



Improving the infrastructure contributes to economic prosperity and society welfare.



#### Chairman Introduction

Peace be upon you,

With the Middle East witnessing enormous economic growth and remarkable steps towards sustainable development, we have the ambition and true will to become one of the contributors in developing and improving the infrastructure in our country "Iraq".

MGH continues to strive in helping to advance the economy of the region and provide people with better life style. We believe in the capability and experience of our employees to achieve the aims, and proud with our contribution to the economic progress of our country. We pray to GOD to bless our effort to achieve these goals.

Ahmed Ismael Saleh Chairman of the Board



















#### Mass Group Holding (MGH)

MGH Consists of the following Daughter Companies:

- Erbil Gas Power Station EGPS / 1500MW
- Suleimaniah Gas Power Station SGPS / 1500MW
- Duhok Gas Power Station DGPS / 1000MW
- Baghdad Gas Power Station BGPS / 3000MW
- Cement Factory (Bazyan, Kurdistan)
  with a capacity of (6) million tons per year.
- AlShemal Cement Factory (Atbara, Sudan)
   with a capacity of (2) million tons per year.
- Iron & Steel Factory 1,25 million tons per year.
- Real Estate Mass City

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### Mass Group Holding (MGH)

#### **Task & Vision**

Our Company, Mass Group Holding Ltd (MGH) is focusing its activities on Four key areas:

- 1 Power Generation
- 2 Cement Production
- 3 Steel & Iron Production
- 4 Real Estate Mass City

In power generation field, the current total production capacity of our three Build, Own and Operate (BOO) power stations in Kurdistan Region of Iraq is 4000 MWs. The group started to establish another (BOO) power station in the capital Baghdad with a capacity of 3000 MWs and is adding another 500 MWs in Duhok.

After completing those two additional projects, the total production capacity will be increase to 7500 MWs.

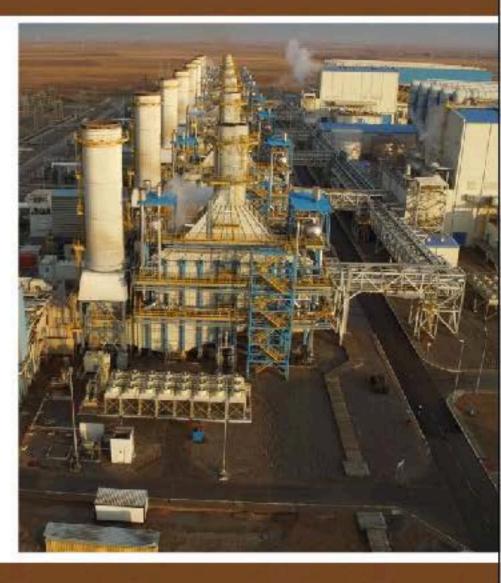
Cement production field, the current annual production capacity is around 8 million tons per year.

Steel and Iron production field, the current annual production capacity is 1.25 million tons per year.



Electricity was introduced to Iraq in 1917 and the first electricity generator was set up at the Khan Dallah building. Generating electric power was limited to diesel engines with a low voltage of 220 volts, using direct current (CD). Diesel engines were later installed in different parts of Baghdad to provide lighting, including Palace area for the palace building and AlQashlah, Shari'at Al-Majidiyah, for hospitals at Bab Al-Mo'atham, and Karradat Maryam, for the camps including Al-huneidi Camp, (called Al-Rasheed thereafter)

## Erbil Gas Power Station (EGPS),1500 MW



Located in the south of Erbil Governorate in Kurdistan Region (North Iraq), about 22 Km from Erbil city center.

The Power Station is built on an area of 750,000 m<sup>2</sup>, consists of eight Frame 9E GE gas turbines with rated capacity of 125MWs each, in addition to two GE-C7 steam turbines with rated capacity of 250MWs each. The total capacity of the plant is 1500MWs.

This project was started in 2007 when the first basic foundation was lied in January 2007, then the Civil work started on 18th Feb. 2007 then installation work began in June 2007.

The first gas turbine of the First Phase of the project which consisted of 4 units, was operated on 23rd May 2008.

In 2011 the Second Phase of the project started by adding another 4 units, doubling the number of gas turbines to eight units and bringing the total capacity to 1000MWs.

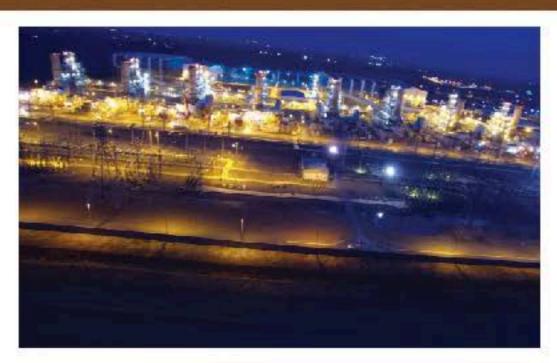
As the Third Phase of the project, MGH started converting EGPS into a combined cycle which added 500MWs to plant capacity. The ground-breaking ceremony for the Combined Cycle project took place on 5th July 2012.

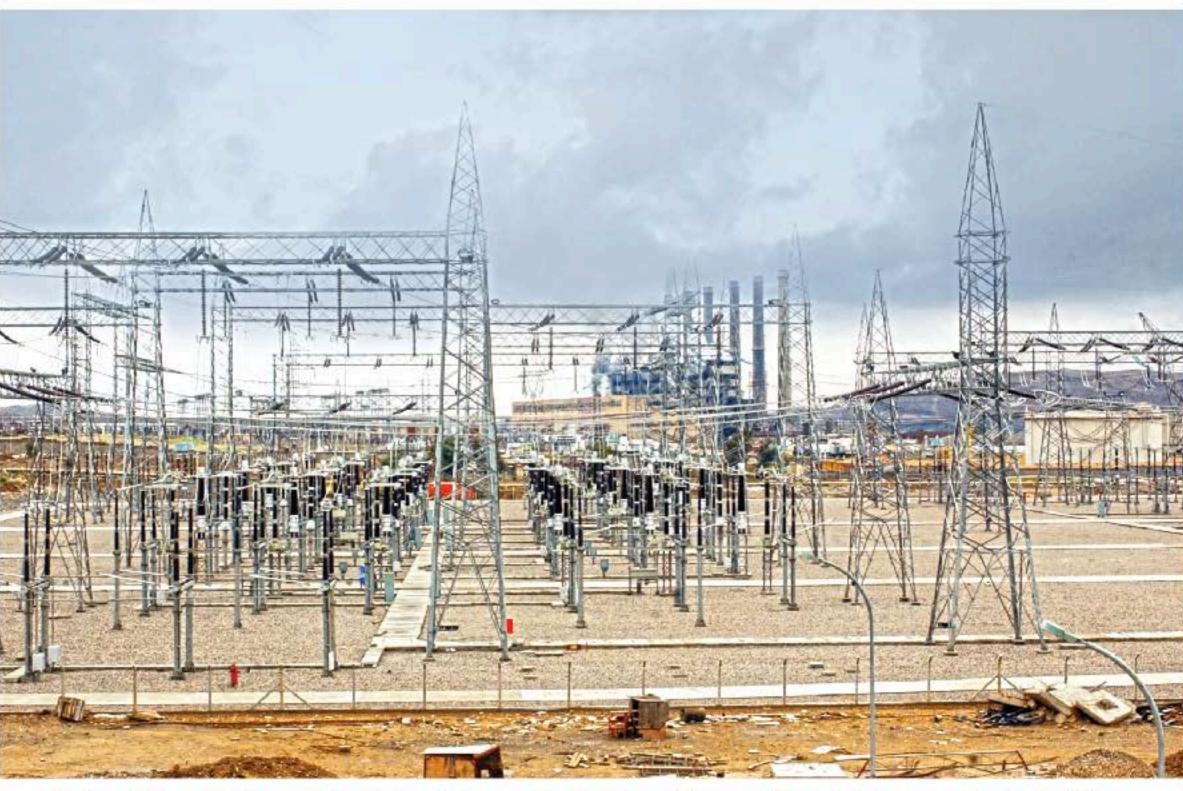
The project utilizes the gas turbine exhaust heat emissions to produce steam in Heat Recovery Steam Generators (HRSG) which is used to generate electricity in two steam turbines. This process increases the production efficiency without using extra fuel. It also reduces the amount of CO<sup>2</sup> emissions and hence saves the environment of combustion emissions.

The electricity Produced is exported via a dozen high voltage lines connected to the national grid in Kurdistan region. Now after the completion of the combined cycle, the plant capacity is raised to 1500MWs.

EGPS became the first combined cycle power plant in Iraq and the biggest power plant in production capacity in Kurdistan region of Iraq.

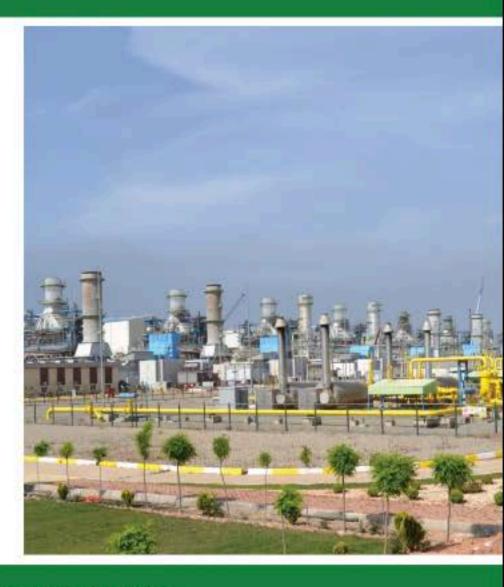






In the 1918, a certain quantity of electricity was distributed to citizens to light their homes and other buildings, thereby increasing demand for electric power. The authorities then installed 3 units with steam engines and a voltage of 33 KV using alternately current from Al-Qater Khanah Station in Baghdad

## Suleimaniah Gas Power Station (SGPS), 1500 MW



Located in the town of Chamchamal - northwest of Suleimaniah Governorate around 60 Km.

In the beginning of year 2008, The Ministry of Electricity (MOE) of the Kurdistan Region contracted MGH to construct a Power Plant in Suleimaniah to produce 750MWs of electricity on the basis of Build, Own and Operate (BOO), then the plant was extended to 1000MWs.

MGH accordingly purchased Frame-9E Type Gas Turbine Units with their generators and auxiliaries from General Electric (GE), taking into consideration possible expansion of Simple Cycle and adding on Combined Cycle.

The first stage of the Simple Cycle (500MW) of SGPS consisted of four Frame-9E units with a total of 500MWs capacity which started production in February 2010. Later, MGH contracted with GE and ABB Germany to add another four units of the same type to double the production capacity. The last unit started production in August 2012 which made the plant's capacity reach 1000MWs at present.

Third Phase of the project, MGH added to SGPS the Combined Cycle with a 500MWs capacity.

The project utilizes the gas turbine exhaust heat emissions to produce steam in Heat Recovery Steam Generators (HRSG) which then generates electricity in two steam turbines. This process increases the production without using extra fuel. It also reduces the amount of CO<sup>2</sup> emissions and frees the environment of combustion emission. After the completion of the combined cycle, the plant capacity is raised to 1500MWs.

It is worth noting that the Suleimaniah Power Plant is designed to run on two types of fuel, Natural Gas as main and Diesel Fuel as standby. The Natural Gas is reaching the station via pipelines from KhorMor gas field station, while the diesel is transported to the plant via trucks. Then the diesel is purified and treated before it can be used for the turbines.

A 132Kv substation associated with the Simple Cycle and a 400Kv substation with the Combined Cycle were both executed by ABB Sweden and the energy is exported by fourteen high voltage lines to the national grid of Kurdistan region







In 1931, work was started to build the Sarrafiya station by installing two Swiss made steam plants, each of a 2.5 MW capacity with two boilers. This station was opened in May 1933.

## Duhok Gas Power Station (DGPS), 1000 MW



DGPS is located to the north of Duhok Governorate near Sumel, on Duhok - Zakho highway around 35 Km from Duhok city center.

The plant consists of eight gas Frame 9E turbines with a rated capacity of 125MWs each and 1000MWs in total.

In the beginning of 2010, the Ministry of Electricity (MOE) of the Kurdistan Region contracted MGH to build the Duhok Gas Power Station (DGPS) on the basis of Build, Own and Operate (BOO).

Accordingly, MGH purchased units of Frame-9E turbines from General Electric Company (GE) with their generators and auxiliaries. The first unit of phase one of the project connected to the national grid in Kurdistan region on December 18, 2010 and the last unit (number eight) connected to the grid in 14th August 2013.

MGH contracted ABB Germany as the main EPC contractor, for installation, testing and commissioning of the plant. ABB Company supplied the balance of plant (BOP) equipments for the project.

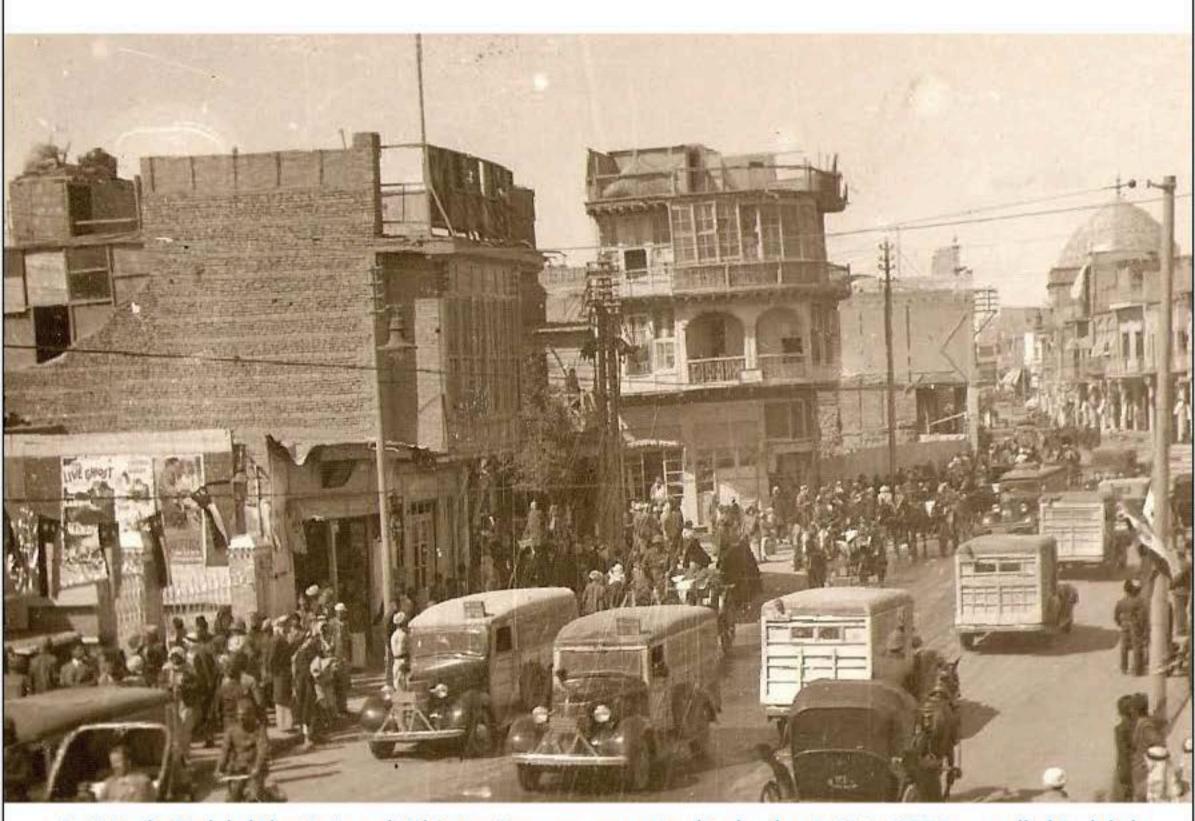
ABB Sweden executed the supply, installation, testing and commissioning of the 132Kv Voltage Transfer Station in DGPS as well similar to the ones in Erbil and Suleimaniah, is designed to run on two types of fuel, Natural Gas as main fuel, and Diesel Fuel as standby.

Since the start of operation to date the plant is running on diesel delivered by trucks, stored in tanks via 10 unloading pumps inside the plant in a storage areas prepared for this purpose. Then the diesel is treated and purified prior to its use in the turbines.

We plan is to convert DGPS also from simple cycle to combined cycle in the near future to become a 1500MW power plant after the completion of the combined cycle.







In 1955, the Baghdad Electricity and Lightening Company was nationalized and on 1st Oct, 1955 it was called Baghdad Electricity Station belonged to Ministry of Transportation and Construction.

In 1958 the National Electricity Commission was established which took over the ownership and operation of South Baghdad generating plant with its grid and substations which was originally built by Consult of Construction.

### Baghdad Gas Power Station (BGPS), 3000 MW



The plant is located to the south east of Baghdad around 25 Km from the Capital with 3000MWs capacity.

The Ministry of Electricity (MOE) in Baghdad contracted MGH to build a giant power plant to provide the Capital with electricity. It consists of eight Frame 9F gas units, with a rated capacity of 260MWs each.

The actual work on site started in the beginning of 2015.

The gas turbines in BGPS are designed to run on two types of fuel: natural gas as the main fuel, and diesel oil fuel for standby. The Diesel fuel is stored in six tanks each with a capacity of 10,000 m<sup>3</sup>.

The Plant is expected to start producing power from the Simple Cycle phase in mid 2016. As mentioned above, the plant is consisted of eight Frame 9F units with more than 2,080MWs capacity, and at the same time the execution of the Combined Cycle phase has started with a capacity of 920MWs, to utilize the heat emitted from the gas turbine exhausts. Which generates steam via passing through Heat Recovery Steam Generators (HRSGs) without any additional fuel consumption. This will increase the plant production and reduce CO<sup>2</sup> emissions. Upon completion of the Combined Cycle, the plant capacity will raise to 3000MWs. BGPS is considered as one of the very important mega projects in the region.

The main parts of the Combined Cycle include:

- The Frame 9FA Gas Turbine by GE USA.
- HRSG by CMI Belgium.
- The main and auxiliary transformers by Siemens Germany.
- The Frame C7 Steam Turbines by GE USA.
- Water Cooled Condenser by GEA Germany.
- Main Control System (DCS) by Emerson USA.

The plant design consists of four Combined Cycle blocks with 750MWs capacity each which includes each:

- Two Frame 9F gas turbines.
- Two HRSGs one for each gas turbine one steam turbine.

The power will be exported through 400Kv and 132Kv switchyards by using multiple transmission lines.







Egyptians used early samples and models for concrete in building pyramids since 5000 years, and the Romans used some type of materials close to modern cement in building many of their miracles.

In 1756, British Engineer "John Smeaton" find the modern concrete (Hydraulic Cement).

In 1824 the British "Joseph Aspdein" discover the Portland cement which stay the dominant cement in concrete production.

It's expected to see the current global cement industry more growth.

The current consumption in Iraq reach 25 million ton, and will increase if security situation improve because of the urgent demand of Iraq to the cement.

# MASS Cement Plant Bazyan capacity of 6 Million Tons/year



It consists of three lines of two Million Tons annual capacity each.

This mega plant was implemented by Mass Iraq for Industrial Investment Company / Suleimaniah (subsidiary of MGH) among a number of mega investment projects established by MGH (multiple power plants, a steel plant... etc.). These projects are effectively participating in the rehabilitation and reconstruction of Iraq, and contributing in the developing process of the country. As cement is considered as one of the essential materials for construction work.

The plant execution started in 2008 and it is located in Bazyan district in Kurdistan Region of Iraq, 35Km west of Suleimaniah City, in plain area surrounded by mountains on all sides, at an altitude of 860m above sea level near raw material quarries of materials used in cement production such as limestone, clay, gypsum and additives.

The plant consists of three parallel production lines with a total annual capacity of 6 million tons yearly, constructed successively on an area of one million m<sup>2</sup> of land as following:

First Line: with two million tons capacity yearly, started construction in 2008 and first production on 1st Jan, 2010.

Second Line: with two million tons capacity yearly, started construction middle of 2009 and first production on 16th Aug, 2011.

Third Line: with two million tons capacity yearly, began construction in 2011 and first production on 31st Jan, 2013.

The plant produces various types of cement as mentioned below, and is capable of producing other types according to market demand:

- Ordinary Portland cement : (OPC) type CEM I 42.5 R used in general construction.
- Sulfate resistance cement: (SRC) for civil construction that needs high sulfate resistance (especially for foundations).
- High fine grain Portland cement: Type CEM I 42.5 R which is used in concrete blocks and precast blocks to produce high early strength.

MGH took into consideration pollution control via limiting emission of cement dust to protect the environment and provide a healthy atmosphere for the workers in the plant while designing the plant by choosing effective equipments (filters, analyzers for waste gases... etc.) very active dedusting system.

Main equipments have been procured from European manufacturers.

Civil work, construction, installation and equipment procurement activities for this project were carried out by Sinoma, a Chinese company, on a turnkey manner.





It is expected to see the local cement industry in Sudan more growth in exporting to neighboring countries as Chad, Eritrea.

## ALShamal Cement plant Atbara-Sudan capacity of 2 Million Tons/year





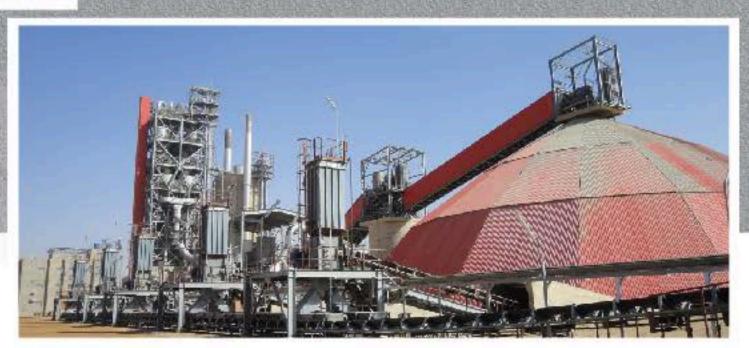


One of the best cement plants in Sudan and Africa, Engineering and design from Western German.

MGH contracted International European companies to establish a two Million Tons annual capacity cement plant near Atbara 350Km north of Khartoum, Sudan

AlShamal plant's Equipment and facilities' have excellence and efficiency, feature it by choosing international specialized vendors from Europe with long experience in the cement industry such as KHD Germany, IBAU Germany, CMD France, FLS Denmark, Anslado Italy and Scheuch Austria. Which gives the Plant the advantage of becoming one of the most advanced and modern Plants in the quality of the cement product in Sudan. MGH took into consideration environment protection by choosing the best filtering systems (dedusting system) made by Austrian and Denmark vendors.

The plant operates by using two kinds of fuel: heavy fuel and different types of coal. The plant production started in the end of 2010.





Northern Iraq will witness remarkable progress in terms of the iron & steel industry through building the largest plant for smelting iron in the history of the country using the electric arc technique & with a production capacity of more than one million tons annually .

## Mass Iraq for Iron & Steel Industry Co. capacity of 1.25 Million tons



MGH's recently built a mega project to produce iron and steel with an annual capacity of 1.25 Million tons.

The project consists of a Melt shop for production of Billet, Continuous Casting Machines, Rolling Mill for the production of enforcement rebar and a second Rolling Mill for production of small and medium sections industrial steel.

The Melt shop consists of an Electric Arc Furnace (EAF) size 120 tons, Ladle Furnace (LF) and Continuous Casting Machines (CCM) to produce Billet dimensions (150X150)mm & (130X130)mm.

The Rolling Mill factory contains Re-Heating Furnace (RHM) and produces enforcement rebar in different diameters (10 - 32)mm.

The Plant includes constructed another Rolling Mill for production of industrial steel of small and medium sections.

The plant also includes auxiliary facilities like fume and dust treatment unit (FTP), oxygen production unit, power substation and water treatment unit (WTP).

The plant is considered as one of the mega strategic projects in Kurdistan Region of Iraq and in Iraq. It utilizes very modern and most innovative European technologies for equipments and machines which was supplied by Danieli Company-Italy.

The oxygen unit supplied by Siad Company-Italy. The substation and SVC supplied by ABB Company-Sweden.

Mass Iraq for Iron and Steel Industry Company will construct a DRI factory to use Iron-ore as feed to achieve the maximum Efficiency of the plant.







The real-estate sector in Iraq is one of the most promising activity in the investment sector.

It is highly profitable due to the increasing demand on the residential complexes within modern cities.

Kurdistan become the safe investors haven now for its exquisite location, environment and high return on investment.



#### **Erbil Mass City**

### Outstanding 3500 Villa within a hilly Landscape and Green Area, with Social and Commercial Facilities

Erbil Mass City is one of Erbil's most sought-after residential communities, that redefines villa living.

This truly integrated community, features 3500 villas in distinct neighborhoods.

Erbil Mass City is currently being expanded with several new villa communities launched to strong investor response.

Meeting the growing need for high-quality family units, Erbil Mass City community is located on both sides of Erbil-Salaheldeen main road on the most attractive terrain and hilly site.

Erbil Mass City villas are set in a tranquil landscape and designed to the highest quality.

Ultra-luxury facilities are provided to serve the residents of this high-end lifestyle community, such as educational institutes, retail outlets, cafes and restaurants, healthcare centers, entertainment and leisure facilities.

While the homes offer generous living space and balconies, courtyards or terraces that open across the gardens.

Smart system is provided to operate villas' facilities, supported with up to date fiber optic internet technology, road and infrastructure networks, and sewage treatments facilities.



