risks concerning the legal framework and financial costs stand out

Top 5 risks

Share of respondents who rated a risk as high or very high

- Inflation: 63%
- Tax Regime: 54%
- Exchange Rate: 53%
- Dispute Resolution: 49%
- Regulatory and Policy: 49%

Based on 26 survey responses
Regulatory overview

Under the 2014 Renewable Energy Law (Decree no. 203/2014), IPP participation in the electricity market is foreseen in five schemes, namely:

1. Competitive bidding run by NREA (New and Renewable Energy Authority), with plants to be operated by NREA and the electricity sold to the state utility EETC
2. Competitive bidding run by the EETC under Build Own and Operate (BOO) contracts
3. Feed-in-Tariff (FiT) with BOO contracts and a guaranteed 20-year PPA with EETC.
4. Merchant scheme allowing IPPs to sell directly to HV customers.\(^1\)
5. With cabinet approval, some companies and consortium signed a PPA with EETC, under a bilateral agreement with the government.

Additionally, the government introduced a net-metering scheme in 2013, which allows small-scale plants to feed electricity into the grid.

The 2035 Integrated Sustainable Energy Strategy (adopted in 2016) set a target of 20% share of RES in the electricity generation by 2020 (later modified to 2022) and 42% by 2035.

By the end of 2019, Egypt had nearly 6 GW of RES, around 10% of total installed capacity.\(^2\) Half of this volume accounts for legacy hydro, while wind and solar saw a major uptick in 2018 and 2019 following the successful implementation of the FiT programme.

Key developments over the past 5 years

- May 2020: revision of the net-metering scheme (Circular No. 2/2020) increasing the maximum capacity to 20 MW (up from 5 MW) and introducing a series of limitations including a balancing charge.

- Oct 2019: the country inaugurated the 1.5GW Benban solar power park, one of the world’s largest which attracted $4bn of financing primarily from the EBRD and the IFC.

- 2017: new Investment Law provided a series of protections for foreign investors

1. Regulatory overview
2. Key developments over the past 5 years

2. IRENA Statistics Time Series
The first relates to perceived uncertainties and risks related to the FiT rounds. Notable among them is a dispute concerning the cost-sharing agreement between the EETC and the Benban project companies, whereby EETC decided to unilaterally raise the cost-sharing costs several times which severely eroded investor confidence. Investors suggested that the EETC remains a source of offtaker and political risk, and its incumbent position allows it to exert undue influence over government policy.

The second driver is related to the perceived risks for IPP projects not part of government-backed mega projects. Investors suggested that the strong political backing for mega-projects guarantees a relatively risk-free investment environment, but projects that are not part of a mega project (e.g. merchant schemes) face uncertainties with regards to permitting, wheeling charges and curtailment.

The perception gap concerning regulatory risk is stark: while 79% of private sector respondent consider it to be of high or very high concern, only 20% of public sector stakeholders would agree. This suggests an acute need for greater business-to-government dialogue on regulatory topics.

Dispute resolution emerges as another area of high concern. This had been a particularly problematic issue in Phase 1 of the FiT, where international arbitration was permitted via the Cairo International Arbitration Centre, but the issue was subsequently solved in Phase 2 of the FiT, but the poor quality of the judicial process in Egypt remains problematic for the overall investment environment. Indeed the 2020 World Bank Doing Business report ranks Egypt at the 166th place globally for enforcing contracts, far below the MENA average.

Dispute resolution emerges as another area of high concern. This had been a particularly problematic issue in Phase 1 of the FiT, where international arbitration was permitted via the Cairo International Arbitration Centre, but the poor quality of the judicial process in Egypt remains problematic for the overall investment environment. Indeed the 2020 World Bank Doing Business report ranks Egypt at the 166th place globally for enforcing contracts, far below the MENA average.

2. Risk affecting revenues

Receiving the expected and due revenues from a RES project is an area of relatively low concern for investors, with a remarkable decrease in the risk perception compared to five years ago. Over 60% of private sector respondents consider counterparty risk, capital transfer and termination of low or very high concern. The newfound trust in the counterparty – which for most projects will be the incumbent utility EETC – is most likely related to the sovereign guarantee from the Ministry of Finance which was included in Phase 2 of the FiT. Termination risk is similarly covered in the PPA terms for the FiT Phase 2. In a regional environment of relatively high offtaker risk, the sovereign guarantee goes a long way in building investor confidence in Egypt.

12 Clifford Chance, 2018, As international arbitration was permitted via the Cairo International Arbitration Centre, London
Exchange rate risk features quite highly on the minds of both the public and private sector respondents. The Central Bank’s decision to liberalize the exchange rate and unpeg the Egyptian pound (EGP) from the US dollar in late 2016 led to a massive short-term devaluation. While the foreign exchange rate had stabilized in the years since, the recent fallout from COVID-19 and the related decrease in tourism revenues brought on a new erosion in the value of the EGP. Payments within Phase 2 of the FiT are denominated in USD and the Central Bank issued a convertibility guarantee for a portion of the value, which offers a great degree of relief for investors. Nonetheless stabilizing the broader currency situation is needed in order to lend further credibility to the guarantee in place.

Curtailment risk is an area of remarkable improvement: only 45% of private sector respondents consider it to be of high concern, compared to 75% five years ago. The increased investor confidence once again reflects the improved terms of the standard PPA for the Phase 2 of the FiT.

3. Construction and operation risk

Similarly to 2016, the area of risks related to construction and operation is perceived as being of very low concern for both the private and the public sector. Over 70% of respondents consider construction flaws, availability of a skilled local labor force, permitting, and local content requirements to be of low concern.

The low risk perception concerning local content requirements is rather remarkable considering that recent rounds of RES procurement had some requirements on local content. The low risk perception likely reflects on the economic attractiveness of sourcing raw materials or components locally and the relatively advanced state of Egypt’s manufacturing and engineering sectors. Egypt’s engineering companies were notably able to deliver on competitive terms in areas such as metal or electrical components of RES plants. The country also benefits from a well-educated middle class. While youth unemployment is a major socio-economic issue, the availability of a highly qualified workforce is certainly not an area of concern.

Concerning obtaining licenses and permits, 8 out of 10 private sector respondents report that this is an area of low concern. This is a notable improvement compared to 2016, and is also reflected in the country’s improving score on the dealing with construction permits criterion of the World Bank 2020 Doing Business survey.
4. Risk affecting financial costs

The Egyptian authorities made remarkable progress since 2016 in improving the country’s credit rating and stabilizing the macroeconomic situation. Following the mixed results of Phase 1 of the FiT, the government worked closely with multilateral and development finance institutions (DFIs) to attract expert advisory and private finance. A notable example is the Green Climate Fund – EBRD Renewable Energy Financing Framework worth $1bn approved in 2017, which includes a technical assistance as well as a lending facility. The EBRD was the largest lender in the 1.5GW Benban project.

This newly found interest from DFIs has been well noted by investors: 73% of private sector respondents consider financing availability to be of low concern in Egypt. With interest rates, the picture is more mixed: while large projects tend to get cheap financing from DFIs, small projects tend to be subject to high interest rates from local financial institutions.

65% of private sector stakeholders consider inflation risk to be a high or very high risk

Inflation risk is a high concern. This is related to the previously noted issue of foreign exchange rate: the sharp devaluation in late 2016 has cast a long shadow of uncertainty among the investment community, and the fallout from COVID-19 is reviving concerns about the government’s ability to uphold the existing convertibility guarantee.

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5. Environmental and social risks

Environmental and social risks are perceived as generally very low. RES technologies enjoy a broad social support, in part due to their potential to promote economic growth and provide jobs. But some risk may stem from the socio-economic implications of the clean energy transition, notably from the adverse effect that the removal of fuel subsidies is having on energy poverty. Maintaining a high social acceptance of RES will require both information campaign as well as dedicated schemes to protect the vulnerable customers – e.g. rooftop solar in residential areas.

A small but significant share of private sector respondents consider environmental impact assessment procedures to be a source of concern for small and medium-sized projects, which do not benefit from major government backing.

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15 LSE Grantham Research Institute on Climate Change and Environment, London
16 Notably laws (No. 23/ 24/ 25/ 26-2020). Source: PwC
Jordan

Jordan was seen as a low-risk country already in 2016, and five years later the country stands out as an example of successful implementation of a range of policies. The Direct Proposal Submission scheme (DPS), essentially a two-phase tendering programme, was hailed as a major success, and helped the country meet its 2020 RES targets ahead of time - the first MENA country to do so. The success of the DPS scheme was tied to extensive technical assistance and advisory concerning contractual documents, which helped render projects highly bankable. The take-or-pay PPA and the sovereign guarantee on payments mitigated a vast range of risks and contributed to a high degree of investor confidence.

But to integrate an ever higher share of RES, a set of structural issues needs to be addressed. The offtaker NEPCO (National Electric Power Company) operates a financially unsustainable business model, which must be addressed by introducing cost-reflective electricity tariffs and resolving its legacy debt burden.

The poor state of the Jordanian T&D networks are a cause of major concern related to grid connection and curtailment. Indeed, as of early 2019 the government has indefinitely suspended authorizations for new RES plants until further grid studies are prepared, and the COVID-19 fallout caused a temporary curtailment of all RES plants. While risk mitigation instruments can offer a temporary risk reprieve, lasting solutions can only come from higher grid investments.

The historical trend
There’s been a marked decrease in overall risk perception

<table>
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</tbody>
</table>

Overall risk environment
Risks concerning financial costs stand out

Top 5 risks
Share of respondents who rated a risk as high or very high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td>Curtailment</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>Tax Regime</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>Counterparty</td>
<td>58%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Based on 21 survey responses
Regulatory overview

The rules and conditions of IPP access to market are governed by Law No 13 (2012) on Renewable Energy and Energy Efficiency (REEL) and its subsequent amendments, which set up the following mechanism:

- Direct proposal submission (build-own-operate projects offered through competitive bidding).
- Self-consumption (wheeling and net metering)

The generation segment of the electricity market is unbundled with a mix of public and IPP participation. State-owned NEPCO (National Electric Power Company) is a single-buyer, single-seller and also manages the transmission system.

The 2020–2030 Energy Strategy announced in July 2020 sets a 2030 target of 3.22 GW of RES capacity, equivalent to 31% of total installed capacity. The previous 2020 target of 10% share of RES in the electricity mix has been met on time.

Key developments over the past 5 years

- New energy strategy to 2030 adopted in July 2020. Some have criticized it for being insufficiently ambitious.

- Backed by strong policy support, renewables have grown tremendously over the past few years. By end-2019 the country had 1.65 GW of RES capacity, accounting for nearly 30% of the total capacity, up from near-zero in 2014. The Direct Proposals Scheme (DPS) has been hailed as a major success.

- Jan 2019: the government suspended granting approvals to new RES projects above 1 MW until the completion of technical studies to assess the capacity of the grid to handle additional capacity. So far, no changes occurred but exceptions are made for Round 3 of the DPS under certain conditions.

- Energy demand has been on a decreasing trend which, in addition to a strong pipeline of future RES projects, has raised some concerns about excess generation capacity.

17 IRENA Statistics Time Series
19 As of Jan 2020. IRENA, 2021, Renewables Readiness Assessment: The Hashemite Kingdom of Jordan, Abu Dhabi
20 RCREEE, 2019, Arab Future Energy Index, Cairo
But specific challenges remain particularly concerning RES integration into the grid. Respondents considered grid capacity need to be addressed to allow the integration of utility-scale solar PV and wind. In 2017, authorities launched the Green Corridor Project to support the development of adequate transmission infrastructure. Despite this fact, hesitation over the capacity of the electrical grid to handle additional capacity is reflected in the government decision to suspend approvals for new RE projects above 1MW.

The grid integration issue seems to be exacerbated by the fact that the sharp growth in RES capacity is coinciding with a declining trend in Jordan’s per capita electricity demand. While the population has been growing, demand had not picked up reflecting energy poverty and the fact that incoming population is largely based in poorly electrified refugee camps. Part of the solution could lay in electricity export to neighboring Palestine, Egypt or Iraq.

2. Risk affecting revenues

Private sector respondents have a high confidence in their ability to receive due revenues from their RES assets. Over 90% of respondents consider capital transfer and exchange rate to be of very low concern, which reflects the dollarization of Jordan’s economy including RES tariffs. A further 86% of respondents consider termination risk to of low concern, likely reflecting on the strength of PPA arrangements.

On the other hand, there is quite a bit of concern on counterparty and curtailment risk, with 58% of respondents rating it as a high concern. It is worth noting that public sector stakeholders are more concerned about these two topics than the private sector.

Counterparty risk is mitigated in the existing standard PPA via a sovereign guarantee on payments. Nonetheless NEPCO faces structural problems due to a high accumulated debt and the cost-irreflectiveness of electricity tariffs. The debt issue dates back to the period of high crude oil prices, where NEPCO was exposed to a high import bill. Additionally the take-or-pay PPAs with power generators imply that NEPCO is (indirectly) absorbing the consumer subsidies on its own balance sheet. The government has been in talks with the IMF to introduce cost-reflective tariffs, but no progress has been made. Addressing NEPCO’s long-term financial sustainability will be critical for addressing offtaker risk.

![Risk rated as low or very low](image)

![Risk rated as high or very high](image)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory &amp; policy</td>
<td>Consider increasing the level of ambition of the official RES targets, considering the success in meeting previous targets ahead of time</td>
</tr>
<tr>
<td>Grid access</td>
<td>Strengthen the T&amp;D infrastructure by identifying investment priorities, mobilizing investments and building grid management capabilities</td>
</tr>
<tr>
<td></td>
<td>Restore the granting of approvals for new RES projects as soon as possible</td>
</tr>
</tbody>
</table>

Available at: https://doi.org/10.3390/su122410465

9 out of 10 respondents consider exchange rate and capital transfer risks to be of low concern, reflecting a high dollarization of Jordan’s economy
Risk of curtailment also deserves some attention, as 58% of respondents consider it to be of high or very high concern. Similarly to offtaker risk, private sector stakeholders are less concerned about it than the public – which runs contrary to the usual trend of investors being more risk-aware.

Curtailment risk is formally mitigated by the take-or-pay clause of the existing standard PPA for DPS projects, which is probably the root cause of optimism among private sector stakeholders. Nonetheless the poor state of Jordan’s grid poses a structural risk of curtailment, as the difficulty to integrate variable RES into the grid may cause interruptions in feed-in and the related payments. The curtailment risk is particularly acute for net-metering and wheeling projects which do not benefit from the standard PPA under the DPS scheme. The curtailment risk materialized in the spring 2020, when the decreased demand due to COVID-19 led NEPCO to disconnect all RES plants. While contractual de-risking measures can mitigate this risk, a structural solution needs to come via greater grid and flexibility investments.

There appears to be some concern about permitting and licensing: 45% of private sector stakeholders consider this a high concern. Under the DPS scheme, investors must acquire the license prior to submitting a bid, which is seen by some as an undue burden. A potentially larger issue is the time delays in receiving a permit. A solution to this issue can come from standardizing land acquisition processes and pre-developing sites including by conducting site-specific EIAs and developing the necessary grid infrastructure. Such an approach has been adopted for the Ma’dan Development Area.22

3. Construction and operation risk

Similarly to 2016, the area of risks related to construction and operation is perceived as being of very low concern for both the private and the public sector. Over 70% of respondents consider availability of a skilled local labor force and local content requirement to be of low concern. Over 60% consider construction flaus, logistics and safety risks not to present any significant barriers.

The high confidence in the local labor force reflects on Jordan’s well-educated middle class, with a large share trained in English.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counterparty</td>
<td>Maintain the offtaker guarantee within the standard PPA, and consider extending it to the net-metering and wheeling projects</td>
</tr>
<tr>
<td>Curtailment risk</td>
<td>Strengthen the T&amp;D infrastructure by identifying investment priorities, mobilizing investments and building grid management capabilities</td>
</tr>
<tr>
<td>Curtailment risk</td>
<td>Maintain the take-or-pay clause within the standard PPA, and consider extending a risk mitigation measure to the net-metering and wheeling projects</td>
</tr>
</tbody>
</table>

There appears to be some concern about permitting and licensing: 45% of private sector stakeholders consider this a high concern. Under the DPS scheme, investors must acquire the license prior to submitting a bid, which is seen by some as an undue burden. A potentially larger issue is the time delays in receiving a permit. A solution to this issue can come from standardizing land acquisition processes and pre-developing sites including by conducting site-specific EIAs and developing the necessary grid infrastructure. Such an approach has been adopted for the Ma’dan Development Area.22

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permitting</td>
<td>Consider standardizing land acquisition processes and pre-developing RES sites, comparable to the approach adopted in Ma’dan Development Area.</td>
</tr>
</tbody>
</table>

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22 Ma’dan Development Area. Available at: [http://www.mda.jo/](http://www.mda.jo/)
4. Risk affecting financial costs

The area of risks affecting financial costs features a large perception gap, with the private sector indicating a much larger risk level than what is perceived by the public sector. This points to a need to increase business-to-government dialogue on this specific topic.

In line with the findings of 2016 survey, over 75% of investors believe that high interest rates are a significant barrier to RES investments in Jordan. The high risk perception stands in contrast with the range of support measures put in place. The Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) offers loan guarantees and interest rate subsidies specifically for RES projects, and the Central Bank of Jordan offers a credit facility with reduced interest rates for RES projects.23 In addition to these domestic support schemes, Jordan benefits from a high interest of multilateral and development finance institutions, which have poured funds into the two rounds of the DPS. Notable among them are the EBRD, IFC, and Proparco, among many others.

Nearly 73% of private sector stakeholders consider the tax regime to be a source of risk. The 2012 REEL introduces tax exemptions for all systems and equipment for RE projects from custom duties and sales tax, which amounts to an attractive incentive. However, investors seem concerned about the possibility that the government may introduce additional taxes amid the need to cover budgetary shortfalls arising from COVID-19.

5. Environmental and social risks

Contrary to views in all other countries, public sector stakeholders do see some risk related to social acceptance of renewables. Some 50% of public sector rated this risk as high. This view is likely rooted in the socio-economic implications of the energy transition, and specifically the prospect of introducing cost-reflective electricity tariffs. Surely the rise in renewables is not the cause of an increase in electricity tariffs, yet the coinciding timing of the two developments could create erroneous associations which risk creating a barrier to RES. This risk must be mitigated by protecting vulnerable consumers including via social safety nets and by investing in residential rooftop installations.

23 IRENA, 2021, Renewables Readiness Assessment: The Hashemite Kingdom of Jordan, Abu Dhabi
Algeria

Algeria is a new addition to our 2021 survey. The country relies on oil & gas for much of its revenues and used to be rather closed to RES investments, but that is starting to change. A wave of reforms has swept over the country over the past few years, as restrictions on foreign ownership and foreign financing of RES were scrapped. The government also introduced a reverse RES auctioning scheme with a guaranteed PPA. The recently announced plan to auction off 4 GW of RES annually up until 2024 has not failed to attract the attention of the wider investor community.

While being a step in the right direction, de-risking RES investments requires additional effort across the board. The country’s overall Doing Business environment remains largely unfavorable; difficulties are particularly prominent in permitting, dispute resolution and property rights. A long era of closure to foreign capital flows created an environment where access to finance is dire, and the local banking sector does not have the capacities to step up to the task. The ongoing financial crisis and the plummeting of foreign reserves is compounding the perception of uncertainty and political risk.

To promote private investments in RES, Algeria should solidify a political consensus around promoting a private-sector-led growth model. Recent reforms need to be followed up by credible implementation and further effort concerning outstanding risks. Pursuing a pilot or demonstration program specifically designed to attract foreign investment can go a long way in building the needed investor confidence.

The perception gap

The private sector sees more risks than perceived by the public sector.

Overall risk environment

Risks concerning the legal framework and financial costs stand out.

Top 5 risks

Share of respondents who rated a risk as high or very high.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Share of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange Rate</td>
<td>86%</td>
</tr>
<tr>
<td>Financing Availability</td>
<td>76%</td>
</tr>
<tr>
<td>Political Risk</td>
<td>72%</td>
</tr>
<tr>
<td>Dispute Resolution</td>
<td>67%</td>
</tr>
<tr>
<td>Property Rights</td>
<td>65%</td>
</tr>
</tbody>
</table>

Based on 25 survey responses.
Regulatory overview

The Renewable Energy and Energy Efficiency Development Plan launched in 2011 and updated in 2015 sets out a 2030 target for renewables to account for 27% of electricity generated, with 22 GW of capacity to be deployed.

The plan puts a heavy focus on solar PV and on developing local manufacturing capacity to stimulate jobs and growth.

Key developments over the past 5 years

- The past two years in Algeria have seen rapid change and a major opening to foreign investments, including in the RES sector. Main changes include:
  - The first solar tender for 150 MW was launched in November 2018, with Sonelgaz acting as offtaker in a PPA. The tender was a mixed success: only 50 MW were awarded as stringent local content and local ownership requirements contributed to the tender being undersubscribed.
  - Office for Renewable Energy and Energy Efficiency (CEREFE) established in 2019 to develop a green energy transition roadmap.
  - Law 51/19 law on majority ownership waived for non-strategic sectors in late 2019, potentially opening the door to foreign investments in RES.
  - The right to use foreign financing was reintroduced.
  - Plans for 4 GW of RES projects to be tendered annually until 2024 announced in May 2020.
  - Two new solar panel manufacturing plants, with expected capacity of 260 MWp, are expected to be built. CEREFE expects manufacturing capacity to increase to 450 MW.

1. Legal framework

Despite the major strides made recently in opening Algeria’s RES market to foreign investments, the country is perceived as a highly risky place to do business.

Political risk and political force majeure are of highest concern for both the public and private sector participants. These responses are likely influenced by the 2019-20 protest movement which led to the ousting of former president Bouteflika and coincided with the government’s effort to open up the economy. While the measures are certainly a positive for RES investments, the rapid political shift and the fact that the democratic transition is still underway are probably contributing some degree of investor uncertainty.

Dispute resolution risk is another area of high concern, especially for private sector participants. Investors seem to doubt the quality and efficiency of local judicial processes, amid a perception of state favoritism and corruption. The 2020 World Bank Doing Business survey seems to confirm this perception: in 2020 Algeria was ranked on the 113th place out of 190.

The ability to secure and maintain property rights is an area of concern, although there is an interesting perception gap between the public and the private sectors. Over 80% of public stakeholder consider property rights of high concern, while only 50% of private respondents agree. The optimism among private stakeholders may be explained by the recent waiving of Law 51/19 on local ownership rule, under which foreign investors used to be obliged to form a joint venture with an Algerian company and could only own 49% of the JV share. The rule has been scrapped in all activities.
except for five strategic sectors, which includes the upstream energy sector, any activities governed by the hydrocarbons law, as well as transport and distribution networks. While renewables are likely not included in the definition of "upstream energy sector", and should therefore be exempt of the foreign ownership rule, some doubts remain.

Despite this and other recent changes, the business environment in Algeria is still marked by years of protectionism and closeness to investments. Improving investor confidence and attracting private investments in the RES sector will require a longer period of efforts by all Algerian institutions to fully implement recent laws. While the institutional framework is set up in an adequate manner, the smooth functioning and full institutional coordination requires time.

### Risks affecting revenues

Risks affecting revenues stand out as by far the most acute worry for public and private stakeholders alike. The country has a long legacy of capital and foreign exchange controls amid an overdependence on oil & gas revenues. This is now being compounded by a severe ongoing financial crisis. The sharp drop in oil & gas prices – Algeria’s main export and source of foreign currency – has caused a plummeting in the country’s foreign exchange reserves to $44bn by end-2020, less than a quarter of what they used to be in 2014. The COVID-19 pandemic added further difficulty as economic activity shrunk. To stem the outflow of currency, the Algerian government has been resorting to “unconventional” measures including a curb on importing cars and other foreign consumer goods.

In line with this picture, 86% of respondents considered exchange rate to be of high or very high concern. In general, the government tightly controls foreign exchange for local stakeholders in an effort to prevent a flight of capital out of the country. This is being aggravated by the recent erosion of the forex rate: the Algerian dinar is officially trading at 160 to the Euro, 18% less than a year ago while the black-market rate is likely to be even more dire.

Capital transfer risk is similarly seen as high or very high by 60% of respondents. Until 2016, foreign shareholders were theoretically prohibited from transferring abroad any amount of capital in excess of what they initially invested in Algeria. As of 2016, this obligation to present a positive foreign exchange balance has been scrapped for investments that meet a certain (and not fully clear) level of capital investment. This contributes to a perception of investor uncertainty.

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*Africa Law & Business review, August 2020*
60% of respondents do not consider counterparty risk to be of particular concern, which is in contrast with the rest of the region and speaks about the financial stability of Sonelgaz.

Where Algeria differs from its neighbors is on counterparty risk, which 60% of respondents do not consider as a particular concern. The balance sheet of the state-owned utilities operator Sonelgaz, which acts as the off-taker in the standard PPA, benefits from the country’s large gas portfolio to endow investors with a sense of safety. Some of our survey respondents pointed to bankability issues with the standard 20-year PPA contract. However these concerns could not be verified as the terms of the PPA and related risk allocation remain confidential.

3. Construction and operation risk

Permitting and licensing is of high concern to investors, amid a high number of procedures applicable and long delays in getting the permits. The 2020 World Bank doing business survey confirms this finding, with Algeria ranked on the 121st place compared to a MENA region average of 87.

Local content requirements is also worth mentioning as a risk, as investors are currently obliged to source modules, mounting structures, and cables from the existing Algerian local supply chain. There are currently at least two manufacturing sites which assemble parts produced in China, with a current capacity of 190 MWp of solar panels expected to rise to 450 MWp in the near future.

But public sector may be overestimating its significance: 80% of public sector respondents consider it a high risk, but only 40% of private sector stakeholders agree. This relative optimism of the private sector may be explained by a high level of satisfaction with the skill level among the local workforce. The government has been pursuing a range of vocational trainings in the RES sector, including in cooperation with European donors.

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Commissariat aux Energies Renouvelables et à l’Efficacité Energétique, 2020, Annual report 2020, Alger
4. Risk affecting financial costs

Over three quarters of respondents agree that financing availability is a high or very high barrier to investments. The 2020 World Bank doing Business Survey confirms this finding: ranked at the 181st place out of 190 countries, Algeria is one of the world’s most difficult places for getting credit. This is entirely due to regulatory provisions or their persisting legacy. Investments used to be limited entirely to local financing, and only recently the 2020 Finance Law re-introduced the possibility to use foreign financing. Because of this former limitation, Algerian banks are seen as lacking experience in using non-recourse financing.

76% of respondents consider financing availability to be a high barrier to RES investments. The World Bank confirms this finding: Algeria is one of the world's most difficult places for getting credit.

It will be a while before the recent financial opening takes the intended effect. After a long period of relative isolation from international capital flows, the Algerian banking system is perceived as somewhat unsophisticated and not having the necessary experience to provide project finance assistance for RES. Multilateral donors are likely to stay on the sidelines for a while longer, as the government remains somewhat wary of foreign financial assistance and the related conditionalities.

5. Environmental and social risks

There is an interesting perception gap between the private and public sector concerning environmental and social risks. Private sector respondents appear confident that social acceptance of RES is not an issue, while the public sector is split 50–50 on this matter.

The skepticism of the public sector is likely related to the social costs of the energy transition: reducing reliance on fossil fuels is good for the Algerian economy and for the planet, but parts of the population may be facing adverse consequences including job loss and higher electricity tariffs (as cost-reflective tariffs tend to be an enabling factor for RES investments). In dealing with the energy transition, the Algerian government will need to create carefully tailored measures to ensure the transition does not leave the vulnerable ones behind.

### Topic | Recommendation
--- | ---
Social acceptance | Introduce a socio-economic dimension to the energy transition strategies and planning, to mitigate potential adverse effects of transitioning away from fossil fuels. Invest in promotion, dissemination and public information campaigns on the multiple benefits of RES. Invest in residential rooftop solar or distributed energy to the benefit of vulnerable customers.

### Topic | Recommendation
--- | ---
Financing availability | Strive to attract private capital inflows by putting up de-risking measures covering aspects such as currency and other risks. Endeavour to attract multilateral and other forms of concessional finance, including by demonstrating a consistent and well-structured intent to pursue RES. Consider pursuing a pilot or demonstration RES programme which would have a high share of foreign participation. Build capacities of local financial intermediaries by piloting targeted knowledge transfer and capacity building programs.
Libya

Libya is a new addition to our 2021 survey. The country has been living through nearly a decade of civil war which severely compromised the security situation, divided up the territory between rival factions, and caused a severe financial crisis. The World Bank categorizes Libya as one of the world’s worst places for Doing Business.

The country does have a renewables strategy dating back to 2013, which targets a 22% share of RES in the electricity mix by 2030. But there is little on the ground to suggest progress towards meeting this target. The rules currently in place do not foresee any role for IPPs or foreign investments in the electricity market, although the inexistence of an electricity law leaves a lot to interpretation.

There appears to be a glimmer of hope on the horizon. A transitional government has been elected in early February 2021, and the Central Bank held its first meeting in 5 years, following a ceasefire agreement signed by Libya’s opposing military factions in October 2020. The hope is that this time, peace is here to stay.

The perception gap

The private sector sees more risks than perceived by the public sector

Overall risk environment

Risks concerning the legal framework and revenues stand out

Top 5 risks

Share of respondents who rated a risk as high or very high

- Political force majeure: 90%
- Logistic, security and safety: 76%
- Inflation: 73%
- Political Risk: 79%
- IPP Market Access: 80%

Based on 33 survey responses
Libya

1. Legal framework

Given the difficult political and security situation in Libya, risks related to the legal framework and the overall business environment stand out as largely insurmountable obstacles to investment.

Political risk and political force majeure stand out as the most important risks in the country. It is difficult to speak of Libya as a single place, as the country harbours pockets of regional (or even city-level) stability in an otherwise rather unstable environment. Outbreaks of conflict among rival militias are compounded by the threat of kidnapping for ransom, frequently targeting foreigners.\(^{28}\) While the recent election of a transition government is a step in the right direction, building investor confidence will take some years.

Years of civil war have relegated renewables to a low-priority portfolio, and there is little clarity as to what legal framework would apply for RES. The country has a National Renewable Energy Strategic Plan, whose targets are intended to be financed through national budgets. There is no electricity law in place, and existing legal provisions do not foresee any role for IPPs or foreign investment in the electricity market. On the other hand, REAOL was reported to have recently established a new affiliated company with a mandate to use public-private partnerships to allow for more reliance on private investments.\(^{29}\) It is not clear how such a mandate is compatible with the regulatory framework in place.

Regulatory overview

The 2013 National Renewable Energy Strategic Plan set a 2030 target of 6.6 GW of RES capacity and a 22% RES share in the electricity mix by 2030 (up from nearly non-existent in 2018). This expansion is envisioned to come mainly from solar PV and wind.\(^{27}\) The Strategic Plan outlines suggested locations for wind, CSP and solar PV stations.

Libya has a petroleum-driven economy where prices for (fossil-generated) electricity are heavily subsidized. The promotion of RES is driven by a desire to lower the electricity bill and increase the volume of crude oil available for export. REAOL, the Renewable Energy Authority of Libya, was founded in 2007 to promote RES.

GECOL, the General Electricity Company of Libya, is the state-owned utility and the only operator in the electricity market. There is no electricity law in place and the market is officially not open to IPP participation or foreign investment. Despite this fact, in recent months REAOL was reported establishing an affiliated company to pursue public-private partnerships (REAOL Decree on Establishing RE Private Investment Promotion Co. (2018)).

Key developments over the past 5 years

A transitional government has been elected in early February 2021 following a ceasefire agreement signed by Libya’s opposing military factions in October 2020. The news was marked as a milestone and a potential turning point in the daunting task of unifying the war-torn nation.

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\(^{27}\) Presentation by Nouri Alkishriwi of REAOL at the meetMED conference, Oct 2018

\(^{28}\) UK Government’s Foreign Travel Advice for Libya. Available at: https://www.gov.uk/foreign-travel-advice/libya

\(^{29}\) RCREE, 2020, Arab Future Energy Index AFEX: Renewable Energy 2019, Cairo
Unclear institutional roles are a product and symptom of the political upheaval. For instance, the development and implementation of RES can be carried out by both REAOL and GECOL and both institutions can in theory initiate, launch and evaluate bids for solar energy. In practice, neither of them made much progress. In early 2018 the Misurata Free Zone, a free-trade area, was reported entering into talks with a little-known US energy startup iQ Power to attract RES investments. There have been reports that the consultancy is in talks with Engie, Nexans and CMI concerning a specific solar plant, though there has been no confirmation.

2. Risk affecting revenues

The category of risks affecting revenues refers to revenues that an IPP, investor or developer would get out of a RES asset. Given that the Libyan electricity market is closed to private participation, the assessment of this risk category is entirely hypothetical.

Exchange rate and capital transfer risks are rated as very high. The country’s foreign reserves dwindled by 30% between 2012 and 2019 as crude oil exports and revenues dried up amid years of civil war, international sanctions, oil blockade and underinvestment in capital assets. At the same time the large gap between the official and the black market exchange rate for the Libyan dinar moved much of the economic flows towards the black market, drying up the banking system of capital flows.

The situation is looking up; in December 2020 the Libyan Central Bank held its first meeting in 5 years and the internationally recognized government agreed on a unified exchange rate for the entire territory. But building back stability will be a lengthy and gradual process.

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9 out of 10 respondents consider political force majeure to be an insurmountable barrier to investment

68% of respondents consider foreign exchange and capital transfer risks to be of high or very high concern, amid a dwindling of Libya’s foreign reserves

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political risk</td>
<td>Any mitigation of political risk is contingent upon the stabilization of the ongoing conflict and civil war situation</td>
</tr>
<tr>
<td>IPP market access</td>
<td>Strive to create a strategic view of what role IPPs and foreign investments can play in helping the country meet its RES objectives</td>
</tr>
</tbody>
</table>

Risks rated as high or very high

<table>
<thead>
<tr>
<th>Risk</th>
<th>Private</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange rate</td>
<td>63%</td>
<td>73%</td>
</tr>
<tr>
<td>Counterparty</td>
<td>64%</td>
<td>71%</td>
</tr>
<tr>
<td>Curtailment</td>
<td>60%</td>
<td>71%</td>
</tr>
</tbody>
</table>

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30 RCREE website [https://www.rcree.org](https://www.rcree.org)
31 Source: PV Magazine, Africa Intelligence and Maghreb Confidential
32 World Bank, 2019, DataBank, Washington
33 Reuters, 2020, Libya’s divided central bank agrees exchange rate after first meeting in years [Available at: https://www.reuters.com/article/libya-cenbank-int-idUSKBN28Q188](https://www.reuters.com/article/libya-cenbank-int-idUSKBN28Q188)
Counterparty and curtailment risk also stand out as very high. Survey respondents tend to have little trust in the ability of GECOL to fulfil its contractual duties in case it were to act as an offtaker in a PPA. Similarly there is low trust that the Libyan state would put up sovereign guarantees covering a potential default on payments by GECOL. Both of these hypotheses are untested; there are currently no PPA contracts concluded with private operators. Nonetheless the fact that electricity tariffs are set at cost-irreflective levels suggests that GECOL’s financial model may be unsustainable, and may thus cause payment problems in case private investors were allowed in the market.

Private sector respondents are also concerned with the skillset of the local workforce, with 60% of private sector stakeholders rating it as a high or very high risk. Petroleum plays an outsized role in Libya’s economy and its education system, and specific skills related to RES technologies – from policy and regulatory to engineering, technical and financial aspects of RES – are less represented. The African Development Bank also notes that a general skills gap is likely to emerge as a result of the prolonged conflicts and the interruption of schools and universities.35 While some technical skills may be transferable from the petroleum to the RES sectors, pursuing RES on a larger scale will certainly require investments in human capital.

### 3. Construction and operation risk

In the area of construction and operation risks, respondents are highly concerned about risks related to logistics, safety and security. This is specifically related to the threat of kidnapping for ransom of personnel, especially foreigners.34 Additionally the frequent outbreaks of violence are perceived as a threat to the safety of any potential RES installations, especially as these would tend to be installed in remote unguarded areas.

80% of respondents consider logistics, safety and security risks to be of very high concern. A high threat of kidnappings and material damage from infighting are creating a highly uncertain environment.

![Graph showing risks rated as high or very high](image)

Private sector respondents are also concerned with the skillset of the local workforce, with 60% of private sector stakeholders rating it as a high or very high risk. Petroleum plays an outsized role in Libya’s economy and its education system, and specific skills related to RES technologies – from policy and regulatory to engineering, technical and financial aspects of RES – are less represented. The African Development Bank also notes that a general skills gap is likely to emerge as a result of the prolonged conflicts and the interruption of schools and universities.35 While some technical skills may be transferable from the petroleum to the RES sectors, pursuing RES on a larger scale will certainly require investments in human capital.

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34 UK Government’s Foreign Travel Advice for Libya. Available at: https://www.gov.uk/foreign-travel-advice/libya
35 AfDB, 2018, African Economic Outlook, Abidjan
The risk related to local skills would become particularly acute in case Libya were to impose any local content requirements. Currently the county has no clear RES policy spelling out such requirements, and Libya also doesn’t have any local manufacturing of RES components able to become a basis for a local content requirement. Nonetheless the experience from the petroleum industry would suggest that some protectionist measures may be applied also to RES. This is adding to the lack of investor confidence for investing in Libya.

### 4. Risk affecting financial costs

Limited availability of finance stands out as by far the largest risk affecting financial costs. The 2020 World Bank Doing Business Survey ranks Libya as one of the world’s most difficult places to get credit, at the 186th place out of 190. This is in large part due to the conflict situation and the drying up of official capital flows as the economy moved to the black market. But a recent World Bank review of Libya’s financial sector found that apart from the war, Libya’s banks have no capacity to make informed credit decisions as the Central Bank remains the majority shareholder of public banks while at the same time being the regulatory agency of the banking sector.36

<table>
<thead>
<tr>
<th>Topic</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics, safety and security</td>
<td>Any mitigation of the logistics, safety and security situation is contingent on stabilizing the country’s political situation. The first step to attracting foreign investors is to work on lifting the official travel alerts of many countries concerning Libya.</td>
</tr>
<tr>
<td>Local skills</td>
<td>Invest in local vocational training concerning a range of RES-related areas, from policy and management to engineering, technical and finance</td>
</tr>
</tbody>
</table>

5. Environmental and social risks

Investors consider environmental and social risks to be very low. Given that the Libyan electricity market has not seen any penetration of RES, the assessment of this risk category is entirely hypothetical.

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36 World Bank, 2020, Supporting financial sector development in Libya in hope that peace will follow, Washington
Lebanon

Being a new addition to our survey, we do not have hard evidence about the evolution of risk perception in Lebanon over the past years. But one thing is certain: the recent and ongoing political, economic and financial crisis has sent chills though the investor community. Once a regional financial hub, Lebanon saw its first sovereign default in March 2020 and is currently beset with capital controls and has seen its currency, the Lebanese pound, dwindle to a fraction of its past value. Political risk features prominently on the minds of investors, as the deep political crisis risks fracturing the society.

Aside from the current crisis, Lebanon’s legislative framework is not geared to attract private investments. Laws which formally open the market to IPPs have not been implemented, and the setup of an independent regulator – established by law back in 2002 – is yet to take place. In 2018 the Prime Minister introduced a new RES target to be met by 2030, but there is currently no technology-specific target nor is there a plan in place for how the target is to be met. Creating a new, integrated and comprehensive renewables strategy would be a first step to building investor confidence.

The low credit rating of incumbent utility EDL is source of counterparty risk which, if left unmitigated, can have a series of repercussions on bankability of a RES project. In the three PPAs signed in 2018, the first-ever in Lebanon, the government provided a guarantee on payments, de-facto mitigating counterparty risk. But creating a lasting solution to this risk will require reviewing EDL’s financial model, and making sure that it’s sustainable.

The perception gap

Contrary to the usual trend, the public sector see more risks than respondents from the private sector.

总体风险环境

风险涉及法律框架，收入和财务成本突出

Top 5 risks

<table>
<thead>
<tr>
<th>利润</th>
<th>公共</th>
<th>私营</th>
</tr>
</thead>
<tbody>
<tr>
<td>通货膨胀</td>
<td>93%</td>
<td></td>
</tr>
<tr>
<td>汇率</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>政治风险</td>
<td>93%</td>
<td></td>
</tr>
<tr>
<td>政治强制力</td>
<td>91%</td>
<td></td>
</tr>
<tr>
<td>资本转移</td>
<td>88%</td>
<td></td>
</tr>
</tbody>
</table>

根据33份调查回复
Regulatory overview

Law 462/2002 paved the way for electricity market liberalization and established the Electricity Regulatory Authority (ERA) to grant licenses for utility-scale projects. To date, ERA has not been established and there are no clear licensing procedures.

Law 288/2014 establishes that the Council of Ministers – upon recommendation of the Ministry of Energy and Water – could license IPPs. No such license has been issued to date. In 2019, the government adopted the Electricity Reform Paper which proposed an amendment of Law 288/2014, but the Lebanese Parliament is yet to address it. The vertically integrated Electricité du Liban (EDL) manages the entire electricity sector in terms of generation, transmission and distribution.

In 2018, the Prime Minister announced a RES target of 30% of electricity consumed by 2030. The target does not foresee technology-specific splits, although the National Renewable Energy Action Plan (NREAP) placed emphasis on certain renewable technologies over others.

As of end-2019, Lebanon had 312 MW of RES capacity, of which 253 hydro and 56 of solar PV.

Key developments over the past 5 years

- 2018: following a tender process, three milestone PPAs for wind projects with a total capacity of 226 MW have been signed. Once completed, these will be the first IPP projects in the country.

- The serious economic, financial and political crisis led to a downgrading of Lebanon’s sovereign debt rating, and the risk of state bankruptcy is sending chills in the investment community.

- While investments in utility-scale RES has been modest, small-scale projects have gained momentum. By 2019, 938 projects had been financed from the National Energy Efficiency and Renewable Energy Action (NEEREA) facility.

1. Legal framework

Stakeholders from both the private and the public sectors are highly concerned about all risks under the category of legal framework.

Around 90% of respondents consider political risk and political force majeure to be a very high risk for investments. Political instability, poor governance and inadequate rule of law have become particularly acute over the past few years. The absence of and delays in forming governments are exerting delays in the approval of projects and in moving forward key RES regulation. Despite the current period of peace, the political status quo is unstable due to internal political conflict and the war in the neighboring Syria. A recent report by the UNDP raises similar concerns, highlighting the cautiousness of investors when it comes to investing in regions close to the Syrian borders. Yet, these areas coincide with Lebanon’s highest wind energy potential.

![Risks rated as high or very high](image)

Private sector participants are highly concerned about IPP market access and grid access. The first PPA to be signed with an IPP was only in 2018, and the project is yet to come online. While the law nominally foresees IPP participation, EDL de facto dominates the market. Grid connection is an issue both in terms of third party access regulation as well as the physical ability of the grid to integrate variable RES. On the latter point, the extremely high technical and non-technical grid losses point to an acute need for additional grid investments. Lack of a stable regulatory framework for renewables

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IRENA, 2020, Renewable Energy Outlook Lebanon, Abu Dhabi
IRENA, Statistics Time Series 2019, Abu Dhabi
and the incomplete implementation of Laws 462/2002 and 288/2014 is hampering investments. The provisions in existing legal texts are at times contradictory, and the lack of technology-specific RES targets points to a lack of clarity among governing institutions about what role renewables should play in the energy mix. To mitigate investor uncertainty, Lebanon’s authorities should consider introducing a comprehensive legislative package governing its RES targets and strategy for how to reach them.

In addition, starting a business in Lebanon is seen as burdensome and requiring a large set of lengthy procedures. Administrative procedures are ambiguous and there are no set response deadlines; some respondents reported endemic corruption. A solution must be found in simplifying procedures, introducing transparent deadlines, and setting up one-stop-shops.

2. Risk affecting revenues

Amid the dire ongoing economic and financial crisis in the country, capital transfer and exchange rate risks are of very high concern for both public and private actors.

Following a financial crisis, dwindling foreign currency reserves and a public run on the banks in late 2019, the Central Bank imposed restrictions on the withdrawal and transfer of funds from Lebanon, fearing a collapse of the Lebanese financial system.41 Although the country has no legal basis for capital controls, the restrictions currently in place de facto amount to capital controls. This inability to transfer funds out of the country has a severe adverse effect on RES producer’s revenues and their ability to service their debts.

A related issue is the exchange rate. The shortage of US dollars in an otherwise highly dollarized economy eroded the trust in the Lebanese pound, which started to plummet since late 2019. The official exchange rate does not reflect the full picture, as most transactions happen on the black market.42

![Graph showing risks rated as high or very high](image)

<table>
<thead>
<tr>
<th>Risk</th>
<th>Private</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange rate</td>
<td>95%</td>
<td>91%</td>
</tr>
<tr>
<td>Capital transfer</td>
<td>90%</td>
<td>91%</td>
</tr>
<tr>
<td>Counterparty</td>
<td>70%</td>
<td>80%</td>
</tr>
</tbody>
</table>

75% of respondents consider counterparty risk to be of very high concern, reflecting the poor financial stability of incumbent utility EDL.

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41 World Bank, 2020, Doing Business report, Washington
42 World Bank, 2020, Lebanon Economic Monitor, Washington
Counterparty risk is another area of high concern. The incumbent utility EDL operates an unsustainable financial model as the cost-irreflective tariffs do not allow it to recoup the electricity generation costs. The utility also has a weak ability to collect bills and suffers from high non-technical losses amid illegal connections to the distribution grid. The devaluation of the Lebanese pound additionally exposes EDL to exchange rate risks, as the imported fuels tend to be paid in foreign currency.

In the first and only PPA agreement signed in Lebanon for the 226 MW Hawa Akkar wind project, counterparty risk was mitigated as the Ministry of Energy and Water was the main signatory, while EDL was provided access through a letter of credit signed by the central bank of Lebanon. While this kind of sovereign guarantee can mitigate offtaker risk at the level of individual projects, a more permanent solution is needed to address the creditworthiness of EDL.

### 3. Construction and operation risk

On a positive note, investors have a high degree of confidence in the quality and skillset of the local labor force. Investors are also not particularly concerned about potential local content requirements, and they place a high degree of trust that the quality of construction measures up to expectations.

![Risk Ratings](image)

Three quarters of stakeholders are highly concerned about permitting and licensing. It is interesting to note that public stakeholders rate permitting risk higher than do private actors. Unclear rules and unreliable processes inhibit private investors from receiving permits and licenses on time and at a reasonable cost. The lengthy procedures and inaccuracies in the early-stage assessment of projects are seen as a barrier to investments.

The general instability in the country is having repercussions in the logistics, security and safety. In 2019, protestors blocked the work at the Bisri Hydropower project causing severe delays in its implementation. A report by the UNDP highlights concerns regarding planning, construction, operations, and maintenance. In particular, the lack of local firms offering construction and maintenance services for renewable infrastructures has been flagged.

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34 IMF, 2020, Lebanon selected issues, Washington
4. Risk affecting financial costs

Risk perception concerning financial costs is driven by the fallout of the recent and ongoing financial crisis. Investors reported particularly high concerns about inflation and interest rates, which are the flipside of the coin of capital controls explained earlier. According to Bloomberg, Lebanon’s 2020 annual inflation rate reached a record high and food prices soared by up to 400%, highlighting the dramatic impact on consumers and businesses of the country’s worst financial crisis in decades.

Interest rates on RES projects tend to reflect a mix of local financing conditions and the presence of multilateral donors. Local financing conditions have featured rather high interest rates, where a tight monetary policy is used to stabilize the macroeconomic picture. While multilateral donors tend to offer concessionary interest rates, the inadequate bankability of RES projects in Lebanon has caused a low presence of multilateral finance. Investor views reflect this: 84% of respondents consider the lack of financing availability to be of very high concern.

5. Environmental and social risks

Nearly 50% of respondents consider social acceptance to be a source of potential risk. This is particularly relevant for potential hydro projects, with the Bisri Dam project being a notable example of social opposition which ultimately caused the World Bank to pull out of the project.45

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45 World Bank, 2020, Cancellation of Bisri Dam, Washington
About

RES4Africa Foundation

RES4Africa Foundation is a European think tank that promotes the deployment of large-scale and decentralised renewable energy solutions in Africa. RES4Africa’s mission is to create an enabling environment for scaling up investments to accelerate a just energy transition and transformation, while thoroughly meeting local energy needs. It gathers a network of public- and private-sector members from all over the clean energy value chain and relies on a solid network of high-level international partners, acting as a bridge between African and European stakeholders in the energy sector. Find out more at: www.res4africa.org

Renewable Energy Solutions for the Mediterranean (RES4Med) Regional Programme aims to promote renewable energy in Southern-Mediterranean countries as a cost-effective, sustainable, and reliable energy strategy to meet growing energy demand.

PwC

At PwC, our purpose is to build trust in society and solve important problems. We’re a network of firms in 157 countries with over 276,000 people who are committed to delivering quality in assurance, advisory and tax services. This report has been realized with the contribution of the Capital Projects & Economics team of the PwC Italy firm, who have an expertise in renewables de-risking and have assisted a range of national and supra-national policy makers with identifying and addressing barriers to RES investments.

PwC Italy is a founding member of the RES4Africa Foundation. Together with a network of industry and services partners, we are committed to promoting a sustainable energy transition in Southern and Eastern Mediterranean Countries and globally. Find out more at: https://www.pwc.com/it/it/industries/energy-utilities.html