



# ENERGY GUIDE 2018

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# EUROPEAN CHAMBER OF COMMERCE IN MYANMAR

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With a strong, growing network of partners, EuroCham offers on-the-ground assistance for European businesses interested in commercial endeavours in Myanmar, whether in the form of advocacy, business services, research or networking.

This sector guide provides entry-level information for European companies planning to enter this fascinating frontier market. Please contact us for further information and support.

Yangon, December 2017





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**European Chamber of Commerce in Myanmar**  
271–273 Bagayar Street  
Sanchaung Tsp, Yangon, Myanmar



+95 9 45058 2335



[info@eurocham-myanmar.org](mailto:info@eurocham-myanmar.org)



[www.eurocham-myanmar.org](http://www.eurocham-myanmar.org)



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## **ACRONYMS**

<i>AEC</i>	<i>ASEAN Economic Community</i>
<i>ASEAN</i>	<i>Association of Southeast Asian Nations</i>
<i>BOT</i>	<i>Build–Operate–Transfer</i>
<i>DICA</i>	<i>Directorate of Investment and Company Administration</i>
<i>ESHA</i>	<i>European Small Hydropower Association</i>
<i>FIL</i>	<i>Foreign Investment Law</i>
<i>IASH</i>	<i>International Association for Small Hydro</i>
<i>LNG</i>	<i>Liquefied Natural Gas</i>
<i>LPG</i>	<i>Liquefied Petroleum Gas</i>
<i>MIC</i>	<i>Myanmar Investment Commission</i>
<i>MOEE</i>	<i>Ministry of Electricity and Energy</i>
<i>MOU</i>	<i>Memorandum of Understanding</i>
<i>MPE</i>	<i>Myanmar Petroleum Enterprise</i>
<i>MPPE</i>	<i>Myanmar Petroleum Products Enterprise</i>
<i>NEMC</i>	<i>National Energy Management Committee</i>
<i>SHP</i>	<i>Small Hydropower Plants</i>
<i>SME</i>	<i>Small and Medium Enterprise</i>
<i>UNIDO</i>	<i>United Nations Industrial Development Organization</i>
<i>YESC</i>	<i>Yangon Electric Supply Corporation</i>







## 1 INDUSTRY OVERVIEW

Myanmar is strategically located in Southeast Asia, between China and India, and is endowed with abundant oil and gas, hydropower, coal and renewable resources. It is the largest natural gas exporter in the region, with over 90% of its output pumped to Thailand and China<sup>1</sup>. Natural gas has been the country's largest export commodity for years, and has been a crucial GDP growth driver. Growing industrial demand, coupled with vast infrastructure upgrades mean Myanmar is now one of the most promising energy markets globally.

## 1.1 CURRENT MARKET SITUATION

Political and economic reforms carried out under former President U Thein Sein's administration from 2011 to 2015 led to the end of many international sanctions, as well as increased investment in the energy sector, trade liberalization and an increasingly favourable economic climate.

A total of 62 hydropower projects and 11 coal-fired power plants, as well as several gas-fired and renewable power projects, were approved by the previous government. In April 2017, the current government issued a statement saying that a further 6,270 MW of electricity will be generated by 20 new hydropower projects<sup>ii</sup>. Currently, Myanmar currently has 3,033 MW of installed hydropower capacity, out of an estimated potential of over 100,000 MW.

In the downstream sector, Myanmar's Ministry of Electricity and Energy announced in 2015 that foreign investment will be permitted in specified circumstances for the importation, storage, distribution and sale of a wide range of petroleum products. In 2016, under President U Htin Kyaw's new government, the Ministry of Electric Power and Ministry of Energy merged to form the Ministry of Electricity and Energy. The current Union Minister is U Pe Zin Tun, who took office on 6 April 2016. On 8 January 2016, Myanmar's National Energy Management Committee (NEMC) launched the Myanmar Energy Master Plan, which contains a goal for electricity production by 2030 that demonstrates a radically different mix of sources than the 2012 base level.

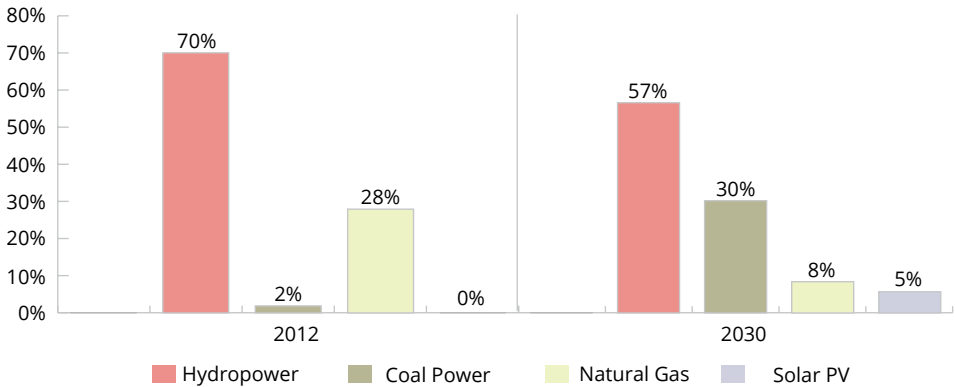


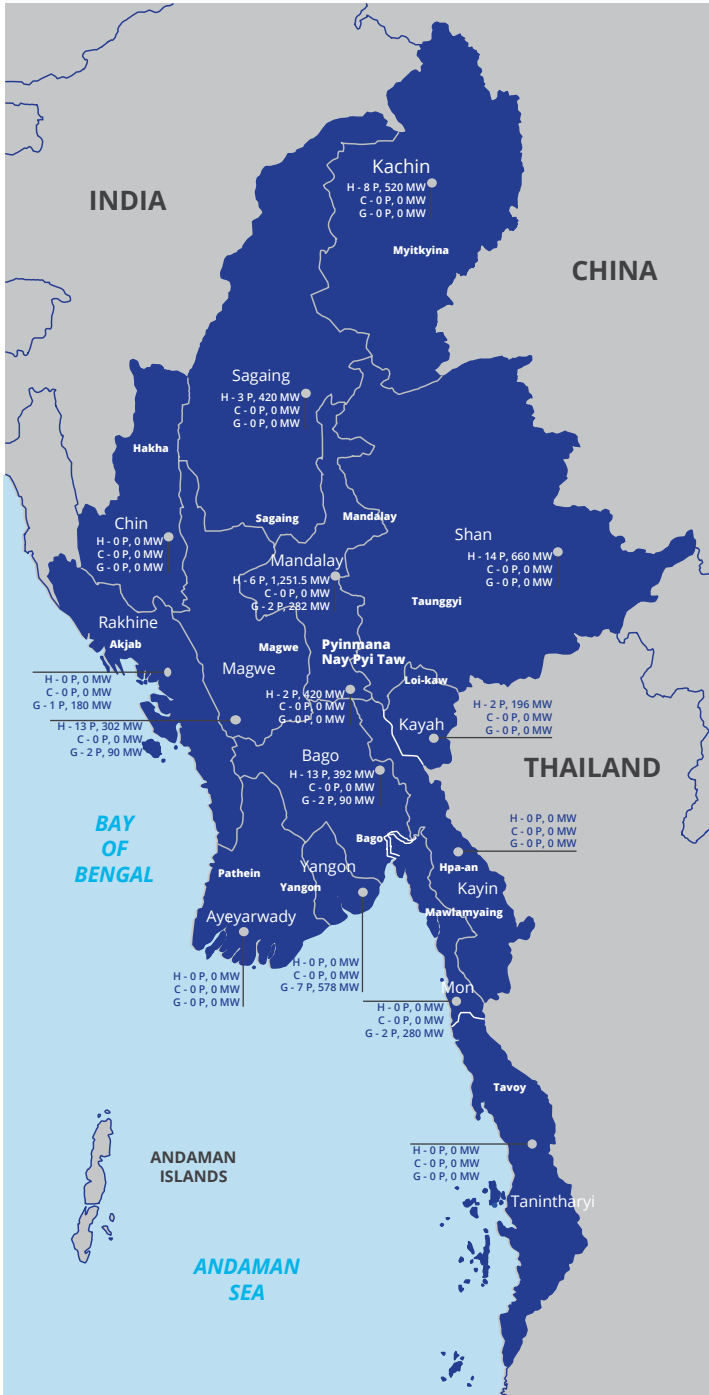
Figure 1: 2030 Electricity Mix Projections  
(Source: Ministry of Electricity and Energy)

Decreases in hydropower and natural gas in these two major sources make way for increases in solar PV and coal power. The role of solar PV as a contributor to electricity production in Myanmar was minimal until 2012, but it is projected to reach 5% of total electricity production by 2030. It is also envisioned that the role of coal-fired power plants in electricity provision will undergo a drastic increase, from 2% to 30%.

## 1.2 LOCATION OF ENERGY PRODUCTION SITES

Myanmar has a total of 20 gas-fired power plants located in Yangon, Mawlamyine, Thaton, Kyaukse, Myingyan, Kyaukphyu, Thanlyin, Myanaung, Kyunchaung, Man, Dawei and Shwe Taung. Myanmar has a total of 62 operational hydropower plants<sup>iii</sup>, including 35 small hydropower projects, which are located mostly in Shan State, Kachin State and Sagaing Region. The country's only coal-powered plant is in Southern Shan State. Offshore and deep water natural gas production sites are located in the Bay of Bengal in Rakhine State.





**H - Hydropower**  
**C - Coal**  
**G - Gas**  
  
**P - No. of Plants and Their Category**  
  
**MW - Installed Capacity**

Figure 2 : Map of Myanmar Including Table 1: Power production by region (Source: ADB, Myanmar Energy Assessment, Strategy and Road Map)

## 1.3 ENERGY INDUSTRY STATISTICS

CATEGORY	HYDROPOWER	COAL-FIRED	GAS-FIRED
<b>Installed plants (number)</b>	27 large (>10 MW) 35 small (<10 MW)	1	20
<b>Installed capacity (MW)</b>	3,033	120	1,823
<b>Proposed plants (number)</b>	51	10	1
<b>Proposed capacity (MW)</b>	46,000	7,994	270
<b>Plants under construction (number)</b>	7 of the 51 planned	1	2
<b>Capacity of plants under construction (MW)</b>	1,656	405	625

*Table 2: A Brief Outlook of the Power Sector*  
(Source: ADB, Myanmar Energy Assessment, Strategy and Road Map)

## 1.4 FOREIGN INVESTMENT

In terms of FDI by sector, the oil and gas sector has received 30.1% of all USD 74.5 billion of FDI between 1988–2017. To date, there have been 154 oil & gas investments, totalling USD 22.4 billion. The power sector accounted for 27.8% of FDI, or USD 20.1 billion across 14 investments, most of which were large hydropower projects<sup>5</sup>.

Foreign Direct Investment into Myanmar (1988–2017)  
Total Value USD 74.6 Billion

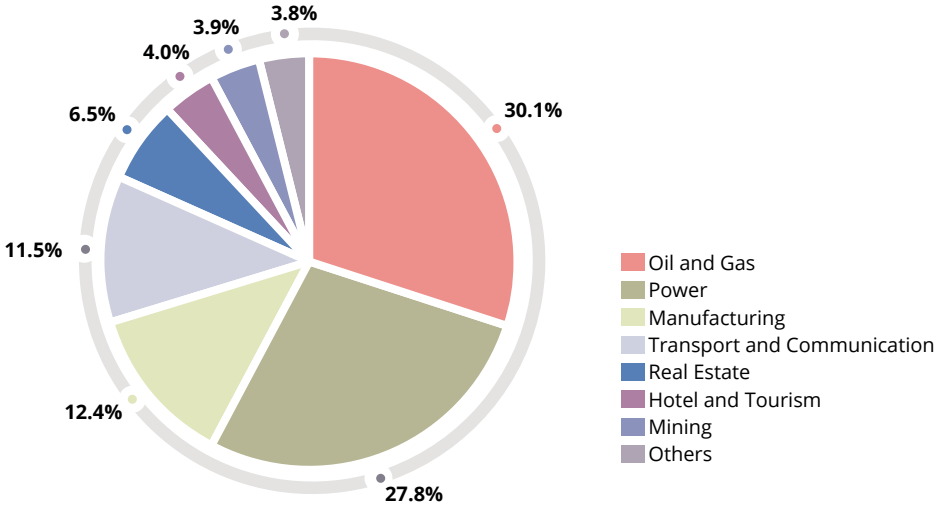


Figure 3: Foreign Direct Investment into Myanmar 1988–2017  
(Source: DICA Data & Statistics)

Foreign Direct Investment into Oil & Gas Sector (1988–2017),  
Total Value USD 22.4 billion

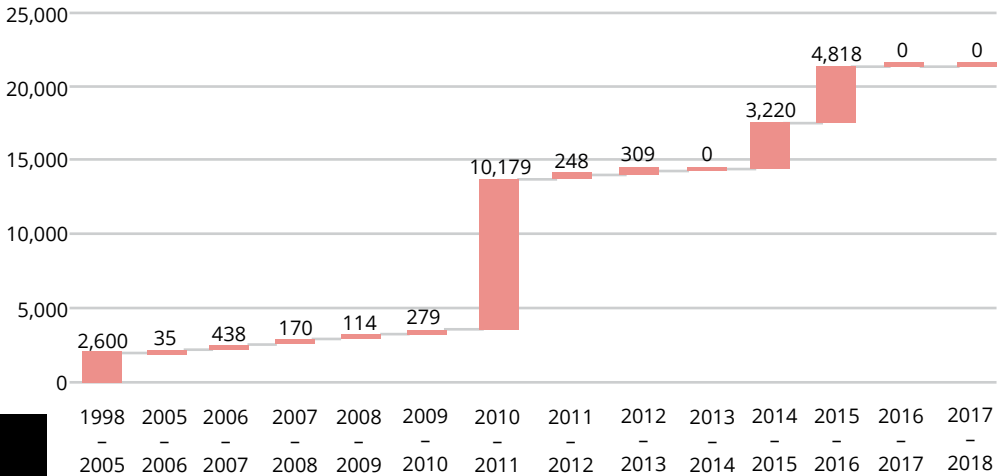
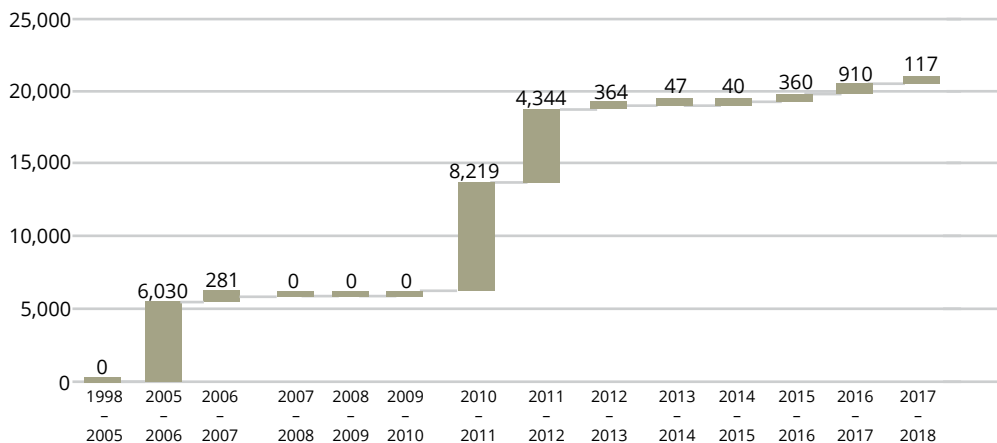


Figure 4: Foreign Direct Investment into Oil & Gas 1998–2017  
(Source: DICA Data & Statistics)

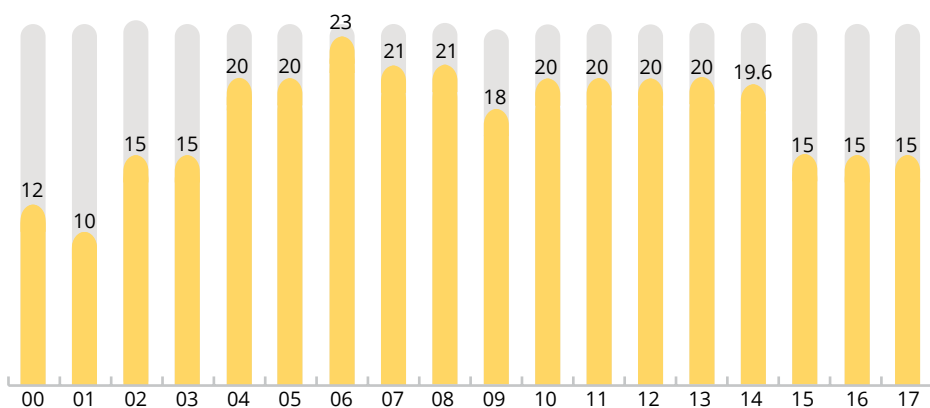
*Foreign Direct Investment into Power Sector (1988–2017),  
Total Value USD 20.1 billion*



*Figure 5: Foreign Direct Investment into the Power Sector 1998–2017  
(Source: DICA Data & Statistics)*

### 1.4.1 Oil & Gas

From 1994 to 2017, Myanmar has produced on average around 6 million barrels of crude oil per year. As of February 2017, daily production is 15,000 barrels per day, against a 2006 high of 23,000<sup>vi</sup>.



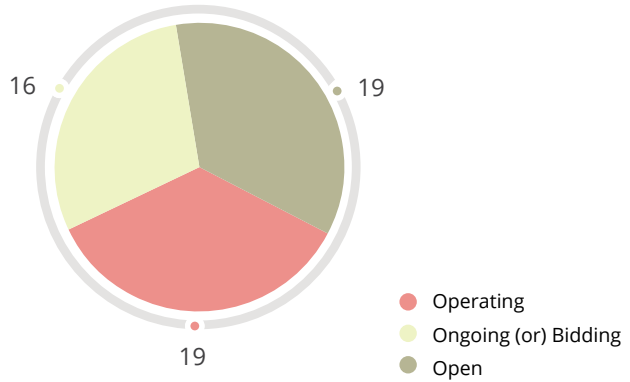
*Figure 6: Crude Oil Production in Myanmar 2000–2017  
(Source: Trading Economics, 2017)*

In terms of natural gas, Myanmar exported 81% of production in 2015. Natural gas exports accounted for 40% of the country's income with some USD 170 million each month and a total of 1.6 billion cubic feet of natural gas exported to Thailand and China every day<sup>vii</sup>. As an integral export commodity, the country is vulnerable to falling natural gas prices, which caused a significant drop in export revenue between 2016–2017<sup>viii</sup>.

The following charts detail the 105-listed oil and gas blocks. There are 54 onshore and 51 offshore, of which 24 are classified as deep sea.

### Status of Oil and Gas Blocks

#### Onshore Blocks



#### Offshore Blocks

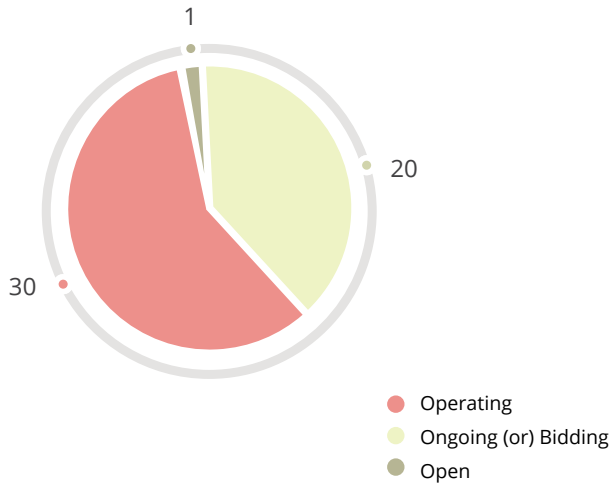


Figure 7: Status of Oil and Gas Blocks  
(Source: Open Development Myanmar, 2017)



The following shows the offshore gas projects that bring in the most income to Myanmar in exports.

NO.	PROJECT	ESTABLISHED	OPERATORS	DAILY PRODUCTION RATE
1	Yadana	Discovered in 1992. Production began in 1998.	Total SA	910 million cubic feet (711 mmcf exported to Thailand daily and 119 mmcf for local consumption)
2	Zawtika	Discovered in 1997. Production began in 2014.	PTTEP	350–360 million cubic feet (100 mmcf for local consumption, 250 mmcf for daily export to Thailand)
3	Yetagon	Discovered in 1992. Production began in 2000.	Petronas	Over 250 million cubic feet
4	Shwe	Discovered in 2005. Production began in 2014.	Daewoo	500 million cubic feet

*Table 3: Offshore Gas Projects*

## 1.4.2 Coal Power Plants

The government's stance towards coal has changed significantly in the past years, with the Myanmar Energy Master Plan setting a target of 30% of energy from coal by 2030.

The former government signed at least 11 contracts for coal-fired power plants around the country with several international and regional companies. Ten of these projects have since stalled due to widespread public opposition, including from local residents and environmental groups<sup>x</sup>. There is further concern that domestic coal extraction may not meet the demand of all 11 planned plants, leading to a situation where Myanmar must import the resource. Although Myanmar has estimated domestic coal resources of 540 million tons, coal extraction has remained slow due to low investment and the remoteness of most of the country's 565 identified coal sites<sup>x</sup>.

In April 2016, Huagaung Electric Power Engineering was selected as the winner for a tender to upgrade and operate the existing Tigyit plant in southern Shan State, the only coal-fired power plant in the country<sup>xi</sup>. Currently, the 120 MW plant uses approximately half of the 700,000 tons of domestic coal mined each year<sup>xii</sup>.

### 1.4.3 Gas Power Plants

Gas-fired power plants in Myanmar are engine-based and can use existing domestic gas, which is cheaper and more environmentally-friendly than liquid fuel. Nevertheless, gas power is limited by cost and certain export contracts with Thailand and China.

The government is implementing three gas-fired power plants at Thilawa in Yangon, Myingyan in Mandalay and Thaton in Mon State, with a total combined capacity of 380 MW. It has also signed a Memorandum of Understanding (MoU) for a gas power plant in Thanlyin in Yangon. A consortium led by Japan's Marubeni Corporation is conducting a feasibility study and plans to invest USD 1 billion into the plant, which will have a capacity of 400 MW<sup>xiii</sup>. Further, In September 2017, General Electric announced that its third gas-fired power plant, a 106 MW located in Thaketa township, will become operational in Q1 of 2018<sup>xiv</sup>.

### 1.4.4 Hydropower

Renewable energy resources include biomass, hydro, wind and solar power. Currently, hydropower is the only renewable energy resource which is being exploited commercially. Altogether, 62 hydropower projects have been implemented with an installed capacity of 3,033 MW. However, there are 51 further hydropower projects planned with a combined capacity of up to 46,000 MW, and in total 302 potential sites have been identified. Globally, Myanmar is one of the top 5 countries in terms of unexploited hydropower potential. Most FDI into hydropower is from Chinese companies. The joint venture agreements will allow them to build and operate power plants for up to 40 years before transferring them to the Union Government.

### 1.4.5 Bioenergy

As for biomass, the potential annual yield of wood fuel is up to 19.12 million cubic tons<sup>xv</sup>. There is no large-scale production of biomass; it is of more use for residential purposes in rural villages. While wood fuel continues to be the major source of biomass, grains and other plant-based materials, such as sugarcane bagasse, palm leaves, cotton stalk, sesame stalk, rice husk, sawdust and bamboo, represent important alternative sources. In terms of biofuel, lack of support and subsidies, as well as a prevalence of pests and diseases in jatropha-type cultivation led to the only 5 biofuel plants in the country being decommissioned. At peak, they produced 19.5 million gallons of biofuel annually.

## 1.4.6 Wind Power

Myanmar has a technical potential for the development of 4,032 MW of wind energy, mostly in Shan State, China State, and along the Rakhine coast<sup>xvi</sup>. The following new projects are planned according to the Ministry of Electricity and Energy:

REGION	NUMBER OF PROJECTS	CAPACITY (MW)
Rakhine	10	1,484
Chin	10	1,472
Ayeyarwady	5	478
Yangon	2	274

*Table 4: Renewable Energy Projects  
(Source: ADB Sector Assessment: Energy 2015–2017)*

An MoU for the first wind-power project was signed between the Ministry and China's Three Gorges Corporation in March 2016. This agreement permits the construction of a wind turbine project in the Chaung Tha area of Ayeyarwady Region which is expected to generate 30 MW of electricity.

## 1.4.7 Solar Power

The overall potential for solar power is estimated to be 51,973 terawatt-hours per year, with the highest potential in the central dry zones of the country. The former government signed two major solar power deals with foreign investors, both in 2014. US-based ACO Investment Group will invest USD 480 million to build two 150 MW solar plants near Mandalay, both of which are due to enter operation in 2016. Thailand's Green Earth Power will spend USD 350 million on a 220 MW plant in Magway Region's Minbu in partnership with the Philippine firm Basic Energy.

In terms of domestic capacity, Yangon-based Won Toll signed an agreement for a USD 1 billion, 300 MW solar project in partnership with Thailand's Kamrai Panit in May 2016 — a promising development, but one that has yet to receive Union-level government approval<sup>xvii</sup>. In May 2017, Won Toll signed an MoU to build a USD 90 million, 30 MW project in the Maubin industrial zone.

## 1.4.8 Power Generation

At present, Myanmar generates electricity from 83 power plants, including 62 hydropower stations, 20 gas-fired power plants and 1 coal plant. The combined installed capacity from gas, hydropower and coal power plants is around 5,000

MW<sup>xviii</sup>. Despite having the natural resources for a higher electrification rate, Myanmar has one of the lowest rates of electrification in Southeast Asia. The World Bank estimates that only 33% of the total population of over 53 million people has access to grid electricity<sup>xix</sup>.

The Ministry of Electricity and Energy is tasked with taking advantage of opportunities in Myanmar's energy sector to meet an ambitious goal: making that figure 100% of the country's population by 2030. Myanmar's grid is concentrated primarily in urban areas, leaving those who live in rural environments largely without grid access. Rural citizens rely on alternative sources, often powered by diesel-powered mini-grids<sup>xx</sup>.

The cost of generation varies from MMK 35 to 70 per kilowatt hour for hydropower and MMK 120 to MMK 130 per kilowatt hour for gas. On average, around 75% of the Ministry's customers use MMK 100 per kilowatt hour energy, and only 25% of the usage is by industry, which pays a higher price<sup>xxi</sup>.

## 1.5 POWER CONSUMPTION

Yangon, the largest city, accounts for 50% of national power consumption.

### REGIONS / STATES :

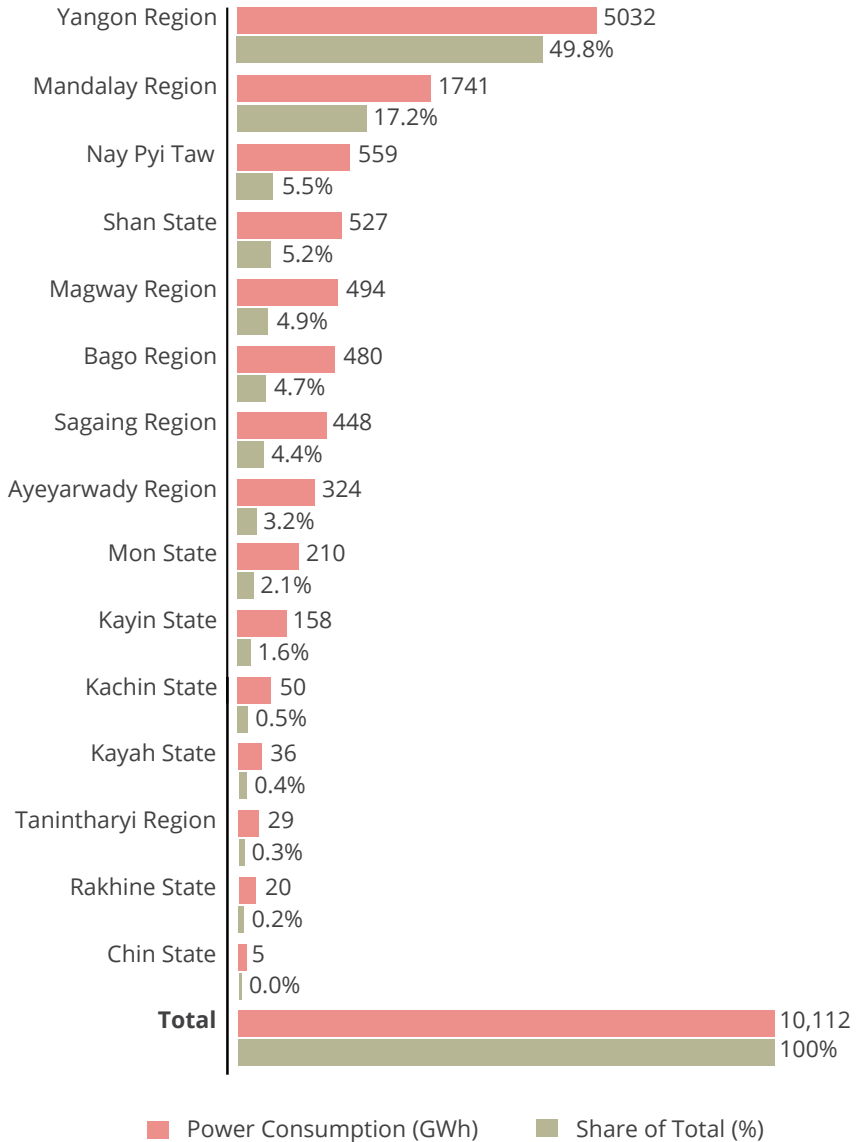


Table 5: Electricity Consumption in Myanmar  
 (Source: Ministry of Electric Power, 2013)



## 2 INVESTMENT OPPORTUNITIES

For an idea of investment opportunities in the energy sector, recent tender invitations by the Ministry of Electricity and Energy are posted at [http://www.moep.gov.mm/tenders\\_listing](http://www.moep.gov.mm/tenders_listing). Three recent tenders are detailed below.



## 2.1 INFORMATION ON TENDERS

### 2.1.1 Last Tenders in the Sector

The three recent tenders below are representative of many released in the last few years by the Ministry of Electricity and Energy. Details are provided purely as examples of investment opportunities.

### 2.1.2 Ministry of Electricity and Energy: Open Tender

Contract Name: Surge Arrester, Fuse, Transformer Accessories, Medium Voltage Cable & Low Voltage Cable (Accessories) for National Electrification Project

Tender opening date – 23 October 2017

Tender closing date – 12 December 2017

The Ministry of Electricity and Energy has received financing from the World Bank toward the cost of the National Electrification Project, and intends to apply part of the proceeds toward payments under the contract for Accessories for National Electrification Project.

The Ministry of Electricity and Energy invites bids from eligible bidders for supply of Accessories for MV overhead lines & distribution transformers, to be delivered in 2018 to multiple destinations in all Regions and States of Myanmar. Domestic preference with the margin of 15% will apply. The goods will be grouped into 7 lots and bidders may submit bids for any one or more lots.

LOT NO.	DESCRIPTION	AMOUNT (USD MILLIONS)
1	Accessories Package for Yangon	0.5
2	Accessories Package for Mandalay	1.0
3	Accessories Package for Kayin, Mon	0.3
4	Accessories Package for Kachin, Kayah, Chin, Sagaing and Nay Pyi Taw	2.5
5	Accessories Package for Bago(E)	1.5
6	Accessories Package for Ayeyarwady	1.5
7	Accessories Package for Rakhine, Shan(E), Shan(N), Shan(S), Magwe, Bago(W)	6.0

### 2.1.3 Ministry of Electricity and Energy: Open Tender

Contract Name: ACSR Conductors for National Electrification Project

Tender opening date – 11 May 2017

Tender closing date – 11 July 2017

The Ministry of Electricity and Energy invites bids from eligible bidders for the supply of ACSR Conductors – to be delivered in 2017 and 2018 to multiple destinations in all Regions and States of Myanmar.

NO.	DESCRIPTION	QUANTITY	REMARK
1	ACSR Conductor	10 lots across Myanmar	Minimum annual turnover of bidding firms must be USD 600,000 over the last 3 years.

### 2.1.4 Ministry of Electricity and Energy: Open Tender

Contract Name: Power Distribution Improvement Project Package 5: Cables and Conductors

Tender opening date – 18 April 2017

Tender closing date – 31 May 2017

The Ministry of Electricity and Energy (MOEE) has received financing from the Asian Development Bank (ADB) toward the cost of Loan 3084-MYA: Power Distribution Improvement Project. The MOEE intends to apply part of the funding to payments for the supply of Cables and Conductors for the Yangon Electricity Supply Corporation (YESC) in Yangon.

NO.	DESCRIPTION	REMARK
1	Cables and Conductors	Minimum annual turnover of bidding firms must be USD 7.5 million over the last 3 years.  Firm must have completed at least 2 similar projects worth >USD 1 million in last 3 years.



## 2.2 POTENTIAL OPPORTUNITIES FOR FOREIGN COMPANIES

The energy sector provides numerous opportunities for foreign companies. Before entering the market, it is important to analyse the competence of the existing competition: the local companies.

### 2.2.1 Strengths and Weaknesses of the Local Companies

The strengths of the local energy companies include the capability to understand the local work culture and business environment, as well as having close contacts with industry stakeholders, including government offices.

However, many often lack the capital, technical know-how and capabilities of international firms. Local companies need to expand their capacity and boost project management capacity to capture a bigger market share. Industry experts have pointed out that local companies should consider providing integrated services in the various fields of the energy sector. Technical and financial restraints limit the competitiveness of local companies when it comes to rivalling foreign players.

### 2.2.2 Opportunities for Foreign Investors

#### *Oil & Gas Sector*

There are plenty of investment opportunities for foreign investors both in the upstream and downstream sectors of the oil and gas industry. The downstream sector is relatively under-developed compared to the upstream sector; however, until recently, not every downstream business has been open to foreign investors. While the law only permits local players to engage in retail business, foreign players can enter into joint ventures with government agencies to take part in downstream activities, such as fuel storage and distribution. In recent years, several privatizations have taken place in the downstream sector. The following are some of the major privatizations that have happened in the oil & gas sector recently.

- Myanmar Petrochemical Enterprise (MPE), part of the Ministry, invited both local and foreign companies to tender for a joint venture project to operate and rehabilitate Thanlyin Refinery. Parami Energy Services Company was given the green light to run the project at a rent of Ks6.4 billion per year<sup>xxii</sup>;
- MPE, part of the Ministry, invited foreign investors to look at a joint venture to upgrade the ageing Nyaung Don Liquefied Petroleum Gas (LPG) plant;
- Myanmar Petroleum Products Enterprise (MPPE) invited foreign investors to express their interest to enter a joint venture with MPPE for the importation, storage, distribution and sale of petroleum products, except LPG and liquefied natural gas (LNG);
- Puma Energy was awarded a contract for the import and distribution of jet fuel in a joint venture agreement with MPPE of the Ministry of Electricity and Energy.

Many of the major opportunities in the downstream and upstream sectors have already been exploited by first movers. Many of the onshore and offshore blocks have already been contracted, and the Ministry in 2015 announced that no new offshore bidding rounds would be launched until 2016, as it would instead focus more on the development of the blocks that have recently been signed as PSCs. At the time of writing, the Ministry has not yet given any updates regarding the potential for a new bidding round in 2017.

### ***Power Sector***

With the ambitious goal of 100% electrification in 2030, the power sector also offers plenty of opportunities for foreign investors. Investment opportunities exist throughout the supply chain from power generation to transmission and distribution. They include infrastructure and equipment, security, risk analysis, training and skills accreditation, legal and professional services, health and safety analysis and services, as well as environmental and social impact assessment services. Given the technical problems and inefficiencies along the power distribution process, the government — especially the Yangon Regional Government — has been giving out operation and maintenance contracts to private players with the intention of achieving more efficient power distribution.



# 3

**3 GOVERNMENT RULES AND  
REGULATIONS ON FOREIGN  
INVESTMENTS**

The new Myanmar Investment Law (MIL) was signed in October 2016 and has been effective since April 1, 2017; the MIL combines the Foreign Investment Law (FIL) 2012 and the Citizens Investment Law 2013. The new investment law was created to attract both foreign and local investors by simplifying the application process and offering tax breaks, incentives, rights and protections for businesses.

The key points of MIL are:

Key Change	Description
Ease of Foreign Investment	Foreign Investors are permitted to own 100% of businesses which are not on restricted or prohibited lists.
Investment Screening	<p>An investor may submit an investment screening application to the Myanmar Investment Commission (MIC) for non-bidding guidance on whether a proposal investment:</p> <ul style="list-style-type: none"> <li>• Requires an MIC Permit application;</li> <li>• Requires Pyidaungsu Hluttaw (Union Parliament) approval prior to Permit issuance;</li> <li>• Is prohibited or restricted under the MIL and related notifications;</li> <li>• In a Promoted Sector under the MIL and related notifications.</li> </ul>
Devolution of Authority for Endorsement Application	Application with investments less than USD 5 million in non-strategic and non-restricted sectors will be handled at the State / Regional level, with close involvement of the State / Regional DICA officials.
Removal of Blanket Incentives	<p>Business may be granted tax exemptions if investments are in promoted sectors – the duration of tax exemption is contingent upon the areas in which business set up operations.</p> <ul style="list-style-type: none"> <li>• Less developed regions (Zone 1) granted 7 years of tax exemption;</li> <li>• Moderately developed regions (Zone 2) granted 5 years of tax exemption;</li> <li>• Adequately developed regions (Zone 3) granted 3 years of tax exemption.</li> </ul>
Long-term Land Lease possible beyond MIC Permit	Foreign investors may lease land for their business for up to 50 years (+ 10 years + 10 years with approval from MIC) with private landlords or government entities.

Key Change	Description
Compensation for Expropriation	<p>Expropriation of investments is allowed under the following conditions:</p> <ul style="list-style-type: none"> <li>(a) necessary for the public interest;</li> <li>(b) carried out in a non-discriminatory manner;</li> <li>(c) carried out in accordance due to process of law;</li> <li>(d) on payment of prompt, fair and adequate compensation.</li> </ul>
Grievance Mechanism	<p>MIC will establish and manage a grievance mechanism to inquire and resolve issues before escalation to legal disputes, and to prevent the occurrence of disputes.</p>

Under the MIL, a foreign investor is allowed to conduct business in Myanmar as a:

- 100% foreign-owned entity in permitted sectors;
- Joint venture with foreign, local, or government entities.

### 3.1 MYANMAR INVESTMENT COMMISSION (MIC)

Investors must submit a proposal to MIC only if the investments are:

- Activities essential to the national strategy;
- Large capital-intensive investment projects;
- Likely to cause a large impact on the environment and local community;
- Use state-owned land and buildings;
- Designated by the government as necessary to submit the proposal the committee.

### 3.2 UPCOMING LAWS

A new piece of legislation called the Myanmar Companies Act was submitted to the upper house of Parliament in July 2017 and will replace an older version of the Act drafted in 1914. The act will improve corporate governance by allowing:

- More flexible capital structures and changes to capital share;
- Foreign investors will be able to purchase shares in the Yangon Stock Exchange;
- Eliminate the requirement for foreign firms to obtain a permit to trade from DICA;
- Possibility to incorporate a one-person company with a unique director;
- Foreign investors will be able to obtain ownership interest up to a threshold of 35% in a Myanmar company before the company is considered a foreign company.

### 3.3 ENERGY-RELATED RULES AND REGULATIONS

Foreign investment in the oil and gas industry is subject to the approval of the Union Government and to further terms and conditions imposed by the Ministry of Electricity & Energy; the drilling of shallow oil wells up to the depth of 150m is specifically prohibited. The venture may also be subject to environmental impact assessments<sup>xxiii</sup>.

MIC Notification No. 15 / 2017 sets out the business activities based on their permitted forms of ownership.

#### 3.3.1 Activities Permitted 100% Foreign Ownership

The types of economic activities which are not included in the categories below can be carried out with 100% foreign investment. This requires the approval of the relevant Ministry, except for investments reviewed by the Myanmar Investment Commission (MIC).

#### 3.3.2 Activities Not Permitted by Foreigners

SECTOR		DESCRIPTION
OIL & GAS	Prospecting, exploration, feasibility study and production mineral for small and medium scale businesses in accordance with the Mines Law	These investment activities are not permitted to be carried out by foreign investors
	Refinement of minerals by medium scale and small scale	
	Drilling shallow oil wells (<150 m of water)	
ELECTRICITY	Control of electric power system Inspection of Electrical business	Only permitted to be carried out by the Union

### 3.3.3 Activities Permitted to be Carried Out in the Form of a Joint Venture with Myanmar Citizens

The following activities can only be carried out in the form of a joint venture with Myanmar citizens.

SECTOR		DESCRIPTION
OIL & GAS	Manufacturing and domestic distribution of chemicals based on available natural resources.	The foreign capital invested in a joint-venture between a foreign and Myanmar citizen (as opposed to the state) must not exceed 80% of the total investment amount.
	Manufacturing and domestic distribution of flammable solid, liquid, gaseous fuels and aerosol (acetylene, gasoline, propane, hair sprays, perfume, deodorant, insect spray).	This restriction does not expressly apply to joint ventures between a foreign investor and the state.
	Manufacturing and distribution of industrial chemical gases including compressed, liquefied and solid forms.	
ELECTRICITY	Power projects below 30 MW.	Projects under 30 MW are restricted for foreign investors, which means that the foreign investor can only hold up to an 80% ownership.
	Small and medium scale production of electricity.	

*Table 6: Activities with Restrictions for Foreign Investors  
(Source: MIC Notification 15 / 2017)*

### 3.3.4 Activities Permitted for Build-Operate-Transfer (BOT)

Hydropower and coal power electricity generation and trade is subject to the approval of the government, and can only be accomplished by a joint venture with the government or a BOT.

### 3.3.5 Activities Promoted by Myanmar

MIC Notification 13 / 2017 lists several promoted sectors. Investors in these sectors may benefit from tax discounts including exemption from corporate income tax, customs duties and the right to deduct depreciation / expenses from assessable income. Sectors relevant to energy include<sup>xxiv</sup>:

- Power generation, transmission and distribution;
- Production of renewable energy;
- Construction of road, bridge and railway line;
- Establishment of industrial zones;
- Supply and transport services;
- Science research development business.





# 4 CHALLENGES AND OUTLOOK

# 4

Ambitious goals have been set by the Ministry of Electricity and Energy for the development of the energy sector. Recent liberalizations initiated by the government to enhance the involvement of the private sector, as well as the master plan to alter the energy mix of Myanmar, and achieve the 100% electrification rate by 2030, prove that government sees the growth of the energy sector as critical for the country's development. Cooperation with the private sector will be integral for the Ministry to achieve these goals, and therein lies opportunities for European investors.

Reforms that could further stimulate foreign investment include the introduction of corporate governance, a concerted effort to tackle corruption, an upgrade to the currently weak rule of law, as well as an upgrade to the somewhat outdated regulatory framework for business. Nevertheless, new laws are being drafted and approved and the legislative outlook is positive in the long-run.

If the government could effectively address these challenges with the right policies, and create a more favourable investment climate, the energy sector could attract significant investment, bringing mutual benefits to investors, the government and the country more broadly.



# 5 INDUSTRY CONTACT INFORMATION

## 5.1 GOVERNMENT OFFICES

### Ministry of Electricity and Energy

The Ministry of Electricity and Energy is the focal body for the energy sector. Tender openings for public-private partnerships and other investment opportunities are made by the Ministry.

<b>MAILING ADDRESS</b>	Ministry of Electricity and Energy Building No. 6, Office Compound, Nay Pyi Taw
<b>CONTACT</b>	+ (95) 67- 411 060, 411 012

Yangon Electric Supply Corporation (YESC) is a government body under the Ministry of Electricity and Energy for the electric supply of Yangon.

<b>MAILING ADDRESS</b>	Lower Kye Myin Daing Road, Ahlone Tsp, Yangon
<b>CONTACT</b>	+ (95) 1- 215 043, 215 035, 229 144

### Ministry of Natural Resources and Environmental Conservation

For some investment opportunities that require an Environmental Impact Assessment, the role of the Ministry of Natural Resources and Environmental Conservation is vital.

<b>MAILING ADDRESS</b>	Director General Department of Forest Ministry of Natural Resources and Environmental Conservation Building No. 39, Office Compound, Nay Pyi Taw
<b>CONTACT</b>	+ (95) 67- 405 477, 405 015, 405 401, 405 399

## Ministry of Commerce

Exporting agricultural produce and importing products such as farm implements can only be done with an export / import license issued by the Ministry of Commerce. Trading licenses for most of the products are issued in Yangon.

<b>MAILING ADDRESS</b>	Director General Department of Trade Ministry of Commerce
<b>NAY PYI TAW OFFICE</b>	Building No. 3, Office Compound, Nay Pyi Taw + (95) 67- 408 002, 408 265, 408 485
<b>YANGON OFFICE</b>	228-240, Strand Road, Yangon + (95) 1- 251 197

The Customs Department is an arm of Ministry of Commerce.

<b>MAILING ADDRESS</b>	No. 132, Strand Road, Kyauktada Tsp, Yangon
<b>CONTACT</b>	+ (95) 1- 379 423, 379 426 to 9

## Ministry of Planning and Finance

The Directorate of Investment and Company Administration (DICA) and the Myanmar Investment Commission (MIC) are the focal bodies for incorporation of foreign businesses. Both fall under the authority of the Ministry of Planning and Finance. Companies need to be aware of procedural updates issued by the MIC in order to successfully navigate the legal aspect of investment.

<b>MAILING ADDRESS</b>	Director General Directorate of Investment and Company Administration Ministry of National Planning and Economic Development Building No. 32, Office Compound, Nay Pyi Taw
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**DICA**

No. 1, Thitsar Road,  
 Yankin Tsp, Yangon  
 + (95) 1- 658 143, 657 891, +(95) 67- 406 471

**MIC**

No. 1, Thit Saw Road,  
 Yankin Tsp, Yangon  
 + (95) 1- 657 891, 658 127 to 30

## 5.2. Business Associations’ Addresses and Phone Numbers

**ENTITY NAME**

Renewable Energy Association Myanmar (REAM)

**MAILING ADDRESS**

No. 160, 5th Floor (right), 2nd Thiri Avenue,  
 Ahlone Tsp, Yangon  
 (Project Office) Room( 8 ), Building No. 2, Anawratha  
 Housing Estate, Pazundaung Tsp, Yangon

**CONTACT**

+ (95) 1- 223 405, 212 486, 292 012

**EMAIL**

U Aung Myint (General Secretary)  
 am.ream@gmail.com

**ENTITY NAME**

Myanmar Petroleum Traders Association

**MAILING ADDRESS**

No. 29, 2nd Floor, Minyekyawswar Road, Yangon

**CONTACT**

+ (95) 1- 214 344, 214 349 (ext 107)

**EMAIL**

myanmar.mpta@gmail.com

# ANNEX

## 1 Offshore Oil and Gas Blocks

Block Code	Block Type	Block Location	Area (sq. km)	Year of Award	Lead Company	Origin
MD-3	Deep Water	Moattama Offshore	13,604	2014	No bids	No bids
MD-2	Deep Water	Moattama Offshore	10,803	2014	ENI	Italy
MD-1	Deep Water	Moattama Offshore	9,009	2014	No bids	No bids
AD-8	Deep Water	Rakhine Offshore	5,612	2007	CNPC International Ltd.	P.R. China
AD-1	Deep Water	Rakhine Offshore	2,706	2007	CNPC International Ltd.	P.R. China
AD-7	Deep Water	Rakhine Offshore	1,731	2007	Daewoo International Corporation	Korea
AD-6	Deep Water	Rakhine Offshore	1,190	2007	CNPC International Ltd.	P.R. China
AD-14	Deep Water	Rakhine Offshore	12,605	2014	No bids	No bids
AD-4	Deep Water	Rakhine Offshore	11,369	2014	BG	UK
AD-13	Deep Water	Rakhine Offshore	11,321	2014	No bids	No bids
AD-5	Deep Water	Rakhine Offshore	11,009	2014	BG	UK
AD-3	Deep Water	Rakhine Offshore	10,577	2014	Ophir	UK
AD-15	Deep Water	Rakhine Offshore	10,065	2014	No bids	No bids
AD-10	Deep Water	Rakhine Offshore	9,304	2014	Statoil	Norway
AD-2	Deep Water	Rakhine Offshore	8,444	2014	BG	UK
AD-9	Deep Water	Rakhine Offshore	8,061	2014	Shell	The Netherlands
AD-16	Deep Water	Rakhine Offshore	7,250	2014	No bids	No bids

AD-12	Deep Water	Rakhine Offshore	7,190	2014	No bids	No bids
AD-11	Deep Water	Rakhine Offshore	6,751	2014	Shell	The Netherlands
MD-6	Deep Water	Tanintharyi Offshore	7,505	2014	No bids	No bids
MD-5	Deep Water	Tanintharyi Offshore	6,787	2014	Shell	The Netherlands
MD-4	Deep Water	Tanintharyi Offshore	5,936	2014	ENI	Italy
MD-7	Deep Water	Tanintharyi Offshore	8,336	2013	PTTEP South Asia Ltd.	Thailand
MD-8	Deep Water	Tanintharyi Offshore	6,795	2013	PTTEP South Asia Ltd.	Thailand
A-7	Offshore	Unknown	8,127	2014	Woodside Energy (Myanmar) Pte Ltd.	Australia
YEB	Offshore	Tanintharyi Offshore	21,064	2014	Oil India	India
M-17	Offshore	Tanintharyi Offshore	14,530	2014	Reliance & United National Resources	India
M-10	Offshore	Tanintharyi Offshore	14,212	2014	CNOOC	China
M-16	Offshore	Tanintharyi Offshore	13,885	2014	Korea-Myanmar Development Corporation (KMDC)	South Korea
M-15	Offshore	Tanintharyi Offshore	13,586	2014	Canadian Foresight	Singapore
M-18	Offshore	Tanintharyi Offshore	12,779	2014	Reliance & United National Resources	India
M-12	Offshore	Tanintharyi Offshore	9,451	2014	Pateronas Caragali	Malaysia



M-14	Offshore	Tanintharyi Offshore	8,280	2014	Pateronas Caragali	Malaysia
M-13	Offshore	Tanintharyi Offshore	7,136	2014	Pateronas Caragali	Malaysia
YWB	Offshore	Tanintharyi Offshore	4,627	2014	Total	France
A-5	Offshore	Rakhine Offshore	10,872	2014	Chevron	USA
A-4	Offshore	Rakhine Offshore	8,376	2014	BG Asia Pacific Pte Ltd.	UK
A-2	Offshore	Rakhine Offshore	2,521	2014	Not found	Not found
M-7	Offshore	Moattama Offshore	14,285	2014	ROC	Australia
M-6	Offshore	Moattama Offshore	13,325	2014	Total	France
M-5	Offshore	Moattama Offshore	13,201	2014	Total	France
M-9	Offshore	Moattama Offshore	12,188	2014	Not found	Not found
M-8	Offshore	Moattama Offshore	11,454	2014	Berlanga Holding BV	The Netherlands
M-4	Offshore	Moattama Offshore	10,506	2014	Oil India	India
M-11	Offshore	Moattama Offshore	5,941	2014	PTTEP South Asia Ltd	Thailand
M-2	Offshore	Moattama Offshore	9,474	2008	Petro Vietnam Exploration Corporation Ltd.	Vietnam
A-6	Offshore	Rakhine Offshore	10,761	2007	MPRL E & P Pte. Ltd.	Myanmar
M-1	Offshore	Moattama Offshore	13,678	2007	Rimbunan Petrogas Ltd.	Singapore
A-3	Offshore	Rakhine Offshore	7,208	2004	Daewoo International Corporation	Korea
M-3	Offshore	Moattama Offshore	8,690	2004	PTT Exploration and Production Int Ltd.	Thailand
A-1	Offshore	Rakhine Offshore	2,839	2000	Daewoo International Corporation	Korea

Table 7: Offshore Oil and Gas Blocks  
(Source: *Opendevelopmentmyanmar, 2017*)

## 2 Onshore Blocks

Block Code	Block Type	Block Location	Area (sq. km)	Year of Award	Lead Company	Origin
EP-2	Onshore	Aunglan	1,418	2012	PTTEP South Asia Ltd.	Thailand
PSC-P	Onshore	Ayeyar-wady	11,573	2013	Not found	Not found
PSC-Q	Onshore	Ayeyar-wady	3,938	2013	Not found	Not found
MOGE-7	Onshore	Ayeyar-wady, Bago	1,021	2013	Not found	Not found
MOGE-6	Onshore	Ayeyar-wady, Yangon, Bago	10,754	2013	Not found	Not found
MOGE-5	Onshore	Ayeyar-wady, Yangon, Bago	10,003	2013	Not found	Not found
IOR-2	Onshore	Chauk Oil Field	1,073	1996	Gold Petro JOC Inc.	Indonesia
RSF-3	Onshore	Gwegyo-Nyashand-aung	1,746	2012	Petronas Carigali Myanmar Inc.	Malaysia
PSC-I	Onshore	Hinthada	3,492	2012	Jubilant Oil & Gas Pvt. Ltd.	India
IOR-5	Onshore	Htantabin	227	2013	Pateronas Caragali	Malaysia
PSC-A	Onshore	Hukaung	22,975	2008	JSC Nobel Oil	Russia
EP-5	Onshore	Inbin-Te-gyigon	441	2012	Istech Energy EP 5 Pte. Ltd.	Singapore
PSC-C1	Onshore	Indaw-Yenan	18,594	2013	Pacific Hunt	Canada
PSC-U	Onshore	Kalaw	7,708	2013	Not found	Not found
RSF-10	Onshore	Kan-ma-Nat-taung	1,544	2013	EPI Holding Ltd	Hong Kong
PSC-R	Onshore	Kayin State	3,471	2011	SNOG Pte. Ltd.	Singapore
Block Code	Block Type	Block Location	Area (sq. km)	Year of Award	Lead Company	Origin
EP-1	Onshore	Kyaukkyi-Mindon	1,218	2013	Brunei National Pateroleum	Brunei

PSC-M	Onshore	Kyaukpyu	10,448	2013	ENI	Italy
PSC-T	Onshore	Lashio East	7,277	2013	Not found	Not found
PSC-S	Onshore	Lashio-Hsenwi	6,157	2013	Not found	Not found
RSF-7	Onshore	Magway	2,181	2013	Not found	Not found
RSF-6	Onshore	Magway	1,861	2013	Not found	Not found
RSF-8	Onshore	Magway	1,793	2013	Not found	Not found
MOGE-8	Onshore	Magway	1,588	2013	Not found	Not found
RSF-4	Onshore	Magway	1,432	2013	Not found	Not found
IOR-1	Onshore	Magway	1,166	2013	Not found	Not found
RSF-1	Onshore	Magway	835	2013	Not found	Not found
MOGE-2	Onshore	Magway	285	2013	Not found	Not found
IOR-3	Onshore	Magway, Mandalay	488	2013	Not found	Not found
PSC-D	Onshore	Ma-hudaung	13,583	2013	Not found	Not found
PSC-V	Onshore	Mandalay, Shan, Kayin, Kayah	8,592	2013	Not found	Not found
MOGE-2	Onshore	Mann Oil Field	423	1996	MPRL E& P (PTE), Ltd.	Myanmar
PSC-J	Onshore	Mawlamyine	12,704	2013	Petroleum Exploration (PTE) Ltd.	Pakistan
EP-4	Onshore	Mayaman	861	2013	JSOC	Russia
IOR-6	Onshore	Myanaung	82	2013	MPRL	Singapore
PSC-E	Onshore	Myingyan	12,320	2012	Asia Orient International Ltd.	Russia
MOGE-4	Onshore	Myintha	932	2013	CAOG	Luxembourg
PSC-F	Onshore	Ngahlaing-dwin	5,064	2010	North Petro-chem Corporation Ltd., Myanmar	P.R. China
<b>Block Code</b>	<b>Block Type</b>	<b>Block Location</b>	<b>Area (sq. km)</b>	<b>Year of Award</b>	<b>Lead Company</b>	<b>Origin</b>
RSF-5	Onshore	Ondwe	1,402	2013	ENI	Italy

MOGE-3	Onshore	Padauk-pin-Natmi	1,251	2013	PTTEP South Asia Ltd.	Thailand
PSC-O	Onshore	Pathein	7,646	2013	Petroleum Exploration (PVT) Ltd.	Pakistan
RSF-9	Onshore	Pyalo-Paukkaung	2,680	2012	Geopetrol International Holding Inc.	Switzerland
IOR-4	Onshore	Pyay	275	2013	MPRL	Singapore
PSC-C2	Onshore	Shwebo-Monywa	30,137	2013	Not found	Not found
IOR-7	Onshore	Shwepyitha	279	2013	Pateronas Caragali	Malaysia
PSC-L	Onshore	Sittwe	11,735	2013	Not found	Not found
PSC-G	Onshore	Taungd-wingyi	6,265	2012	PTTEP South Asia Ltd.	Thailand
PSC-H	Onshore	Taungoo-Pyinmana	27,416	2013	Pacific Hunt	Canada
EP-3	Onshore	Thegon-Shwegon	1,763	2013	ONGC Machinery & Solutions	India
RSF-2	Onshore	Tuyintaung (Myaing South)	1,139	2012	Petronas Carigali Myanmar Inc.	Malaysia
PSC-B1	Onshore	Uyu	15,542	2013	Not found	Not found
PSC-K	Onshore	Yamethin	7,056	2013	Not found	Not found
MOGE-1	Onshore	Yenang-yaung Oil Field	873	1996	Gold Petro JOC Inc.	Indonesia
PSC-B2	Onshore	Ze-byutaung-Nandaw	18,640	2013	ONGC Machinery & Solutions	India

*Table 8: Onshore Oil and Gas Blocks  
(Source: Open Development Myanmar, 2017)*

### 3 Installed Capacity of Coal, Gas and Diesel Power Plants

Coal-Fired Power Plant			
No.	Plant	Installed Capacity (MW)	Commerical Operation Date
1	Tygit	120	2005
Gas-Fired Power Plant			
Ministry of Electricity and Energy Owned Power Plants			
1	Kyung Chaung	54	1974
2	Myan Aung	35	1975
3	Ywama (CCPP)	70	1980
4	Mann	37	1980
5	Shwe Taung	55	1982
6	Thahton	51	1975
7	Thaketa (CCPP)	92	1990
8	Ahlong (CCPP)	154	1995
9	Hlawga (CCPP)	154	1996
10	Ywama (240)	240	2014
	Subtotal	942	
Independent Power Producer-Owned Power Plant			
1	Toyo Thai	121	2013
2	MCP	54	2013
3	Max Power	50	2013
4	UPP	52	2014
5	Myanmar Lighting	230	2014
6	Kanbauk	6	2015
7	Thaketa CIC	54	2015
	Subtotal	452	
Rental			
1	APR	110.6	2014
2	V-Power	100	2015
3	Aggreko	103	2015
	Subtotal	314	
	<b>Total Gas</b>	<b>1,824</b>	

Table 9 Installed Capacity of Coal, Gas and Diesel Power Plants  
(Source: Ministry of Electricity and Energy, 2016)

## 4 Installed Capacity of Large (>10 MW) Hydropower Projects

Installed Name of Hydropower Station capacity [MW]	MW	Category	Storage capacity	Storage capacity [Unit]
Ba Luchang No. 1	28	Run of River	/	
Ba Luchang No. 2	168	Run of River	/	
Ba Luchang No. 3	52	Run of River	/	
Kinda	56	Irrigation	1,078	mm <sup>3</sup>
Sedawgyi	25	Irrigation	/	
Zawgyi No. 1	18	Run of River	/	
Zawgyi No. 2	12	Irrigation	639	
Zaung Tu	20	Storage	620	mm <sup>3</sup>
Thapanzeik	30	Irrigation	/	
Mone	75	Storage	53	GWh
Yenwe	25	Storage	67	GWh
Kabaung	30	Storage	1,084	mm <sup>3</sup>
Shweli No. 1	400	Run of River	/	
Keng Taung	54	Run of River	/	
Yeywa	790	Storage	322	GWh
Shwegyin	75	Storage	114	GWh
Dapein No. 1	19	Run of River	/	
Kun	60	Storage	205	GWh
Kyeeon Kyeewa	74	Irrigation	571	mm <sup>3</sup>
Upper Paunglaung	140	Storage	1,300	mm <sup>3</sup>
Nancho	40	Run of River	/	
Lower Paunglaung	280	Storage	71	GWh
Phyuu Chaung	40	Storage	780	mm <sup>3</sup>
Chipwi Nge	99	Storage	1.23	mm <sup>3</sup>
Thaukyegat II	120	Storage	51	GWh
Mong Wa	60	Storage	65	mm <sup>3</sup>
Myogyi	30	Storage	593	mm <sup>3</sup>
<b>Total</b>	<b>2,820</b>			

Table 10: Installed Capacity of 27 Large (>10 MW) Hydropower Projects (Source: Ministry of Electricity and Energy, 2016)

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## TRUSTED SERVICE PARTNERS

# Luther.

Level 8, Unit #1, Uniteam Marine  
Office Building,  
No. 84, Pan Hlaing Street, Sanchaung  
Township, Yangon, Myanmar  
Phone: +95 1 500 021  
[www.luther-lawfirm.com](http://www.luther-lawfirm.com)  
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Active in Myanmar since 2013, with a current staff strength of more than 45, Luther is one of the largest law firms and corporate services providers in Yangon. Our lawyers, tax advisors and corporate secretaries cover the whole range of corporate and commercial legal work as well as the structuring of investments into Myanmar. Accounting, payroll, tax-compliance and administrative support are provided by our internationally trained accountants and tax consultants.



Pun Hlaing Estate Leasing Office Pun Hlaing Estate,  
Pun Hlaing Golf Estate Avenue, Hlaing Tharyar Tsp.  
Yangon, Myanmar.  
Ph + 95 1 3 687777  
[www.punhlaingestate.com](http://www.punhlaingestate.com)

Pun Hlaing Estate is a beautifully landscaped oasis of luxury estate homes and spacious apartments located by the Hlaing and Pan Hlaing rivers and built around one of Myanmar's most prestigious golf courses. Contemporary and elegantly designed with large panoramic windows to afford an excellent view of the lush landscaping and greenery, a home in Pun Hlaing Estate is a breath of fresh air away from the city.



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A1 building, StarCity, Thanlyin Tsp.  
Yangon, Myanmar.  
Ph + 95 9 79533620  
<http://starcityyangon.com>

Prefer a high-rise residence? StarCity, located in Thanlyin Township, is ideal for your sky-high aspirations. Planned to anticipate every need, the amenities, facilities and retail spaces form a community within a community, the first of its kind in Myanmar. Its prime location ensures convenient access and a short commute for professionals – a 25-minute drive from downtown Yangon, and only ten minutes to Thanlyin Town.



**European Chamber of Commerce in Myanmar**  
271–273 Bagayar Street  
Sanchaung Tsp, Yangon, Myanmar



+95 9 45058 2335



[info@eurocham-myanmar.org](mailto:info@eurocham-myanmar.org)



[www.eurocham-myanmar.org](http://www.eurocham-myanmar.org)



[eurocham.myanmar](http://eurocham.myanmar)



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