

GROWING BUSINESS THROUGH REGULATION

Golden Triangle

March 2016



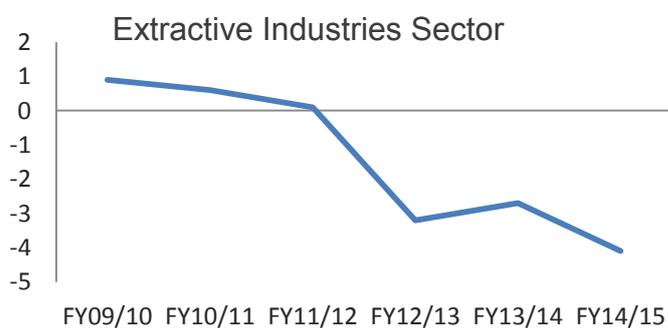
N Gage Consulting

Public Strategy and Government Relations Specialists

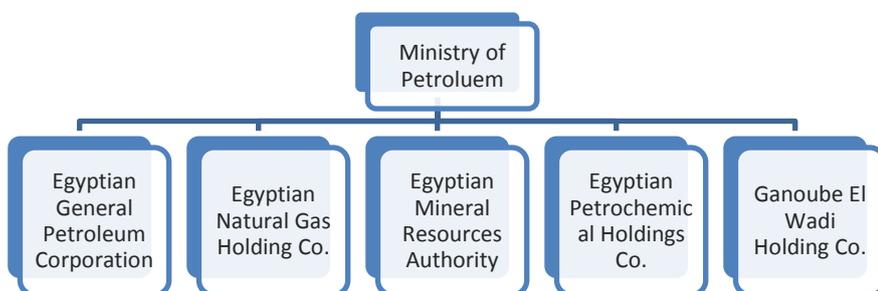
Mining Sector Overview

Egypt's mining sector has a large collection of mineral resources with untapped potential. In 2013, Egypt was Africa's second largest crude steel producer after South Africa and the world's eighth largest producer of direct reduced iron. In addition, Egypt was a key producer of nitrogen fertilizer, phosphate rock, and cement. Mineral-based and metal commodities produced by companies in Egypt included secondary copper, gold, direct reduced iron, ferroalloys, iron ore, crude steel, tin, manganese, and aluminum. Industrial minerals produced by Egypt included basalt, barite, dolomite, granite, fluorspar, sandstone, limestone, marble, salt, quartz, sulfur, and sand. Production of fuel minerals included crude oil and condensate, coal, and natural gas.

Throughout the year, the extractive industries sector has been a driver of growth for the Egyptian economy, however, since 2011 the sector has been underperforming. The extractive industries sector recorded growth rates of -2.7% and -4.1% in FY 2013/14 and 2014/15 respectively. However, in FY 2014/15 the sector received 15.5% of the total investments. The contribution of the sector to economic growth in FY 2014/15 stood at -17.3¹.



Source: Ministry of Planning



The structure of the mineral industry in Egypt is mixed in terms of ownership, it includes public, private, and state owned companies. Egypt's industrial minerals, mineral fuel, and metals industries are managed mainly by the Ministry of Petroleum. The Egyptian Armed Forces and Governorates also have partial control over the mineral resources².

Regulatory Framework

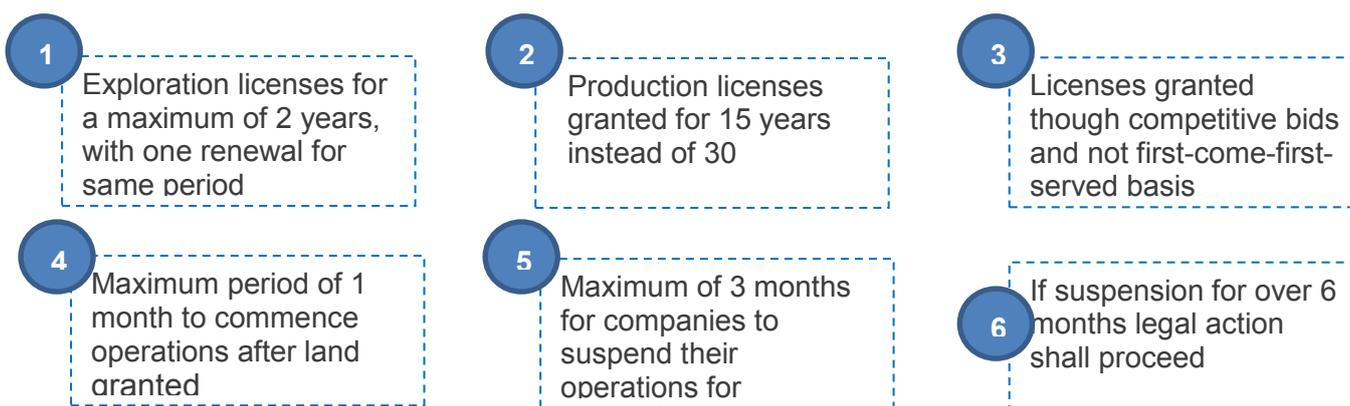
The new law for mineral resources is a step to revise laws that have been in place since the 1950s. The new mining law No. 198 of 2014 was publicized by a Presidential Decree on the 9th of December 2014 replacing the precedent law No. 86 of 1956. The law is applied on mining, quarries, salt beds, and ores. The new mining law does not cover petroleum and natural gas materials, for both materials are regulated by law No. 66 of 1953.

¹ Ministry of Planning

² 2013 Minerals Yearbook: Egypt

The scope of the new mining law is applied to previous agreements made prior to its, however if the new law conflicts with a previously made agreement, the agreements prevail. Existing licenses for exploration granted before this law are valid and shall remain in force.

The new law proposes a critical regulatory policy concerning rent value, royalty rates, and license fees. The law claims that the regulatory authority for mining and exploration is the Egyptian Mineral Resources Authority (EMRA), and it is the sole competent body for the subject matter. The competent Minister will grant two types of licensing, one for exploration and another for production only to be approved by EMRA. Licenses for quarries and salt beds need to be approved by officials from the governorate. However, all license finalizations will have to be approved by EMRA.



The new mining law will allow space for the authorities to renegotiate rent value every four years, only if the rent value is increasing given certain externalities and only with the Prime Minister's approval. The new law disclaims the old fixed royalty approach, and turns into an updated modern approach, that is a percentage calculated on the basis of annual production. This will increase the government's royalties for mining operations. In addition, a minimum royalty of 5% of the production proceeds given to EMRA, and 1% to the governorate of which the mining companies are operating within. The 1% royalty shall be directed towards social development investments within the governorate.

The terms and regulations of the new mining law show the government's willingness to grant licenses to companies who are willing to operate for growth under a compliant framework. The laws of the mining resources has not been revamped for decades, and the actions taken by the government in 2014 show its modernized intentions to open up different opportunities for extracting the country's treasures hidden under its soil.

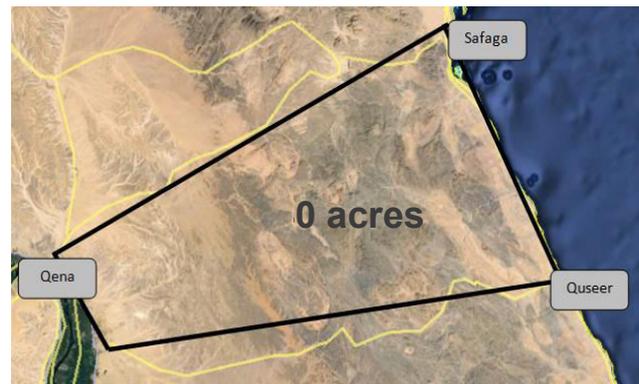
The EMRA is responsible for conducting mineral explorations, geological mapping, and issuing permits. The Authority's strategy include exploiting 60% of Egypt's mineral reserves within the next 30 years, while leaving the reaming 40% untapped. The EMRA estimates Egypt's major mineral resources to include 1.25 Gt of phosphate rock, 5 billion metric tons (Gt) of silica sand, 900 metric tons (Mt) of iron ore, 1 Gt of feldspar, 150 Mt of bentonite, and 224 Mt of heavy metals. The EMRA also estimates the presence of large amount of quarrying resources such as 200 Gt of clay, 4.2 Gt of dimension stone, 586 Gt of limestone, 1 Gt of gypsum, and 1.2 Gt of dolomite³.

³ 2013 Minerals Yearbook: Egypt

During the first 15 days the House of Representatives convened, they were tasked with passing 292 laws, one of them was the Mining Law No. 198/2014. At first the parliament voted down the law with 180 rejections, 164 approvals, and 14 abstentions. During the EEDC in 2015, Prime Minister Sherif Ismail set out to make mining account for up to 10% of the GDP. After a memorandum was submitted to the parliament entailing the implication of the rejection of the law and the losses that may result, the House of Representatives re-voted to pass the law.

The Golden Triangle Project

Upper Egypt's mineral resources will be tapped into in order to advance the region through the Golden Triangle mega-project. The Golden Triangle is the second largest development project run by the Egyptian government after the Suez Canal. The project aims to establish a new industrial city through assembling a global mining, commercial, agricultural, touristic, industrial, economic, and basic infrastructure zone.



The Golden Triangle project is set on 840 acres, located between Qusayr from the south, Safaga from the north, and Qina from the west. The site of the Golden Triangle offers plenty of advantages for Egypt. The location is on the world trade route and is linked to the Nile River, which qualifies it to be transformed into a key trade and logistical hub. The area between Qusayr, Safaga, and Qina is filled with untapped mineral wealth, including limestone, phosphate rocks, glass sand, shale rocks, and gold. The existing residential cities offer the availability for labor and housing capacities. The area can be developed into a touristic destination, with beaches in Safaga and Qusayr, or the areas nearby in Hurghada, El Gouna, and Marsa Alam. The Gold Triangle Area already has basic infrastructure, railroads between Qina and Safaga, three ports: Qusayr, Safaga, and Al Hamrawen, three airports: Luxor, Hurghada, and Marsa Alam, and roads, Safaga-Qina, Qusayr-Koft, Marsa Alam-Edfo and the Red Sea Road, which will support in the swift development of the economic zone.

65% of the project will be composed of modern industrial hubs, whilst 35% will be residential, commercial, and touristic. A ministerial committee has been formed to study the economic activities that will be established in the area, in addition to four sub-committees for mining, tourism, urban planning, and transportation to conduct the feasibility studies of the project. The ministerial committee is headed by the Prime Minister and includes the Ministers of Tourism, Trade and Industry, Investment, Planning, Local Development, Housing, Petroleum, and Transportation, the Governors of the Red Sea and Qina, and representatives from the Ministry of Defense and the National Center for Planning State Land Uses⁴.

⁴ Ministry of Trade and Industry: The Golden Triangle Project in Upper Egypt, January 2014

Main features of the area:

- The project area encompasses plenty of valleys that represents fertile land for the agricultural sector, and therefore it signifies a naturally developed area for the project
- The formation of mountain ranges and coastal bays are great recreational tourist attractions
- The area faces several natural disaster risks, including earthquakes and floods, which must be taken into consideration with the distribution of development projects
- The environmental conditions provide high intensity of solar radiation, which can lead to generating new sources of energy, like renewable and wind.

After creating feasibility studies, the four sub-committees reported their outcomes.

MINING COMMITTEE:

The mining committee reached the conclusion that a total of 44 factories with a total cost of EGP 35.3 billion and expected annual revenues of EGP 24.5 billion.

1.1 billion tons of phosphate rocks allows the establishment of 16 factories with a total cost of EGP 12.3 billion and expected annual revenues of EGP 11.4 billion:

For mining and treatment: 8 factories with a total cost of EGP 1.5 billion and expected annual revenues of EGP 2 billion

Production of phosphoric acid: 4 factories with a total cost of EGP 7.2 billion and expected annual revenues of EGP 4 billion

Production of phosphatic fertilizers: 4 factories with a total cost of EGP 3.6 billion and expected annual revenues of EGP 5.4 billion

230 billion tons of limestone allows the establishment of 14 factories with the total cost of EGP 4.7 billion and expected annual revenues of EGP 3.6 billion

For mining and treatment: 10 factories with a total cost of EGP 500 million and expected annual revenues of EGP 1 billion

Cement production: 4 factories with a total cost of EGP 4.2 billion and expected annual revenues of EGP 2.6 billion

1.5 billion tons of glass sands allows the establishment of 10 factories with a total cost of EGP 4.1 billion and expected annual revenues of EGP 3.7 billion

For mining and treatment: 4 factories with the total cost of EGP 500 million and expected annual revenues of EGP 400 million

Production of glass and crystal: 4 factories with a total cost of EGP 2.4 billion and expected annual revenues of EGP 1.4 billion

Production of silicon chips: 2 factories with a total cost of EGP 1.2 billion and expected annual revenues of EGP 1.9 billion

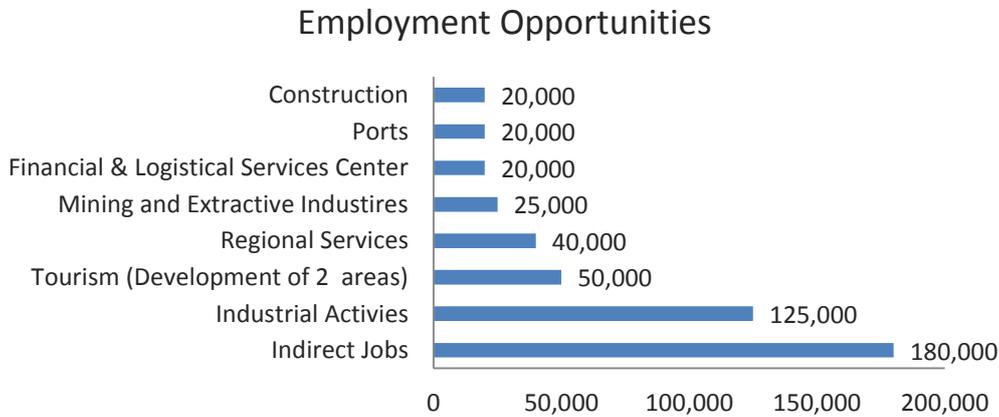
2000 tons of gold allows the establishment of 4 factories with a total cost of EGP 14.2 billion and expected annual revenues of EGP 5.8 billion.

For mining and treatment: 3 factories with a total cost of EGP 10 billion and expected annual revenues of EGP 2.1 billion

For refining and filtering: 1 factory with a total cost of EGP 4.2 billion and expected annual revenues of EGP 3.7 billion

URBAN PLANNING COMMITTEE:

The urban planning committee concluded that the following are the targets for upcoming 20 years:



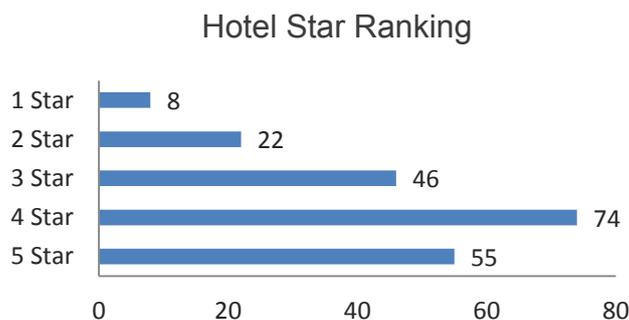
The development of the area within the Golden Triangle is estimated to create a total of 480,000 jobs, with 240,000-288,000 of the labor residing there. In addition, it is estimated that the total number of inhabitants to reach 1.1 million.

Furthermore, the committee proposed to develop the following areas for housing:

- New Qina City
- Extension of Qusayr (part of the re-planning of the City)
- Extension of Safaga (part of the re-planning of the City)
- New urban communities

TOURISM COMMITTEE:

The Tourism Committee scanned the cities of Hurghada, Safaga, Qusayr and Marsa Alam and found the presence of 205 hotels, with an estimated 71,000 rooms and 135,500 beds.

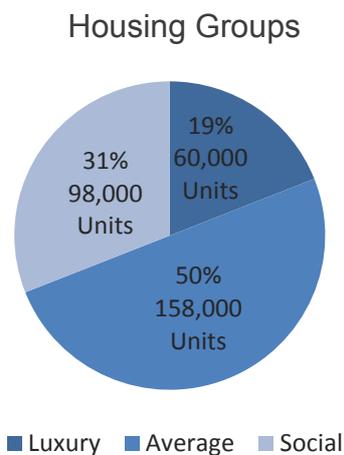


The following recommendations were suggested by the Tourism Committee:

- Cinemas, amusement parks, and retail complexes in Hurghada, Safaga, Qusayr, and Marsa Alam
- Exhibitions, museums, aquariums, and sports centers in Hurghada, Safaga, Qusayr, and Marsa Alam
- Diving centers in Hurghada, Safaga, and Qusayr
- Safari companies in Hurghada, Qusayr, Safaga, Qusayr, and Marsa Alam
- Repair Facilities for ships in Hurghada, Qusayr, Safaga, Qusayr, and Marsa Alam
- International conference center in Hurghada
- Hospitality school or institute in Hurghada and Qusayr⁵

TRANSPORTATION COMMITTEE:

The Transportation Committee concluded that the network of roads and airports in its current state and after the planned gradual expansions can accommodate for the transportation and distribution of the goods manufactured in the zone, either in the domestic market or for exportation.



150 km of the **Qena-Safaga Railroad** to operate 6 trains/day with 35 carts each with a total capacity of 7000 tons/day

Expansion of the **Safaga Port** to bring its total capacity to 40 million tons

Expansion of **Abu Tartoor Port** as part of the Safaga Port

Expansion of **Al Hamrawen Port**

The Tender

Based on the findings of the technical committees, the Ministerial Committee proposed to elaborate a master-plan that has mining, industrial, housing, agriculture, infrastructure development and tourism-related activities. The government has invited 21 international

⁵ Ministry of Trade and Industry: The Golden Triangle Project in Upper Egypt, January 2014

consulting firms to bid for developing the Golden Triangle master-plan, 7 expressed interest and 3 presented offers. On March 11, 2015 former Egyptian Prime Minister Ibrahim Mahlab signed a contract with winners of the bid, the Italian consultancy firm, D'Appolonia. The consultancy firm is mandated with studying the viability of the plans and is scheduled to present its report by February 2016. This is a big step and a significant leap for the Egyptian economy as a new wave of developments is approaching, especially in Upper Egypt. The planning will be led by D'Appolonia, working with USA J.T. Boyd mining experts and Dutch industrial development Ecorys. The aim is to create sustainable economic development while preventing and withdrawing the destruction of the local ecosystem⁶.

About D'Appolonia

D'Appolonia is an expert in engineering services such as consulting engineering, project management and control, special studies, operability assurance, and design. The firm mainly operates in the markets of transport, infrastructure, and energy, which make them a perfect match for the Golden Triangle project. Moreover, the firm offers technical capabilities that cover all environment, health, safety, geoscience, and innovation aspects. With a staff of over 700 scientists, engineers, and experts located in 20 offices around the world, D'Appolonia offers high-quality services to promoters, investors, operators, and contractors.

"Egypt's Golden Triangle offers the possibility to exploit phosphate for fertilizers projects, raw materials for the cement industry from shale and limestone, gold ores and gasoline production from oil shale and wind energy. Our expertise will be focused on developing a plan which will produce the economic benefits which Egypt needs while protecting the environmental and social aspects of the area. One of the industrial 'quick wins' transferred to Egypt will be the arrangement in clusters using facility managers with land leased to investors based, as an example, on a value chain approach applied to the exploitation of construction material or to phosphates for agro-industry"

Roberto Carpaneto
CEO D'Appolonia

⁶ D'Appolonia

Potential and Current Developments:

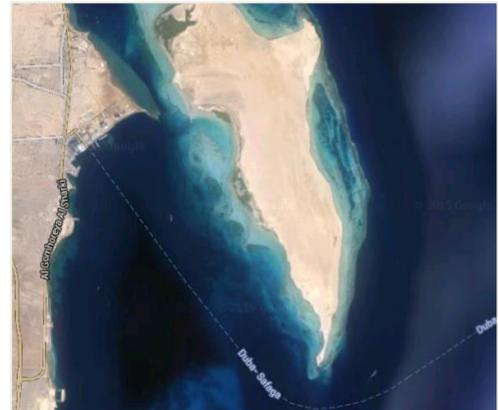
A new mining law, declaring the area as a Special Economic Zone, and awarding the project consultants to draft a master plan are all key developments that need to be monitored. However, there are other key milestones that are happening with a slower pace, such as infrastructure developments within and near the Golden Triangle. Safaga issued tenders for

infrastructure developments, including desalination projects and power generation projects funded by the European Bank for Reconstruction and Development (EBRD) to develop the region. The Safaga desalination

project is under the Public Private Partnership (PPP) program developed by the Government of Egypt (GoE), which is now leading the way in offering mega-projects for investments. The Safaga desalination project is expected to have an investment cost worth EGP 450 million, in addition to another desalination project in the southern coast of the Red Sea. The Hurghada desalination plant is significant as well, as it aims to have a total capacity of 400,000m³/day. The project's investment cost is estimated to be around USD 52 million. The pre-feasibility study which was finalized in March 2015 was financed by the European Union and made by Atkins UK.

The Safaga mining port, which is expected to have vessel capacity of 60,000 tons, was issued as a tender for developing an industrial port focusing on mining. The first phase of the project is the construction of the infrastructure necessary to expand the port and its activities. The second phase will involve the operational aspect of the port. The project is estimated to have an investment cost of EGP 3.8 billion, with the EBRD to finance consultancy, and the International Finance Cooperation (IFC) as the transaction advisor.

The GoE's strategy is to develop the neglected areas along the Red Sea coastline. The Suez Canal development project aims towards upgrading the infrastructural and industrial capabilities of cities like Port Said, Ismailia, Suez, Ain Sokhna, and Al Tor City in Sinai. The

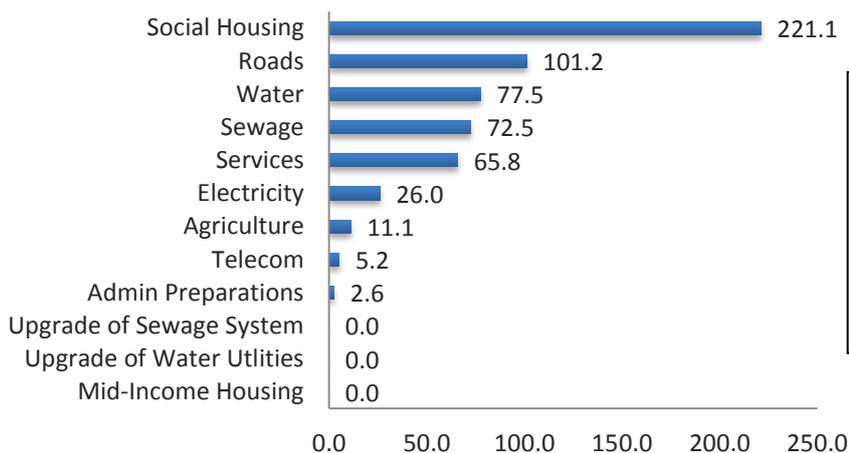


The upgrade will include a new building for passengers, increase parking capacity, and the total renovation of the port to accept 1 million passengers a year

Golden Triangle is a continuation of the plan, going further south to cities like Marsa Alam, Safaga, and Qusayr. As the government tries to revive its tourism sector, the cities south of Ain Sokhna all the way down to Marsa Alam can become major tourist destinations.

It is necessary for the variation of energy sources to include an increase in natural gas and coal to generate electricity in the area to reduce the costs of electricity, which will be an incentive for investments. This calls for the extending of the natural gas line from Qina till Safaga and the strengthening of the electricity networks in the area. This can be done by expanding the usage of solar power and solar cells to the general electricity network in addition to other uses like homes, factories, and large farms for economic utilization. It is essential to manufacture most of the equipment used for renewable energy, with the use of mineral products formed in the region to reduce the cost and with the possibility of exporting to other sites. The establishment of desalinization units to increase the amount of fresh water, as there is a deficit of fresh water for industrial usage. Also, it is important for the usage of treated sewage and industrial waste for growing more energy plants to create biofuel. If all housing units and infrastructures are provided with solar water heating and cells, it will save energy and reduce the demand on depleting petroleum resources⁷.

Budget allocated by the New Urban Communities Authority (NUCA) for New Qina's infrastructure (EGP million)



Social housing, roads, and water related infrastructure are of the highest priority as the city is planned to accommodate workers at the Golden Triangle Project and other workers in the region.

⁷ Ministry of Housing in association with the General Organization for Physical Planning; The Development of the Golden Triangle Project

Planned/un-awarded projects for the tourism sector in proximity to the Golden Triangle:

Marsa Wazar Tourist Center

- 1.5 million sqm land lot
- 3.2 km of coastline
- Waterdepth of an estimated 668 meters
- Available basic infrastrucutre, with roads connecting the site with Al Qusayr and Hurghada from the north, and Port Ghalib and Marsa Alam to the south

Waterfront Festival World Complex

- Located in already established resort city of Sahl Hashish
- 18 km south of Hurghada
- 624,000 sqm including residential, commercial, hospitality, and entertainment facilities
- Investment cost of USD 450 million
- Projected 3 years for project completion

Port Ghalib Extension

- Development of the Lagoon Valley project that includes real-estate, commercial, and hospitality developments
- EGP 1.4 billion of equity investment needed
- Establishing a wind farm with a capacity of 20MW – 24 wind turbines with an investment cost of EUR 28.7 million
- Establishing a medical center for orthopedic surgery operated by the Medical University of Vienna with a capacity of 250 beds.

THANK YOU

For more info please contact us

Address:

Nile City Towers – North Tower 22nd Floor
Ramlet Boulak, Corniche El Nil 11624, Cairo,
Egypt

Phone: +202-24618583

Fax: +202- 24618501

info@ngage-consulting.com

www.ngage-consulting.com