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PAREMA

Partenariat Énergétique Maroc-Allemagne  
Deutsch-Marokkanische Energiepartnerschaft

# Renewable energy and energy efficiency in Morocco

Context and market access

Information for small  
and medium-sized enterprises



DEUTSCHE ZUSAMMENARBEIT

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH



Moroccan-German Energy Partnership  
PAREMA

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## **Introduction**

There has been a bilateral energy partnership in place between the Kingdom of Morocco and the Federal Republic of Germany since 2012. Serving as a platform for high-level policy dialogue between the two countries, it identifies and strengthens common points, draws together activities and actors and encourages private-sector involvement. The German-Moroccan Energy Partnership aims to provide investors with information on the Moroccan market, so that they can identify opportunities and prospects in a timely manner. It is to this end that this brochure has been published by the Secretariat for Implementation of the German-Moroccan Energy Partnership, hosted by the Renewable Energy and Energy Efficiency Department (DEREE) of the Moroccan Ministry of Energy, Mining and Sustainable Development (MEMDD).

## **Aims and target audience**

Since 2009 the Moroccan energy market has been growing at an increasingly dynamic pace and is progressively opening up to private investment, particularly in the field of renewable energy and energy efficiency. This brochure provides interested enterprises with an initial insight into the possibilities of entering the Moroccan energy market and a series of useful pointers to guide their own in-depth market research.

It is aimed in particular at those small and medium-sized enterprises operating in the renewable energy and energy efficiency sectors that, while keen to enter the Moroccan market, have conducted little or no research to date or have yet to develop any concrete

course of action. The brochure does not claim to provide an exhaustive description of all the different facets of market entry and is no substitute for the kind of detailed research that enterprises carry out themselves. It does, however, give an overall insight and provide relevant contacts qualified to furnish further information and useful advice on implementing renewable energy and energy efficiency projects in Morocco.

## **Sources of information**

The brochure has been prepared drawing on official information provided by Moroccan institutions, the findings of analyses and studies published by international organisations, regional and international popular and trade press articles, the expertise and experience of regional experts, and semi-structured interviews conducted in November 2015 in Morocco with Moroccan and German actors from both the public and private sector. A list of references is provided at the end of the brochure.

## **Disclaimer**

This brochure has been thoroughly researched. The accuracy and currency of the information and figures provided have been ensured, in general, with the cross-checking of sources and verification by technical and regional experts. Notwithstanding the foregoing, we accept no liability for the content of this brochure.

September 2017

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# Morocco in the regional context (EU, MENA, Africa)

## Close links between Morocco and Europe

### Economy

Thanks to its geographic location, Morocco has for centuries maintained **very close economic and cultural links with Europe**. The economic side of the relationship in particular has developed significantly since the country's ongoing industrialisation process got underway in the 1970s. Morocco is therefore **an integral part of the value chains of European enterprises** (particularly in outsourcing and subcontracting).

The **agricultural sector** is one of the traditional pillars of the Moroccan economy, although industry (chemical, pharmaceutical, automotive, food, electronics, aeronautical, textile and leather industries) and **services** have developed significantly, particularly in the 1990s and 2000s (industry's share in GDP in 2014: 14%). Morocco is pursuing a **strategy of transformation, modernisation and diversification**. It is endeavouring to diversify beyond simple industries, such as textile and leather, and develop more advanced industries, such as the pharmaceutical, aeronautical and automotive industries. This strategy will enable it to remain in the medium term an important commercial partner of the

European Union (EU). In addition, a **free trade agreement** between the EU and Morocco came into force in 2012, and negotiations are already underway to extend it. Morocco also has an advanced status partnership with the European Union (Making a Success of Advanced Status programme), as part of the European Neighbourhood Policy, giving Morocco access to the EU internal market.

### Energy

Energy is another sector in which Morocco is an increasingly important partner for Europe. **Almost entirely dependent on imported fossil fuels in the past**, Morocco is now poised to become a major energy producer. While lacking any significant fossil fuel deposits, the country's geographical conditions mean that it has **enormous potential in terms of wind and solar power**. With the launch of the industrial initiative Desertec, the energy companies of Europe, and of Germany in particular, also became aware of this potential. Morocco is now positioned as a strategic EU partner for electricity production and, in the long term, for energy exports to Europe. Increasingly,

Europeans regard Morocco as an important partner, as evidenced by the bilateral energy partnership with Germany. There is already a physical link operating between Europe and Morocco: Morocco imports electricity (approximately 5,500 GWh in 2014) from Spain by means of two **submarine power cables**, with a transmission capacity of 1,400 MW, laid in 1997 and 2006 in the Strait of Gibraltar **between Morocco and mainland Spain**. At present, they are the only transmission cables linking North Africa and Europe. With a view to increasing power links with its neighbours, interconnections with Portugal and Mauritania and a second interconnection with Spain are currently being studied.

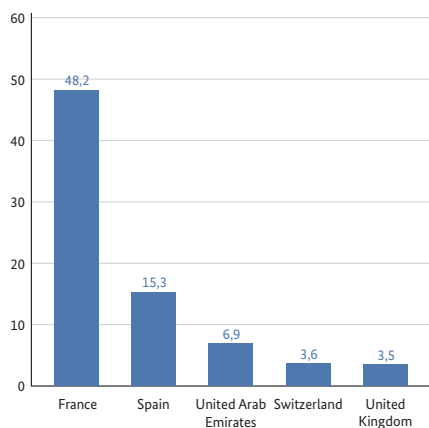
## Politics

Apart from these economic activities, Europe and Morocco also share certain social challenges: Morocco is on one of the main **migration routes** that people coming from all over Africa and the Middle East take on their way to Europe, mostly heading for the Spanish enclaves, Ceuta or Melilla, located in mainland Morocco. Morocco is, however, no longer just a country that migrants pass through; it is also increasingly their destination, a **country of immigration**. It contributes to reducing the number of illegal immigration attempts, with stronger controls on its sea borders, and has therefore become an important ally in efforts to combat illegal immigration

to Europe. **A common commitment to destroy terrorist networks** in Europe and North and West Africa should, in the medium term, also strengthen links between Morocco and EU countries.

## Top FDI countries for the period 2001–2011 (cumulative %)

(Source: AMDI)



## Morocco in the MENA region

### Economy

Compared with other countries in the Middle East and North Africa (MENA) region, Morocco is very well placed in the World Bank's Doing Business ranking (189 countries ranked according to how easy it is to do business in them), **on a par with Tunisia, its direct economic competitor** in the region (in 2016 Morocco ranked 75, and Tunisia 74). This performance is all the more remarkable when it is considered against that of its neighbour Algeria, rich in raw materials, and of Egypt, a major regional power. In overall terms, Morocco has for many years been experiencing **robust economic development** – a result of its timely and forward-looking strategic directions.

Morocco is the world's largest phosphate exporter and is active in the mining sector in Africa. **It has secured an excellent position for itself in the MENA region and in Africa, particularly in industry and services.**

### Society

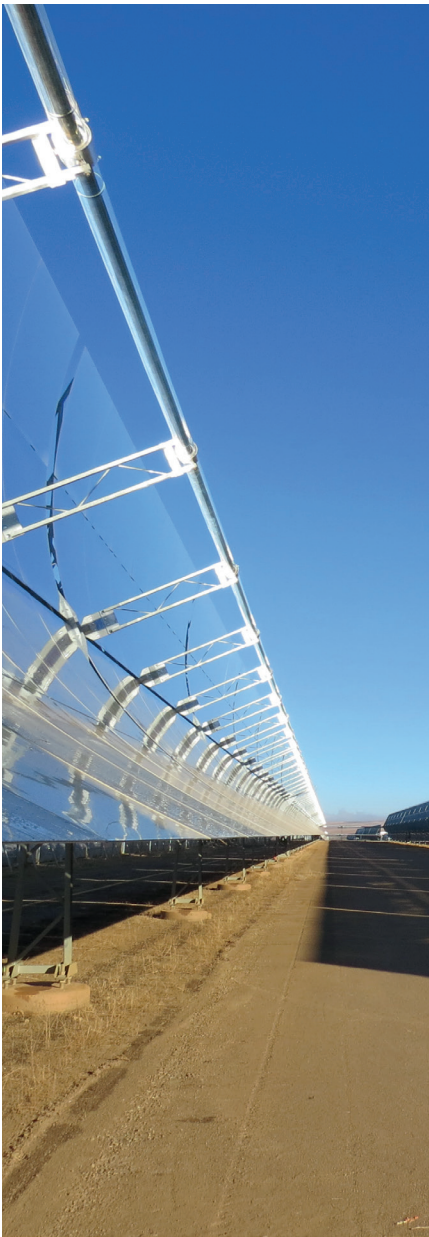
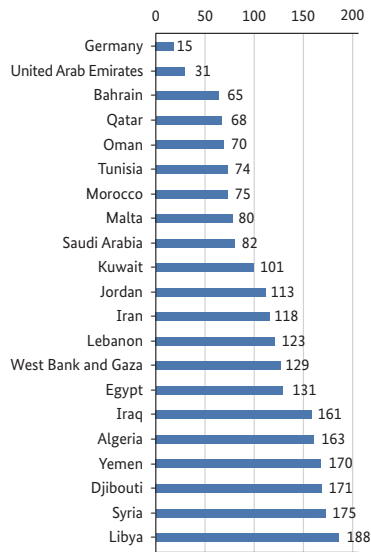
The United Nations Human Development Index shows that Morocco still faces marked **inequalities, particularly between urban and rural areas**, which impact on the economic, social and health situation of the population and fuel the massive rural exodus. The country also has a **high level of illiteracy**.

The Moroccan Government is making **considerable efforts to improve the population's standard of living and prospects** (with activities such as the human development initiative, the programme to extend access to electricity and the programme to improve access to health care and education). The results are exceptional: since 2004 the illiteracy rate has fallen by 11%, and this at a time when the population has been growing. The rate of rural electrification has been increased from just 18% in 1995 to 99% in 2015, an impressive feat and proof of the political will to develop the country (source: National Office for Electricity and Water – Office Nationale de l'Electricité et de l'Eau potable, ONEE).



The country is **well positioned** to make progress over the coming years and will undoubtedly continue to climb in the rankings.

Doing Business – MENA countries and Germany (international ranking)  
(Source: World Bank)



## Morocco's role and ambitions in Africa

### Economy and politics

Morocco's economic appeal cannot be fully appreciated without taking into account West and East Africa, which add another facet to the possibilities it offers. At the COP 21 summit held in Paris, His Majesty King Mohammed VI hailed Africa as the 'continent of the future'. **In 2016, Morocco welcomed COP 22 in Marrakesh, the "COP of Africa"**. The country promotes South-South cooperation as a long-term goal, seeking to establish equitable economic relations with other African countries, particularly in West Africa and sub-Saharan Africa. In order to achieve this visionary goal, various projects will be launched in the years to come to strengthen the role of Morocco as an engine of economic growth in the African continent.

Since 2013 Morocco has significantly strengthened its political ties and, above all, its economic relations with numerous African countries, including Senegal, Mali, Côte d'Ivoire, Gabon, Guinea and Mauritania. In recent decades some Moroccan sectors, such as banking and services, have built up robust capacities at home, and many **Moroccan enterprises are now well positioned in African markets**. Some Moroccan banks, such as Attijariwafa Bank and BMCE Bank, are already operating in various African countries, as is Maroc Telecom, which

had 51 million customers in sub-Saharan Africa in 2015. The Office Chérifien des Phosphates (OCP), a publicly-owned company that produces phosphates and fertilisers, is also well established in various African markets. The ONEE too is active in a number of African countries. As we can see, a whole range of Moroccan enterprises across a variety of sectors are now operating in North Africa and sub-Saharan Africa. For many years now, the state-owned airline Royal Air Maroc has offered **direct flights to Africa's main economic centres at affordable prices**. It is one of Africa's top airlines, flying to 32 destinations in 26 countries throughout the continent – an asset that should not be underestimated.

Morocco's **national trade fairs and exhibitions have long had a regional scope** and increasingly focus on African markets. Between 2003 and 2013 Morocco's exports to African countries increased fivefold, rising from approximately 200 million euros to around one billion euros.

Local experts are of the view that Moroccan institutions and businesses have the capacity to develop a lasting presence in different markets in West and East Africa over the next few years. They should focus, to begin with, **on French-speaking countries in West Africa**.

## Energy

In the field of electricity generation and transmission, Morocco plans to export electricity not only to Europe, but also to West African countries.

The country intends to become the **'electricity hub for North and West Africa'** (ONEE). Morocco and Algeria have been linked by a 400 kV transmission line since 1988. With the installation of a second line and then a third, commissioned in 2009, transmission capacity has been increased to 1,700 MW. A feasibility study is currently being carried out for an interconnection

with Mauritania and other countries in West Africa. Additionally, Morocco's national electricity generation and distribution company, the ONEE, has already made its first inroads into the rural electrification market in Senegal. **Morocco is reactivating its traditional trade relations with Africa, which opens up opportunities for companies** seeking to enter the Moroccan market and with plans to break into other African markets. They can use **Morocco as a base** for their operations and also take advantage of Moroccan structures in place in other African countries.



# Development of the Moroccan energy sector and national energy policy

## Key facts and figures about the Moroccan energy sector

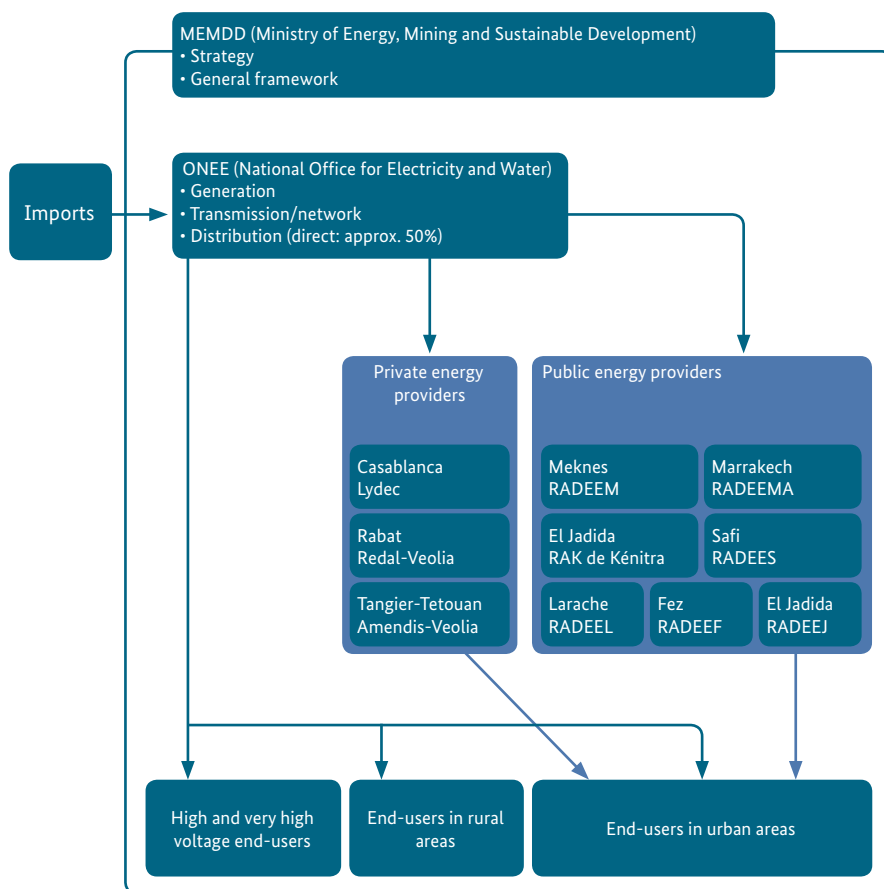
Morocco's fossil fuel deposits are very limited, which means that the country is heavily reliant on energy imports (in 2014 it imported 89.4% of all energy used).

Total primary energy consumption has increased at a rate of around 5% a year since 2004, while the per capita increase was somewhat lower at 3.6% a year. Around a third of the total amount of primary energy consumed is used for

electricity generation, which amounted to 33,500 GWh in 2014. Morocco produced 28,000 GWh itself and imported the rest from Spain. Morocco has a **population of 33.5 million**.

In 2015 **Morocco's electricity generation capacity was 8,154 MW** with the following mix: coal (31%), fuel oil and diesel (10%), hydropower (22%), gas (25.8%) and wind power (9.4%).





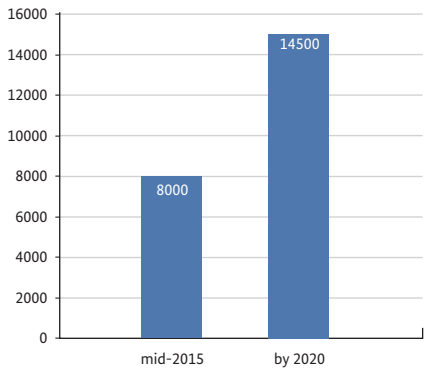
A further 6,500 MW will be added by 2020, bringing the total electricity generation capacity up to **14,500 MW**. Solar and wind power will respectively account for around 2,000 MW of this increased capacity.

State subsidies granted to the energy sector weigh heavily on the government budget (6% in 2013), which is currently showing a deficit, and result in high financial risk for the government, owing to fluctuating energy prices on world markets. These subsidies will be gradually phased out by 2017.

The **electricity tariff** system determines a pricing structure that varies according to level of consumption, time of day and type of meter. In 2015 the end-user price per kWh was between 5 and 17 euro cents (including 14% VAT), with most **rates falling within the 6 to 12 cent range** (including 14% VAT).

The strategic aim is to guarantee a secure energy supply, by gradually reducing the country's dependence on energy imports. Aware of its potential in terms of renewable energy, Morocco aims, **in the long term, to become an exporter of energy to European and African markets.** It has the natural conditions (wind and solar energy potential and geographical situation) required to achieve this.

**Installed electricity generation capacity in MW**  
(Source: ONEE, MEMDD)



## National energy strategy

Morocco's national energy strategy is fully consistent with the economic and social reform policy initiated by King Mohammed VI. It lays down strategic directions and general conditions for the development of renewable energy, highlighting **Morocco's desire to press ahead with the energy transition.** By 2014 it had increased the share of renewable energy (mainly hydropower) in the country's electricity generation capacity mix to 32%. The target for 2020 is to increase this share to 42% or 6,000 MW.

At the COP 21 summit held in Paris, King Mohammed VI announced the next target: by 2030, the renewable energy generation fleet will account for 52% of total installed electricity generation capacity. Fossil fuels will continue to play an important role in the short term, but there is no question that the future of the national energy mix is focused on wind and solar power. Morocco is therefore playing a pioneering role, not only at the regional level, but also on the wider international scene.

The main objectives of the energy strategy are:

- energy security;
- access to energy at affordable prices;
- energy management;
- environmental protection.

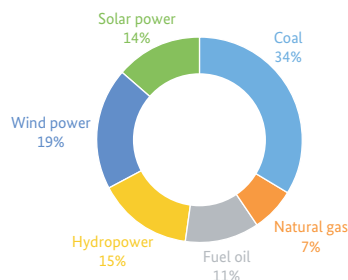
These objectives will be fulfilled largely by pursuing the following strategic directions:

- optimise and diversify the electricity generation capacity mix;
- implement a drive to increase renewable energy, particularly wind power, solar power and hydropower;
- increase awareness of energy efficiency issues;
- promote the exploitation of national oil and natural gas deposits;
- improve the regional integration of electricity transmission networks.

Moroccan Energy Minister Abdelkader Amara announced in a meeting of the International Energy Agency (IEA) in November 2015 in Paris that Morocco would be investing a total of **37 billion US dollars** in the energy sector **between now and 2025**. Further major investments are expected. Morocco is implementing **a clearly formulated national energy policy**.

### Electricity generation capacity planned for 2020

(Source: ONEE)



The first important steps have been completed, and the country is making significant progress, as shown by the IEA report on Morocco, *In-Depth Review of Energy Policy*, published at the end of 2014, which endorses Morocco's energy choices.

Through COP 22, the Moroccan energy transition gained momentum, carried by broader society and the private sector. Morocco, thereby, strengthened its position as a regional leader with regards to renewable energy and energy efficiency.

Since 2008/2009, which can be regarded as the kick-off point for Morocco's energy transition, the process had already been moving forward at a swift pace.



Significant milestones in this transition are shown below in chronological order:

- Presentation of the national energy strategy (2009)
- Enactment of framework acts containing provisions on the liberalisation of the electricity market and renewable energy and energy efficiency: act 13-09, act 47-09 and act 16-08 (2009)
- Presentation of the Moroccan solar power plan (2009)
- Presentation of the Moroccan wind power plan (2010)
- Creation of the National Renewable Energy and Energy Efficiency Development Agency – ADEREE (2010)
- Creation of the Moroccan Agency for Solar Energy – MASEN (2010)
- Creation of the public energy investment company Société d'Investissements Énergétiques – SIE (2010)
- Creation of the Research Institute for Solar Energy and New Energies – IRESEN (Institut de Recherche en Energie Solaire et Energies Nouvelles) (2011)
- Commissioning of the first wind farm (150 MW) in Taza under the Moroccan wind power plan (2015)
- Commissioning of the first concentrated solar power (CSP) plant NOORo I (160 MW) in Ouarzazate under the Moroccan solar power plan (2015)

- Work started on three centres providing trade training in renewable energy and energy efficiency (IFMEREE) in Oujda, Tangier and Ouarzazate – the first of their kind in North Africa (2015)
- Publication of act 58-15 to open up access to low- and medium-voltage networks, amending and supplementing act 13-09, and of decree no 2-15-772 concerning access to the national medium-voltage electricity network (2015)
- Adoption of act 48-15 regulating the energy sector and establishing the National Electricity Regulatory Authority – ANRE (2016)
- Restructuring of the government institutions MASEN, ONEE and ADEREE/AMEE by acts 37-16, 38-16 and 39-16, introducing name changes and modifying their powers and duties (2016)

In the summer of 2016 the Moroccan energy authorities were restructured: the MASEN, responsible until then for implementing the Moroccan solar power plan had its remit extended to include all renewable energy sources and became the Moroccan Agency for Sustainable Energy. The ADEREE was renamed AMEE (Moroccan Energy Efficiency Agency) and now focuses on matters relating to energy efficiency.



Following is an outline of recent legislative developments concerning the Moroccan energy sector.

**Act 16-08 on self-generation** provides, for the first time, for **the generation of electricity by any natural or legal person for their own needs**. Self-generation is subject to prior authorisation and the following conditions:

- capacity must not exceed 50 MW;
- the electricity generated may only be used by the producer;
- any surplus electricity must be sold directly to the ONEE.

At present, it is mainly the big cement companies – Lafarge (30 MW) and Ciments du Maroc (5 MW) – and the publicly-owned phosphate company OCP that are taking advantage of this option.

**Act 13-09 provides that any natural or legal person may produce electricity from renewable energy sources**. The electricity generated can either be used to meet the producer's own power requirements or fed into the medium- or high-voltage grid and sold to users with a suitable type of connection. This is extended to the low-voltage network by act 58-15, although the implementing decree is still being prepared. This means that decentralised feed-in on a large scale by private individuals and small enterprises is not yet possible. This obstacle will be removed in the medium term, which should give a

considerable boost to electricity generation by small photovoltaic installations. Wind power plants with a capacity of 2 MW or more can only be constructed on sites specifically designated for this purpose. Electricity generation installations with a capacity of 2 MW or more and thermal power installations of 8 MW or more are also subject to a licensing regime. This act authorises the exportation of a part of the electricity produced to the electricity grid. **In all cases, the ONEE is in charge of distribution and transmission** and must also be involved in **any sale of electricity**. Under the provisions of this act, the following enterprises have installed the following electricity generation capacities:

- Nareva (200 MW)
- UPC Renewables (120 MW)
- Innovent Maroc (18 MW)
- Energies J2 Terre (17 MW)
- Platinum Power (36 MW)
- SGTM (22 MW)

**Act 47-09 concerns energy efficiency in buildings** (residential and commercial), transport and industry. It introduces energy performance ratings for buildings, equipment and appliances, compulsory energy audits for facilities exceeding a certain consumption threshold in industry and the service sector, prior energy impact assessments for urban development and construction programmes when anticipated consumption exceeds a certain threshold, and technical energy efficiency measures.

The act also encourages energy efficiency training and awareness-raising activities. Implementing decree no 2-13-874, which for the first time lays down **minimum technical specifications** in terms of thermal performance (roofs, exterior walls, windows, floors, etc.) for new constructions, came into force in November 2015.

These laws, along with a number of other provisions, are the **crucial first steps** in the process. All the experts consulted agree, however, that **further liberalisation is required, particularly increased access to the low-voltage network**, for the Moroccan market to become more attractive, especially to small and medium-sized enterprises (particularly those in the photovoltaic (PV) segment), which are largely excluded from large-scale projects.

The publication of act 48-15 in July 2016 was an important step in the liberalisation of the energy sector. It creates a national regulatory authority responsible for establishing the tariffs and charges that new producers must pay to access and use the medium- and high-voltage networks. The legislation is now being implemented and will enable

the authority to manage any conflicts that may arise between operators and network users. The ONEE's high-voltage network will be managed separately from energy generation to ensure equitable access for new producers. Although act 58-15 provides for the opening up of the low-voltage network to decentralised producers, the implementing decree is still being prepared, and at the time of writing this brochure, no date had yet been fixed for these provisions to become effective.



## Development of the electricity network

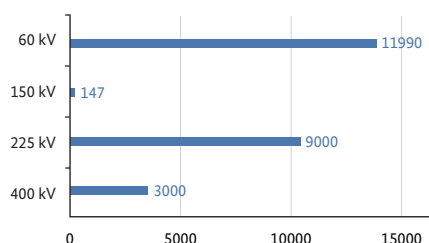
Morocco's electricity network is well developed, particularly in the country's **main urban centres**. In 2015 **rural electrification** (connection to the main power grid in the vast majority of cases) reached 99%, making Morocco an example for the entire region. This high electrification rate, which was just 18% in 1995, is proof of the importance that Morocco attaches to energy as a factor in social development. This figure is also an impressive mark of achievement that the ONEE can capitalise on in its efforts to find new markets outside Morocco.

Given the annual increase in electricity consumption and the greater distances between electricity generation sites (particularly in the case of major wind and solar power projects) and buyers, the ONEE

is now focusing considerable **efforts on developing and modernising the national electricity transmission network**. Investments amounting to around 730 million euros have been earmarked for this purpose for the period 2014–17 alone. The ONEE's website provides information on invitations to tender for projects in this field.

### National electricity transmission network in km (2015)

(Source: ONEE)



# Overview of activities and projects in progress

## Hydroelectricity

Hydropower can be considered a **traditional component of Morocco's fleet of power plants** (installed capacity in 2015 stood at 1,770 MW), and its **potential is well exploited**.

The installation of hydroelectricity generation capacity began in the 1960s during the reign of King Hassan II. Therefore, in the short term only the construction of small or micro hydropower plants can be expected. Furthermore, hydroelectricity generation in Morocco is heavily reliant on rainfall levels.

Development of the fleet of hydropower plants continues, **but it is the field of wind power and solar power that will see major developments**.

Hydroelectricity projects are generally carried out by the ONEE, which recently identified a further 125 sites suitable for locating small or micro hydropower plants (100 kW to 1,500 kW), with a total potential capacity of around 300 MW. Private electricity producers might find these sites attractive and decide to develop them themselves.

The target is to increase the generation capacity of hydropower plants to 3 GW by 2030. Morocco is also actively engaged in developing pumping technology (pumped storage hydropower plants), which could have a potential capacity of as much as 6 GW.

Major projects in the pipeline up to 2020:

Site	Power in MW
Abdelmoumen Pumped storage hydropower plant	2 x 175
El Menzel Hydropower plant	125
M'dez Hydropower plant	45



## Wind power

With its 3,500-kilometre coastline, Morocco has **enormous wind power potential**. Technical potential is just under 5,000 TWh/year, and it would be possible to install **an effective capacity of 25,000 MW** (source: ADEREE). By the end of 2015, installed or soon-to-installed capacity will total around 1,160 MW, as shown below:

Site	Power in MW
Tarfaya	300
Laayoune	50
Akhfenir	200
Tanger I	140
Khalladi	120
Koudia Baida	300
Haouma	50

The **Integrated Wind Power Programme**, also known as the Moroccan ‘wind power plan’, which was adopted in 2010, sets the target of doubling this capacity to 2,000 MW by 2020.

The programme will add 1,000 MW, to be installed in two phases at six sites.

Site	Power in MW	Commissioning date
Taza	150	2015
Midelt	150	by 2020
Tiskard	300	by 2020
Tanger II	100	by 2020
Jbel Lahdid	200	by 2020
Boujdour	100	by 2020

There are plans to install a further 2,000 MW by 2030. The MASEN will be **responsible for these projects** and will issue the appropriate invitations to tender. Investments amounting to around 3.5 billion US dollars are planned between now and 2020 under the wind power plan. Current developments in the field of wind power are very promising. The company Siemens, which has been operating in Morocco since 1929, has completed a 300 MW project in Tarfaya. It has also just announced the construction of a factory in Tangier to produce rotor blades for markets in Africa, Europe and the Middle East. Total investment in this project amounts to around 100 million euros. Another promising sign is that in early 2016 the Nareva/Enel/Siemens consortium was the successful tenderer in the procurement process for an 850 MW wind power project with a world-record low price (0.03 US dollars/kWh).

## Solar power

Morocco has an average solar power potential of over 5 kWh/m<sup>2</sup>/day. However, solar energy still plays only a minor role in the Moroccan energy mix, mostly in the rural electrification programme, where photovoltaic (PV) power is being used to supply remote villages. There have been significant changes in this field since the country's solar power plan, entitled the Moroccan Solar Power Programme, was launched in 2009. The programme aims to increase installed capacity in terms of CSP

and PV generation to at least 2,000 MW by 2020. In 2015 a further two sites, located in Midelt and Tata, were added to the original five. The development of these two sites has been brought forward, which will allow Morocco to exceed the 2,000 MW mark by 2020.

The table shows the seven sites where major projects have been carried out or are scheduled for implementation.

Site/power plant	Power in MW	Technology	Commissioning date
Ouarzazate	Total: 580		
NOORo I	160	CSP	2015
NOORo II	200	CSP	2017/18
NOORo III	150	CSP (solar tower)	2017/18
NOORo IV	70	PV	2018
Midelt	up to 600	CSP / PV**	by 2019
Tata	up to 600	CSP / PV**	by 2019
Ain Béni Mathar	420	CSP / gas*	by 2020
Sebkhat Tah	500	CSP / PV**	by 2020
Foum Al Ouad	500	CSP / PV**	by 2020
Boujdour	100	CSP / PV**	by 2020

\* 420 MW solar-gas hybrid power plant (20 MW CSP and 400 MW gas).

\*\* The exact distribution between CSP and PV has not yet been decided. In 2013 the MASEN indicated that it would be around 80% CSP and 20% PV. Given that the cost of constructing photovoltaic installations has fallen significantly in recent times, some experts expect the PV share to be increased.

Investments of around 9 billion US dollars are scheduled between now and 2020 under the solar power plan.

Furthermore, the ONEE is itself planning to build a number of medium-sized PV power plants (20 to 30 MW), as shown in the table below.

Name/ site	Power in MW	Tech- nology	Commis- sioning date
NOOR Tafilalet	75 - 100	PV	2017
NOOR Atlas	200	PV	2018
To be deter- mined	100	PV	2019

In Morocco solar power is already competitive: the average cost of production at the Ouarzazate site (CSP) is 12 euro cents per kWh (source: KfW), and the price of the electricity produced

at the PV power plant (Noor IV) will be 4.3 euro cents per kWh, among the lowest in the world. Furthermore, the planned opening up of access to the low-voltage network will allow PV to play a much more important economic role and become an attractive market segment. Given current producer price trends and Morocco's excellent natural conditions, CSP power costs can be expected to fall considerably lower than 12 euro cents per kWh.

There will not therefore be any real need for specific financial aid schemes for the sector. In spite of this, the government continues to implement such schemes.

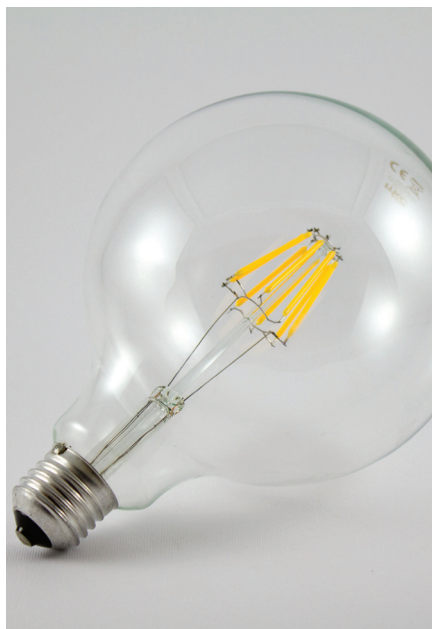
The **Programme to develop the Moroccan solar water heater (Shemsi)** market aims to encourage the purchase of solar water heaters through grants and standard loans, setting a target of 1.7 million m<sup>2</sup> of solar water heaters installed in households by 2020.





## Biomass

Morocco's large agricultural sector and the fact that a large part of the waste generated is made up of organic components are a boon to power generation from biomass and biogas. Morocco also has plans to generate bioenergy using household waste and biogas using wastewater. The aim is to strengthen the biomass sector, with a view to replacing fuel oil in the industrial sector. However, there are no **national strategies in place at present to tap into this potential**, although some small enterprises have already initiated operations in this field.



## Energy efficiency

Morocco demonstrated its commitment to energy efficiency in the National Priority Action Plan it adopted for the period 2008–2012. Following a national debate on this subject, **the energy efficiency strategy was reviewed, establishing ambitious goals aimed at achieving an energy efficiency improvement of 20% by 2030 (compared to BAU) and action plans for transport, buildings, industry, agriculture and public lighting.** A programme agreement has been concluded between the government and the AMEE to implement this strategy, which will be presented in 2017.





This strategy, pursued with resolve, will define actions to be undertaken in the following sectors:

- industry;
- construction and building management;
- transport infrastructure;
- street and domestic lighting.

There is a growing interest in the issue of energy efficiency in Morocco, and this trend is likely to continue in the face of projected population growth and economic development.

While Morocco is already addressing the challenge, its efforts to this regard are still in the early stages.

This creates considerable opportunities for engineering consultancy firms and energy efficiency consultants and for providers of training in these professions.

## Fossil energy



As mentioned above, traditional fossil energy sources will continue to play an important part in the Moroccan energy mix in the medium term, particularly taking into account the continuous rise in electricity consumption.

This can be appreciated in the additions to installed capacity (from 2015 onwards):

- liquefied natural gas (LNG) power plants in Jorf Lasfar (2 x 600 MW) and at another site still to be determined (2 x 600 MW);
- coal-fired thermal power plant in Safi (2 x 693 MW);
- extension of the coal-fired thermal power plant in Jerada (from 165 to 515 MW).

In the fossil energy sector, Morocco has, since 2005, been shifting its focus towards natural gas, with the addition of gas-fired generation capacity. The country has also intensified exploitation of its limited oil and natural gas reserves, and the exploitation of the country's considerable shale gas reserves is currently being debated. With these measures, Morocco is seeking to **reduce fossil fuel imports**, although they remain unavoidable in the medium term. It is, however, investing much more in the development of renewable energy sources. Efforts will continue to significantly increase their share in the energy mix in the years ahead, with a view to them replacing fossil fuels.

## Forms of investment/financing

Investment in the construction of power plants is generally made through **public-private partnerships**, which always involve one of the government energy agencies (usually the ONEE or the MASEN). Investments can, however, be wholly public (usually through the ONEE) or wholly private. The possibility of private investment was provided for in act 13-09. In Morocco funding for such projects comes from the ordinary government budget, the Hassan II Fund for Economic and Social Development, the Energy Efficiency Fund (FEE), the Energy Development Fund, SIE's Renewable Energy Fund (FER) and the ONEE's own funds. Morocco receives financial support from a number of institutions and countries, including

KfW (*Kreditanstalt für Wiederaufbau*) development bank (with funding from, among others, the German Federal Ministry for Economic Cooperation and Development, the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, the International Climate Initiative (*Internationale Klimaschutzinitiative, IKI*) and the German Climate Technology Initiative (*Deutsche Klima- und Technologieinitiative, DKTI*)), the European Commission, the European Investment Bank, the *Agence française de développement*, the Clean Technology Fund, the African Development Bank, Saudi Arabia and the United Arab Emirates.

## Technology transfer and building a Moroccan renewable energy industry

In addition to the core objective of producing electricity, public wind and solar power projects should also contribute to building and **strengthening a national wind and solar power industry**, in keeping with the spirit of Morocco's industrial policy of promoting technology transfer and the development of forward-looking, high-technology industries. Private consortiums that are awarded contracts should therefore expect to see Moroccan

enterprises becoming increasingly involved in projects (**local content requirements**).



## Important actors for market entry and additional information

German organisations in Morocco			
Organisation	Brief description	Information and assistance	Further information/ contact
<b>AHK Morocco</b> German Chamber of Commerce and Industry in Morocco	The AHK (German Chambers of Commerce Abroad), with its extensive network and long experience in Morocco, is the first point of contact in country for German companies. It also has a remit within the framework of the German-Moroccan Energy Partnership.	<ul style="list-style-type: none"> <li>&gt; Additional information on the market</li> <li>&gt; Support to start up enterprises in Morocco</li> <li>&gt; Matching and connecting enterprises</li> <li>&gt; Help with recruiting experts</li> </ul>	<a href="http://marokko.ahk.de">marokko.ahk.de</a> (in German)
<b>German Embassy in Rabat</b> Diplomatic representation of the Federal Republic of Germany in Morocco	It is the express wish of the embassy to engage in dialogue and exchanges with German companies. The counsellor for economic affairs is the main point of contact.	<ul style="list-style-type: none"> <li>&gt; Information on current economic, political and social developments</li> <li>&gt; Contact for economic policy matters</li> </ul>	<a href="http://www.rabat.diplo.de">www.rabat.diplo.de</a> (in French)
<b>GIZ</b> Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH GIZ office in Morocco	GIZ is involved in Morocco through a number of projects in the energy sector and related fields. It provides Secretariat functions for the German-Moroccan Energy Partnership.	<ul style="list-style-type: none"> <li>&gt; Information on the energy sector and matching and connecting services</li> <li>&gt; Help with recruiting experts; recommendations</li> <li>&gt; Public-private partnerships (integrated PPPs and DeveloPPPs) in which GIZ is the 'public' partner and works with you as an enterprise to implement joint projects</li> </ul>	<a href="http://www.giz.de/en/worldwide/340.html">www.giz.de/en/worldwide/340.html</a>
<b>KfW - Entwicklungsbank</b> KfW office in Morocco	KfW development bank has been involved in Morocco for some 20 years and is currently financing – along with other organisations – major renewable energy projects, with a portfolio amounting to around two billion euros.	> Information on the energy sector and matching and connecting services	<a href="mailto:kfw.rabat@kfw.de">kfw.rabat@kfw.de</a>

German organisations with knowledge of the Moroccan energy market, but no physical presence in Morocco			
Organisation	Brief description	Information and assistance	Further information/contact
<b>DENA</b> German Energy Agency	DENA has expertise in the Moroccan energy market.	> Additional information on the market and analyses of the Moroccan energy sector	<a href="http://www.dena.de">www.dena.de</a> (in German)
<b>GTAI</b> Germany Trade & Invest GmbH	GTAI, an agency that promotes Germany's economic development abroad, does not have a physical presence in Morocco, but closely follows current trends and developments in the country from its headquarters in Bonn. It is in permanent contact with the AHK in Casablanca.	> Additional general information on the energy sector and market > Private and public invitations to tender in Morocco posted on the GTAI website	<a href="http://www.gtai.de/GTAI/Navigation/DE/Trade/Weltkarte/Afrika/marokko.html">www.gtai.de/GTAI/Navigation/DE/Trade/Weltkarte/Afrika/marokko.html</a> (in German)



## Moroccan actors in the energy sector – ministries

Ministry	Brief description	Information and assistance	Further information/ contact
<b>MAPMDREF</b> Ministry of Agriculture, Fisheries, Rural Development, Water and Forests	The MAPMDREF is responsible for setting and implementing national strategies for the agricultural sector (primarily the Green Morocco Plan). It is therefore the point of contact for energy solutions in agriculture.	> Information on the agricultural sector and national agricultural strategies	<a href="http://www.agriculture.gov.ma">www.agriculture.gov.ma</a> (in French)
<b>MEF</b> Ministry of Economy and Finance	The MEF regularly publishes the latest figures and indicators for the economic and budgetary situation in Morocco, which contain important data for the energy sector. It is also the point of contact for fiscal and customs matters and responsible for the Hassan II Fund for Economic and Social Development.	> Information on national economic and budgetary indicators > Information on the legal framework for fiscal and customs matters	<a href="http://www.finances.gov.ma">www.finances.gov.ma</a> (in French)
<b>MEMDD</b> Ministry of Energy, Mining and Sustainable Development	As the ministry concerned with the energy sector, the MEMDD establishes the legal framework for the sector, ensures the practical implementation of the national strategy and oversees a number of subordinate departments and agencies.	> Information on the general (legal) framework for the energy sector > Information on the strategic directions established for the country's energy and environment sectors > Official statements and announcements	<a href="http://www.mem.gov.ma">www.mem.gov.ma</a> (in French)
<b>MIICEN</b> Ministry of Industry, Investment, Trade and the Digital Economy	The MIICEN and its subordinate departments are responsible for implementing two ambitious programmes, the industrial promotion plan and the industrial acceleration plan, and for creating industrial parks.	> Information on the industrial sector and national industrial strategies	<a href="http://www.mcinet.gov.ma">www.mcinet.gov.ma</a> (in French)

Moroccan actors in the energy sector – agencies, institutes and associations			
Organisation	Brief description	Information and assistance	Further information/ contact
<b>ADA</b> Agricultural Development Agency	Created in 2009, the ADA is responsible for preparing and implementing important components of the strategy established for the agricultural sector (e.g. irrigation systems, storage and cooling systems, promotion of investment, and partnerships with investors).	<ul style="list-style-type: none"> <li>&gt; Additional information on the agricultural sector</li> <li>&gt; Information on investment opportunities and matching and connecting with contacts</li> </ul>	<a href="mailto:ada.gov.ma">ada.gov.ma</a> (in French)
<b>AMDI</b> Moroccan Investment Development Agency (Invest in Morocco)	This agency, GTAI's Moroccan counterpart, is the traditional point of contact for foreign investors and provides a range of services. It has offices in Frankfurt, Paris, Rome, Madrid and Rabat.	<ul style="list-style-type: none"> <li>&gt; Additional information on investment conditions and possibilities for obtaining aid in Morocco</li> <li>&gt; Sector and market overviews</li> <li>&gt; Matching and connecting with contacts</li> </ul>	<ul style="list-style-type: none"> <li>&gt; <a href="mailto:amdi.frankfurt@invest.gov.ma">amdi.frankfurt@invest.gov.ma</a></li> <li>&gt; <a href="mailto:amdi.paris@invest.gov.ma">amdi.paris@invest.gov.ma</a></li> <li>&gt; <a href="mailto:amdi.roma@invest.gov.ma">amdi.roma@invest.gov.ma</a></li> <li>&gt; <a href="mailto:amdi.madrid@invest.gov.ma">amdi.madrid@invest.gov.ma</a></li> <li>&gt; <a href="mailto:info@invest.gov.ma">info@invest.gov.ma</a></li> </ul> <a href="http://www.invest.gov.ma">www.invest.gov.ma</a> (in French)
<b>AMEE</b> Moroccan Agency for Energy Efficiency	The ADEREE, founded in 2010, was renamed AMEE in 2016 as part of an extensive institutional restructuring. It is now responsible for all projects in the energy efficiency sector, including the implementation of the national solar energy efficiency strategy and the updating of wind and solar mapping.	<ul style="list-style-type: none"> <li>&gt; Information on current and anticipated regulations and strategies in the field of energy efficiency</li> <li>&gt; Information on sites identified as suitable for the location of wind or solar power plants</li> <li>&gt; Matching and connecting with contacts</li> </ul>	<a href="http://www.amee.ma">www.amee.ma</a>
<b>AMISOLE</b> Moroccan Association of Solar and Wind Power Industries	AMISOLE, created in 1987, carries out lobbying and communication activities, organises trade fairs and exhibitions, finances the creation of clusters, conducts market studies and matches actors with each other. It also runs three renewable energy training centres. AMISOLE has around 70 members.	<ul style="list-style-type: none"> <li>&gt; Market studies and business intelligence</li> <li>&gt; Matching and connecting with contacts</li> </ul>	Résidence Mervet, 4 rue de la Bastille, Casablanca, Maroc  Tél. : +212522949182

### Moroccan actors in the energy sector – agencies, institutes and associations

Organisation	Brief description	Information and assistance	Further information/ contact
<b>Cluster EMC</b> Energy Efficiency of Construction Materials	Cluster EMC, created in 2013 and supported by the Ministry of Industry, brings together enterprises, architects, consulting firms, researchers, universities, foundations, the media and other experts who together promote innovative approaches, solutions and projects in the field of energy efficiency in buildings.	<ul style="list-style-type: none"> <li>&gt; Guidance and support for members and their projects</li> <li>&gt; Preparation of studies and surveys</li> <li>&gt; Information on standards in the construction sector</li> <li>&gt; Capacity building and training</li> </ul>	<a href="http://www.clustermc.org">www.clustermc.org</a> (in French)
<b>Cluster Solaire</b> Associating in the solar energy sector	Cluster Solaire represents 260 enterprises. In addition to its traditional association role, it also matches Moroccan and foreign companies (mainly Spanish, French and German), with a view to them creating partnerships and joint ventures.	<ul style="list-style-type: none"> <li>&gt; Matching and connecting Moroccan and foreign companies</li> <li>&gt; Small-scale cofinancing, particularly for technology demonstrations/ presentations</li> <li>&gt; Information on the Moroccan solar energy sector</li> <li>&gt; Matching and connecting</li> </ul>	<a href="http://www.clustersolaire.ma">www.clustersolaire.ma</a> (in French)
<b>FENELEC</b> National Electricity, Electronics and Renewable Energy Federation	FENELEC, created in 1997, is a national federation bringing together professionals from the electricity, electronics and renewable energy sectors. It currently represents five associations, including AMISOLE, covering practically the entire sector.	<ul style="list-style-type: none"> <li>&gt; Additional information on branches of activity and markets</li> <li>&gt; Matching and connecting with contacts</li> </ul>	<a href="http://www.fenelec.com">www.fenelec.com</a> (in French)
<b>IRESN</b> Institut de Recherche en Énergie Solaire et Énergies Nouvelles	Set up in 2011, the IRESN is tasked with identifying research subjects and projects in the field of renewable energy and energy efficiency. In addition to financing and implementing research and development projects, it also disseminates research findings and promotes their effective use by businesses.	<ul style="list-style-type: none"> <li>&gt; Additional information on the renewable energy and energy efficiency sector</li> <li>&gt; Tenders for small generation units up to 50 kW (PV in particular)</li> <li>&gt; Matching and connecting with contacts</li> </ul>	<a href="http://www.iresn.org">www.iresn.org</a> (in French)



Moroccan actors in the energy sector – agencies, institutes and associations			
Organisation	Brief description	Information and assistance	Further information/contact
<b>MASEN</b> Moroccan Agency for Sustainable Energy	The MASEN develops projects at the technical, economic and financial level and coordinates activities in the renewable energy sector. It was previously tasked solely with implementing the national solar power plan, but its remit has now been extended to include the implementation of objectives for all renewable energy technologies.	<ul style="list-style-type: none"> <li>&gt; Information on the Moroccan solar power plan and its state of progress and implementation</li> <li>&gt; Information on ongoing tenders (particularly for the construction of power plants)</li> <li>&gt; Matching and connecting with contacts</li> </ul>	<a href="http://www.masen.ma">www.masen.ma</a>
<b>ONEE</b> National Office for Electricity and Water	The ONEE is the main actor in the Moroccan electricity market. It owns the network, produces electricity, buys electricity from Moroccan private producers, imports electricity and is responsible for electricity distribution (which it carries out itself and through private and public sector companies).	<ul style="list-style-type: none"> <li>&gt; Current market and consumption statistics</li> <li>&gt; Information on ongoing tenders (particularly for power plant construction and network development)</li> <li>&gt; Information and licensing for electrical grid feed-in</li> <li>&gt; Licensing for generation facilities subject to authorisation</li> </ul>	<a href="http://www.one.org.ma">www.one.org.ma</a> (in French)

Important expositions in Morocco		
Name	Brief description	Further information/contact
POLLUTEC	Environmental equipment, technology and services trade show	<a href="http://www.pollutec-maroc.com">www.pollutec-maroc.com</a> (in French)
Photovoltaica	Photovoltaic trade show	<a href="http://www.photovoltaica.ma">www.photovoltaica.ma</a> (in French)
SIAM	Agricultural trade show	<a href="http://www.salon-agriculture.ma">www.salon-agriculture.ma</a> (in French)
Solaire Expo	Solar energy and energy efficiency trade show	<a href="http://solaireexpomaroc.com">solaireexpomaroc.com</a> (in French)

# Overview of general legal issues and formalities

## General

For detailed information on important legal questions and formalities relating to doing business in Morocco, contact the relevant specialised institutions (**AHK, GTAI or AMDI**), which also provide interested enterprises with specific guidance and support in these matters. Here, we will briefly touch on just a few questions of interest. Morocco's legal system **closely resembles France's**, and this holds for both commercial and civil law. Morocco offers an **environment that is very favourable to investors**, even more in comparison with other countries in the region.



## Starting up a business

In addition to establishing a representative office or branch, foreign companies can also create a company under Moroccan law in one of two forms:

- *société à responsabilité limitée* (SARL) in French, (broadly equivalent to the German 'GmbH' or British 'Ltd');
- *société anonyme* (SA) in French, (broadly equivalent to the German Aktiengesellschaft (AG) or British 'plc').

In the case of SARLs, there is no minimum share capital and they can be a single-member company.

SAs and SARLs **can be wholly owned by foreign members**. The **cost and formalities involved in setting them up are not too onerous**, and the procedure is fairly simple. It is advisable, and sometimes necessary, to engage the services of a lawyer or notary.

**Non-nationals can also purchase land and real estate** (although there are some exceptions, such as agricultural land).



## Incentives

The Moroccan Government encourages investment in a variety of ways. With the aim of reducing the foreign trade deficit, export activities, for example, are granted **tax exemptions and tax relief** for several years and special customs facilities and exemptions in free trade zones. Other incentives are also granted, particularly to investments outside major economic hubs and in certain fields of activity. There are some possibilities of financial aid available specifically for **projects in the field of renewable energy and energy efficiency** (see next section).

## Taxation and taking currency out of Morocco

Companies with share capital are **subject to corporation tax**, but there are various tax exemptions and reductions available, as mentioned above. In addition to **value added tax**, which is ultimately passed on

to consumers, there are two **local taxes** charged on the land, real estate and plant and facilities belonging to companies. There has been an **agreement in force on double taxation** between Germany and Morocco since 1974. Morocco operates a very liberal policy towards **international currency transfers**: there are no restrictions on moving profit from investments made in Morocco to another country, even when the investment ends or is liquidated, although in the latter case, an application must be made to the Exchange Control Office.

## Workforce

There is a **minimum wage** of 13.46 dirhams (around 1.24 euros) per hour in Morocco, which does not apply in agriculture. The working week is 44 hours in practically all sectors of activity. Employers and employees each pay their part of the **social security contributions** due. **Employment contracts** can be **fixed term** or permanent and can include a short trial period. Enterprises should not, however, make erroneous assumptions about remuneration based on the low minimum wage, as highly qualified and experienced experts often demand the **same salaries as their European colleagues**. The AHK, independent consultants and sector associations, such as Cluster Solaire, can help enterprises to find the right experts.

## Assistance and financing options

In addition to traditional financing for SMEs provided for in Moroccan law and granted by Moroccan banks (e.g. Banque Centrale Populaire, Chaabi International Bank Offshore, and BMCE Bank, which in December 2015 received a 100-million-euro line of credit from the

European Bank for Reconstruction and Development (EBRD), precisely for this purpose), there is a whole range of interesting mechanisms available to facilitate project implementation and help reduce financial risk.

Financing mechanisms of interest to international enterprises

Organisation	Brief description	Information and assistance	Further information/ contact
<b>DEG</b> Deutsche Investitions- und Entwicklungsge- sellschaft (a subsidiary of KfW)	For some fifty years now, DEG has been making financing and advice available to enterprises across all sectors to promote investment and business initiative in developing and emerging market countries. Its services are aimed primarily at small and medium-sized German enterprises. DEG pays particular attention to social and environmental aspects and is guided by sustainable development goals and international standards. DEG can also provide financial aid for activities meeting certain criteria. You can find further information on its services and conditions on the DEG website.	<ul style="list-style-type: none"> <li>&gt; Advice (including risk analysis and project development)</li> <li>&gt; A range of financing products specifically designed for investment in developing and emerging market countries</li> <li>&gt; Expertise and contacts in the field and support in evaluating local partners</li> <li>&gt; Financial aid can be made available to finance feasibility studies, pilot projects and pioneering investments</li> </ul>	<a href="http://www.deginvest.de/International-financing/DEG/">www.deginvest.de/International-financing/DEG/</a>

Financing mechanisms of interest to international enterprises			
Organisation	Brief description	Information and assistance	Further information/ contact
<b>EBRD</b> European Bank for Reconstruction and Development	Originally created after the 'iron curtain' was lifted to develop the private sector in Central and Eastern Europe, the EBRD now also undertakes activities in a host of non-European countries and, since 2012, in Morocco. Uniquely, it has a clear political mandate based on values, aims to assist SMEs and is committed to, among other things, sustainable energy production.	<ul style="list-style-type: none"> <li>&gt; Customised credit products</li> <li>&gt; Equity cofinancing (minority interests)</li> <li>&gt; Provision of surety bonds</li> <li>&gt; Advice on projects and networking with experts and consultants on the ground</li> </ul>	<a href="http://www.ebrd.com">www.ebrd.com</a>
<b>GIZ</b> Office in Morocco and registered offices in Bonn and Eschborn	Within the framework of its projects, GIZ provides enterprises with the opportunity to establish a PPP, in which it acts as the 'public' partner. There are integrated PPPs, which are established independently in the country in question (e.g. in Morocco), and develoPPP projects, which are selected by GIZ headquarters through an 'ideas competition'. Depending on the specific nature of the partnership, there are a number of criteria and conditions to be met. More detailed information is available on the GIZ website.	<ul style="list-style-type: none"> <li>&gt; Cofinancing (200,000 euros maximum) of projects. The enterprise must contribute at least 50% of the total cost of the project</li> <li>&gt; Advice and support from the project design stage</li> <li>&gt; Experience and contacts on the ground</li> </ul>	<a href="http://www.giz.de/wirtschaft">www.giz.de/wirtschaft</a> (in German)  <a href="mailto:wirtschaftskoopera-tion@giz.de">wirtschaftskoopera-tion@giz.de</a>  <a href="mailto:develoPPP@giz.de">develoPPP@giz.de</a>

### Financing mechanisms of interest to international enterprises

Organisation	Brief description	Information and assistance	Further information/ contact
<b>MORSEFF</b> Morocco Sustainable Energy Financing Facility	Set up in 2015, the MorSEFF is a financing mechanism for projects in the field of renewable energy and energy efficiency. It awards funding, amounting to 80 million euros, only to companies incorporated under Moroccan law. The MorSEFF was established and developed mainly by the EBRD, the European Investment Bank (EIB), KfW and the French Development Agency (AFD). You can find more detailed information on financing criteria and conditions on the MorSEFF's website.	<ul style="list-style-type: none"> <li>&gt; Financing of up to 100% of the investment amount, with certain conditions and different limits depending on the extent and complexity of the project, the technology being developed and the financing method</li> <li>&gt; Subsidies for between 10% and 15% of the funding amount granted under the EU's investment facility within the framework of the European Neighbourhood Policy</li> <li>&gt; Free advice on projects (including analysis, implementation, evaluation, etc.) given by specialist consultants</li> <li>&gt; Distribution by participating Moroccan banks</li> </ul>	<a href="http://www.morseff.com">www.morseff.com</a>
<b>SIE</b> Société d'Investissements Énergétiques (public energy investment company)	Originally created after the 'iron curtain' was lifted to develop the private sector in Central and Eastern Europe, the EBRD now also undertakes activities in a host of non-European countries and, since 2012, in Morocco. Uniquely, it has a clear political mandate based on values, aims to assist SMEs and is committed to, among other things, sustainable energy production.	<ul style="list-style-type: none"> <li>&gt; Customised credit products</li> <li>&gt; Equity cofinancing (minority interests)</li> <li>&gt; Provision of surety bonds</li> <li>&gt; Advice on projects and networking with experts and consultants on the ground</li> </ul>	<a href="http://www.ebrd.com">www.ebrd.com</a>

# Prospects and challenges for international enterprises seeking to enter the Moroccan market

## Priorities for Morocco

Morocco has firmly set its sights on the **large-scale development of renewable energy sources**. A **continued increase** in wind and solar power electricity generation capacity is anticipated in the medium term. Moroccan actors also now have a greater understanding of the true potential of energy efficiency. In addition to heightened public awareness about the benefits of energy efficiency improvements, Moroccan experts also report promising prospects in the country's buildings and construction sectors and in its rapidly growing industrial sector.

With regard to **electricity generation**, the implementation of current strategies is almost completely confined to **large-scale projects**.

Conversely, in the field of energy efficiency, the emphasis is on **decentralised solutions** (e.g. personalised financial aid granted to industrial enterprises to enable them to modernise their facilities).

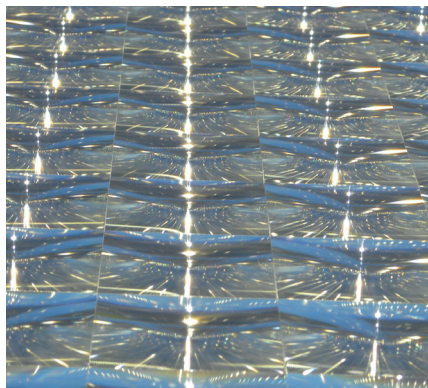
All these initiatives are actively encouraged at the highest level of government, and renewable energy and energy efficiency are at the top of the political and economic agenda.

## Potential for international enterprises in the short and medium term

### Morocco, a strategic base for activities in Africa

**Morocco** is currently strengthening its economic relations with a number of countries in Africa. The ONEE is pursuing this line of action and offering its rural electrification services, expertise and training in sub-Saharan countries. Significantly, **Italy** is shifting the focus of its foreign economic policy towards Africa. The Italian power company Enel is planning to build renewable energy plants (solar, wind, hydro and geothermal power) with a total capacity of 5,000 MW in South Africa, Uganda, Kenya, Tanzania, Ethiopia and Mozambique.

Traditionally, **France** has maintained close economic and political relations with West Africa, and there are many French enterprises, including energy companies, operating in countries in the region. The businesses and other actors consulted stress that **especially German enterprises are, in fact, missing out on the opportunities presented by relatively untapped African energy markets**, which will continue to offer enormous potential for some years to come. The **conditions could not be more favourable than they are at the present time**. Morocco and Tunisia are the only countries in the region that can serve as a starting point or bridgehead for the exploration of African markets. However, different to Tunisia, Morocco already has structures in place in African countries and European enterprises can make use of these in their activities. Another feature that makes Morocco particularly attractive in this regard is that it follows **clear foreign economic policy directions**. Enterprises operating in Morocco can also benefit from **the networks and recommendations of their Moroccan trading partners** in countries in sub-Saharan Africa. In view of its geographical location, Morocco provides enterprises with a springboard to Africa.



The benefits of its location are enhanced by **good connections with Europe** by road and ferry, as well as excellent air links, with numerous affordable flights offered by a variety of airlines (Morocco is a two- to three-hour direct flight from many European destinations). With regard to expat staff, Morocco's cities offer **good living and working conditions**, comparable to the European way of life and standard of living. At the same time, companies operating in Morocco are closer to African markets not only geographically, but also economically and culturally, which facilitates access to relevant information and important contacts. The state-owned airline Royal Air Maroc offers affordable connections of a high standard between Casablanca and most of Africa's economic centres. The stable legal and economic environment completes Morocco's profile as an ideal base for operations in Africa.



### Bidding for lots or components of major projects

The Moroccan energy market is still dominated by major projects. In public tenders, SMEs have no chance of being awarded contracts, if only because of the huge amounts involved. It is a different story, however, when it comes to **subcontracts**: the contract for the CSP plant in Ouarzazate (NOORo I) was awarded to the ACWA Power consortium, but for example German companies won around a third of the subcontracts awarded by ACWA Power. Siemens AG is also going to play a very active role in the wind power sector both in Morocco and other parts of Africa, as evidenced by its plans to construct a rotor blade factory in Tangier. This project could have positive knock-on effects for SMEs.



### Consultancy and advisory services

Morocco is putting all its effort into developing wind and solar power and introducing energy efficiency improvement measures. However, a high proportion of public and private sector actors **are not sufficiently familiar with current standards and regulations and the latest technologies** or do not have the required practical experience in this field. Advisory services provided by **European research and consulting firms** are therefore highly appreciated and in great demand. The implementation of projects in which international organisations are involved requires compliance with very high planning standards that Moroccan consulting firms are not always capable of meeting. European firms could seize this opportunity to provide:

- project management;
- project quality assurance (tenders, design, implementation);
- studies for public and private-sector institutions;
- environmental impact assessments;
- energy audits and energy efficiency consultancy;
- technical planning;
- site supervision;
- training activities.

## Solar-powered pumps

With farming such an important activity in Morocco, there is enormous potential for solar pumps. The **agricultural sector** is highly reliant on irrigation, and the country needs, above all, decentralised solutions. The company Bernt Lorentz GmbH & Co. KG, for example, is already well established in this market. In 2013 the Moroccan Government announced the start of a **programme to promote solar pumps in agriculture**, which will subsidise the purchase or installation of 10,000 pumps by 2020.

The implementation of this programme should boost demand for solar pumps in the agricultural sector. There is also a potential market in industry and households with wells.

## Process heat

Process heat generation solutions for **industry, agriculture and the hotel and restaurant industry** constitute a potential market that can be immediately tapped, even under the legal framework as it currently stands.

## Photovoltaic electricity generation

Self-generation of electricity is, even in the current legal environment, a viable alternative for **industrial enterprises that consume large amounts of electricity**. Given the current tariff arrangements operated by the ONEE, this solution is advantageous in terms of cost, particularly for large consumers and those who require large amounts of electricity **at peak times**. In the hotel and restaurant industry, photovoltaic electricity generation can also be an important factor in enhancing **brand image**.

## Energy-efficient public lighting

In Morocco public lighting is the responsibility of the **commune authorities**, which spend a significant proportion of their budget on energy bills. They are therefore very interested in energy-efficient solutions.

Under projects financed by SIE, the first steps have been taken towards renovating the public lighting system.

## Cooling solutions in the agricultural sector

Another area with potential is cooling solutions for the **storage of agricultural produce**, as well as irrigation and pumping systems.

## Challenges for international enterprises

In spite of the great potential offered by Morocco in the field of renewable energy and energy efficiency, **there are a number of specific obstacles that European enterprises will need to overcome.**

First of all, there is the language barrier: a basic knowledge of English is not enough to gain entry into this market. While English is gaining ground in some spheres, **French remains the language of business.** A good command of French is therefore essential. There are also some stark differences between Morocco and European countries in their culture and in the way they do business. **Personal relations and meetings play a very important** part, and that means frequent stays in the country. It is often not at an official meeting that important decisions are discussed, but in a **café or restaurant.**

Other obstacles pointed out by the experts consulted include:

- lack of local experience in renewable energy and energy efficiency – these fields are new to Morocco and **considerable groundwork remains to be done;**
- the **predominance of major projects**, which only benefit SMEs in a limited or indirect way;
- absence of provisions in Moroccan legislation concerning access by **private electricity producers to the low-voltage network**, which prevents enterprises from entering this very attractive market;
- automation in public administration still in its early stages and a **lack of direction and transparency;**
- the generally compulsory requirement to post a **bid bond**, even when bidding for small contracts.

## Tips and recommendations

The following practical recommendations have been formulated by German and Moroccan experts for enterprises interested in moving into Morocco.

- » Now is the **time for companies to position themselves, with a physical presence**, in anticipation of imminent developments in the African and Moroccan energy markets. As mentioned above, efforts to tap these markets are now underway. Successful market entry requires forward planning. It is therefore advisable to start laying the groundwork now and getting the necessary structures and networks in place.
- » There is no substitute for a **regular physical presence on the ground and personal contacts**. You should assume that your competitors are more likely to get on a plane and go to Morocco than to email their Moroccan clients and trading partners. **The Moroccan business culture is largely based on personal relations**. The stronger your presence in the country, the better your chances of establishing important contacts and gleaning vital information. The ideal solution is to have a person permanently stationed in the country. If this is not feasible, people from your company should visit Morocco as often as possible and prolong their stays from time to time.
- » Successful entry into the Moroccan market will take some time. **Do not expect immediate results**; you will have to invest considerable time and effort, especially at the beginning. It is particularly important to build and maintain personal relations and networks.
- » **Networking!** If you do not have the necessary capacities or are unable to mobilise them, your first stop should be the Moroccan industry associations. Cluster Solaire and Cluster EMC can also offer networking services. Another solution is to have your French dealer or branch represent you in the Moroccan market. This approach has worked well, thanks to the cultural and economic proximity of France and Morocco. However, if you are planning a lasting strategic commitment in Morocco (and Africa), it is preferable in the long term to get your own capacities in place.

- » **Contact financial institutions, such as the MorSEFF, local private banks or SIE**, register your company with them and have its details included in the relevant databases. This will increase your visibility and your chances of being noticed by Moroccan actors. You will also be kept informed of any new developments. **If you are planning a visit to Morocco, you can also contact cooperation offices there (e.g. GIZ and the AHK for the German cooperation).**
- » All the experts consulted agreed that the Moroccan market **is still too small to justify a company establishing its own production facilities.** This approach could, however, prove to be profitable and a viable option for the African market as a whole.
- » **Use the whole-life costing argument to your advantage!** As mentioned above, European products are relatively expensive for Moroccan customers to purchase. The experts therefore recommend presenting the life-cycle cost calculation to them and explaining in detail why your product is a profitable investment, even if the purchase price is higher.
- » According to some experts, tenders submitted by European companies (e.g. in response to invitations to tender) seem more complicated and costlier than those of their competitors in the Moroccan market. They sometimes include services that are not necessary or have not been requested by the client; indeed, the fact that competitors do not include such services makes their quotations more attractive. **It is therefore advisable to reduce the complexity of written tenders**, including only what is specified in the invitation to tender (keeping the cost down) and accentuating the selling points. It is always better to **wait before offering additional services.**
- » The experts recommend **setting up after-sales services operated by your own in-country personnel** or in cooperation with partners. This will **not only be advantageous in terms of cost**, but will also allow you to meet **a major need of Moroccan customers: proximity.** It will bring you nearer to your customers and enable you to respond promptly and flexibly to their requests. If you have to fly people in to Morocco to carry out maintenance and assistance operations, you will be much more expensive and less responsive to needs than some of your competitors. On the Moroccan side, there are complaints that the language barrier is too big an obstacle when maintenance and assistance operations are carried out by personnel sent from e.g. Germany.

» This may seem obvious and somewhat trivial, but, in practice, it is important: **your information brochures and websites must also be in French!** In Morocco information provided in English will, at the best of times, only open the door to a small circle of clients and partners.

» In order to gain a foothold in the Moroccan market, you should also harness **social networks**, particularly LinkedIn, Facebook and Twitter. Here again, the watchword is 'in French, please!'.



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