

PROJECT: Brick Production Local Partnerships

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1) Background and Sector review

Construction in Azerbaijan

Brick production is closely linked to the construction sector. Business and residential construction has grown rapidly in Azerbaijan. In 2014, the sector grew by 2.3% on the previous year. The GDP output of the sector, was worth 7.3 billion AZN in 2014, constituting 12.5% of the GDP. The majority of construction projects (60%), are centralized in the Absheron Peninsula, due to the availability of raw materials and high demand. In 2014, the production of construction materials reached 345 million Manat, exceeding the previous year by 21%. The construction business has become a very competitive sector with strong local companies providing services for diverse projects, including the development of residential areas, business offices and hotels. The implementation of EU technical standards is a key development in the industry. In 2012, the EU 'Energy Saving Initiative in the Building sector' was launched in Azerbaijan as part of the EU-funded Innogate project.

The UK's BREEAM system, a design and assessment method for sustainable building is being increasingly applied. Accordingly, there is significant demand for resource-efficient technologies for insulation, heating cooling, water supply, architectural and engineering services, designs and methods following green building standards to local firms, development of smart complexes (including housing, offices and shopping centres), and interior design consultancy.

The growth of the sector has attracted foreign investment, from global industry leaders such the UK based company MACE, and the European company, Alsthom.

Brick Production in Azerbaijan

Azerbaijan has favorable conditions for brick production. It has a well established infrastructure and the consumption of the domestic and regional markets, means the brick production sector is increasingly attractive both for local and foreign investors.

The latest statistics from the State Statistical Committee of Azerbaijan, show that domestic production of construction bricks has grown from 213 thousand cubic metres in 2012 to 426 thousand cubic metres in 2014.

Brick Production in Azerbaijan

	Unit of measurement	2012	2013	2014
Construction brick	mln. unit of con. brick	-	-	_
Construction brick	thsd. kub m.	213,2	450,0	426,1
Blocks	mln. unit of con. brick	-	-	-
Blocks	thsd. ton	132,5	145,8	200,6



Source: State Statistical Committee of Azerbaijan

According to UNComtrade, in 2014, Azerbaijan imported 3,970 tonnes of Bricks

Growing regional demand for Bricks

The strategic location of Azerbaijan is surrounded by large markets for brick production. According to the UNComtrade, in 2014, Russia imported 24,169 tonnes of bricks, with a value of US\$2.29 Million.

Access to large supplies, and relatively cheap natural gas in Azerbaijan

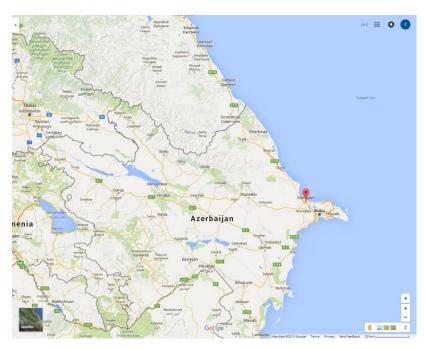
The biggest cost component in Brick production are energy prices.

This puts Azerbaijan in a relatively advantageous position, due to its location near the Shah Deniz Natural Gas field, which is one of the largest natural gas fields in the world. The Sumgait Industrial Chemical Park (SCIP) is near this field, only 30kms from Baku.

2) Location Description: Sumgait Chemical Industrial park

Sumgait Chemical Industrial Park is well suited for Brick Production.

It is near the main inputs to the production process of a power station. Its strategic location on the Caspian Sea, and access to transport links (the Elat Sea Port, and Baku-Tbilisi-Kars railway), will give the proposed facility access to raw materials, and buyers in regional markets.



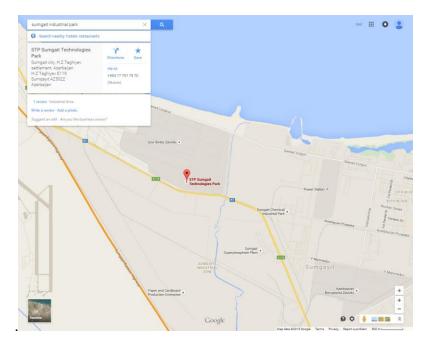
SCIP has 167,66 hectares of land and large infrastructure has being built in this space.



It offers to residents the following incentives:

- Exemption from import VAT for technical equipment for 7 years
- Exemption from property tax for 7 years
- Exemption from income tax for 7 years
- Exemption from land tax for 7 years

The map below shows the park is close to a power station for the supply of cheap energy, has good transport links, for the supply of raw materials.



For more details see http://www.scip.az/index.php?lang=en

3) Marketing

<u>Key Customers</u>: The main regional consumers of bricks are Russia and Kazakhstan. In 2014, Kazakhstan imported US\$3,237 tonnes of Bricks. Russia imported 24,169 tonnes.

Key Competitors: There are some domestic competiors, such as Gilan Garadagh Brick Factory.



<u>Competitive Advantage of Azerbaijan:</u> The key advantages for Brick production in Azerbaijani are:

- 1) its proximity to the key customers of Turkey, Russia and Kazakhstan, through the opening of the Baku -Tbilisi-Kars railway,
- 2) access to natural gas, and relatively cheap energy costs.

4) Production, Manufacturing Operations Overview

The production of Bricks requires the use of significant energy supplies, such as Natural Gas.

The basic production is as follows:

1) Preparation of Brick Clay or Brick Earth

The soil is excavated in steps and then laid on leveled ground. The soil is cleaned of impurities such as vegetation matter, stones or pebbles. After removing impurities it is exposed to weather for few months. This is called the process of weathering. After completion of the weathering process, the soil is blended with other material to prepare good brick earth. The mixed soil is tempered by being thoroughly broken up, watered and kneaded. The tempering is usually done in pug mill.

2) Moulding of Bricks

Machine moulding is used where large numbers of bricks are made. Machines used for moulding are of two types, a plastic clay machine or a dry clay machine. In a plastic clay machine, the clay is in a plastic state and is forced in to rectangular openings of a size equal to the length and breadth of the bricks. They are then cut into strips of thickness of the brick with wires in frames. In a dry clay machine, dry clay is reduced to powder. This is filled into the mould by the machine and then are subjected to high pressure to form hard and well shaped bricks.

3) Drying of Bricks.

Drying is done by placing the bricks in sheds with open sides so as to ensure free circulation of air and protection from bad weather and rains. The bricks are allowed to dry till they are left with 5 to 7 percent moisture content. The drying period usually varies from 7 to 14 days.

4) Burning of the Bricks.

This is the very important step in manufacture of bricks. Bricks may be burnt by two distinct methods, burning in a clamp known as clamp burning, or burning in a flame kiln



known as kiln burning. In clamps, one batch of green bricks is heaped along with firewood, coal and sealed with clay. It is then fired slowly to intense heat which may take many days. Modern kilns, are permanent structures consisting of many chambers. Moulded clay is stacked in the chambers. They are then slowly dried and burned to high temperature and cooled. One cycle of loading, drying, burning, cooling and emptying may take as much as two weeks. These processes are carried out intermittently in intermittent kilns and in cyclic order in continuous kilns.

Source: Brick Development Association



5) Profiles of Potential Local Partners in a Brick Production Project

Nº	Name of the company	Profile	Contacts
1.	Gilan Holding	 Production and packaging of nuts Production of fruit juices and cans Production of milk and dairy products Touristic centers and recreation places Restaurants and hotels Production of gypsum-cardboard lists (alchipan) Production of gypsum and gypsum materials under trademark "Pasifik" Production of sandwich panels Production of calicide and various chemical glue materials Construction materials Production of CDs 	38, Zarifa Aliyeva avenue, AZ 1010, Baky city, Azerbaijan Tel.: (+994 12) 493 25 02; Fax: (+994 12) 498 96 79 gilan@gilanholding.az
2.	Akkord Industry Construction Investment Corporation	Akkord produces cement, concrete, concrete precasts, asphalt, marble, granite, steel structures, brick and quarry. Akkord Corporation is developing its brand new cement plant in western Azerbaijan with a total production capacity of 3 million tons of cement. • Regarding real estate development, the corporation's developed residential and commercial space equaling 831, 000 sq.m.	"Chirag Plaza" Business Center, 7th Floor 49/c Tbilisi ave., Baku AZ1065, Azerbaijan Tel.: (+994 12) 404 77 77 Fax: (+994 12) 404 77 80



			E-mail: akkord@akkord.az
3.	Altes Group	The Altes Group unites under its umbrella the largest and fastest growing pharmaceuticals distributor in Azerbaijan – Altes Pharm; leading construction and architectural-engineering company Altes Construction; and regional trading company specialized in construction equipment and materials Altes Trade. Altes Property is specialized in selling and leasing out real estate in Azerbaijan and abroad.	,
4.	Synergy Group	Synergy Group's multi-sector investment portfolio consists of large-scale investments in the following areas: • construction and production of construction materials ("Renaissance Construction Azerbaijan", "AAC") • hospitality management ("Caspian Sea Resort Hotel", "Excelsior Hotel Shamkir") • ICT ("CyberNet") • polygraphy and packaging ("Bestpack") • agriculture (winemaking: "Caspian Coast Winery & Vineyards" and growing roses: "AzAgro") education ("Azerbaijan University")	55, Zarifa Aliyeva str., AZ 1095 Baku Tel.: (+99412) 598 44 43 Fax: (+99412) 598 23 94 E-mail: info@synergygroup.az Web: www.synergygroup.az
5.	Pasha Holding	PASHA Holding is the investment company dealing with insurance, banking, property development, construction, tourism and other business. The Holding builds its business on the basis of the international standards – effective management, corporate governance and through investing decisions. The Holding has two types of investment assets portfolios: controlling stakes in PASHA	153, Neftchilar ave., Port Baku, Tel.: (+994 12) 505 50 00 E-mail: office@pasha-holding.az



		group companies and minority private equity investments.	
6.	Garant Holding	 Garant Holding operates as a successful and dynamic management company. It directs actions and strategic options which are undertaken by all its companies within the holding group. The Garant Group of Companies works in the following fields: production of building materials, banking, insurance, telecommunications, hotel & leisure, civil engineering/construction, transport real estate and property management. 	Tel.: (+99412) 499 76 76 Fax: (+99412) 499 78 87 E-mail: info@garant.az www.garant.az
7.	ISR Holding	 ISR Holding activities spread to such businesses as: transportation - transportation and forwarding services of cargos (crude oil, light and heavy oil, oil) by tanks-wagons and tankers of the river-sea class. Trading - Sale of oil and petroleum products (light, dark, base oil; coke). Production - The largest lodide-bromine plant in Europe by its iodine reserves in Neftchala (Azerbaijan). Hotel business - The group of companies owns five hotels of the category 4 and 5 stars in Azerbaijan and Turkey. Real Estate - The group of companies is one of the leaders working in the real estate market in Azerbaijan. We invest in construction of residential complexes, shopping and entertainment centers in Baku. Automotive business - Today ISR group of companies is an official dealer of Toyota and Lexus in Azerbaijan. 	AZ1005 Baku, Azerbaijan, Nizami str., 69 Tel.: (+99 412) 498 24 12 Fax: (+99 412) 498 91 34
8.	ANT Group	ANT Construction has been operating in construction market of Azerbaijan. Using progressive technologies, the newest cars and mechanisms allows keeping considerably terms of building and improving quality. Starting our	Chemenzeminly str.,



		activities only in the field of construction, our company also could form concrete, furniture production and technical and repair services in order to realize projects Turn-Key.	AZ1069, Baku, Azerbaijan Tel.: (+994 12) 564 14 72 Fax: (+994 12) 465 19 95
			E-mail: mail@ant.az
9.	AS Group Investment	The company provides supply all the necessary construction materials and equipment.	,
		AS Construction has a strong fleet of vehicles and construction equipment manufactured in Germany, Italy, Japan, Turkey and other countries. In 2003-2008 in Baku build 3 concrete plants with total capacity of 410m3 of concrete per hour.	Fax: (+99412) 530 83 09 E-mail: office@asgroup.az
10.	Qarachay Holding	Company is focused on the building. Today we have extensive experience in the construction of administrative and residential buildings, hospitals, clinics, sports facilities, landscaping areas. When the company set up a design bureau, was purchased asphalt and concrete plants have been set up subsidiaries "Bios", "Beyaz Inshaat", "original motors" and farm "Turvanchay". The company "Qarachay" fulfills orders on projects of any complexity, and simultaneously in all regions of the country.	4,Ramiz Guliyev str., Baku city, Azerbaijan 1006 Tel.: (+99412) 379 26 58 Fax: (+99412) 379 20 10 E-mail: info@qarachay.az
11.	A+A Group	Choosing civil and industrial construction as a main direction of its work, A+A Group of Companies obtained important achievements in such field of activity. One of the most important company's achievements is the organization of A+A ENGINEERING - a group of high-level experienced engineers provided with the latest versions of hardware & software. It gives a possibility to provide	Tel: (+99412)4960026. Fax: (+99412)4473688, E-mail: office@aagroup.az



		Clients with "turn-key" projects in civil and industrial construction sphere. The company provides the following services: • repair and technical maintenance of vehicles; • logistics and transportation services; • office maintenance • cleaning services; catering services;	
12.	Gemigaya Holding	The Holding has a great range of services and production. Company's fields of activity are followings:	2 Aziz Aliyev str., AZ7000, Nakhchivan Autonomous Republic. Tel.: (+99436) 540 04 26 Fax: (+99436) 545 16 14 E-mail: info@badamlisu.com Web: www. badamlisu.com



13.	Design Holding	Activity sphere has firstly begun with the plastic door and window production, after production spheres have been extended. Advertisement design works, jalousie curtains, curtain nets, hanging ceiling, handworks on glass, smithery works on nonferrous metals, picking out building facades with the aluminum front, front profiles and aluminum composite panels, repair-construction, restoration, smith-welder works are included to the activity sphere of the society. Since 2008 the company has begun to the new production sphere - smelting works plant activities. Different decorative smithery and smelting works are held in the plant. Design LLC, Design Furniture LLC, Design Concrete Manufactured Products Complex LLC, Design Transport LLC, Design Industry complex LLC, Design Construction LLC are included to the "Design Holding". Activity spheres: Handworks on glass, cutting, tempering; EPS (Expandable Polystyrene) production; Production of the plastic well lids and plastic manufactured products; Piping with the water and sewerage provision systems of the regions of Azerbaijan.	19 Heydar Aliyev ave., Nakhchivan city, Nakhchivan Autonomous Republic, Azerbaijan. Tel.: (+994 36) 544 11 33 Fax: (+994 36) 544 11 33 E-mail: dizaynmmc@yahoo.com Web: www.dizaynmmc.com
14.	CTC Holding	CTC Holding is a company engaged in alternative energy sources, especially wind and solar power. Besides the erection of wind turbines and solar panels, our company has significant role in the development of alternative energy in Azerbaijan. Here include erection of wind park, measurement of wind and solar potential in Azerbaijan, realization of wind and solar projects, and erection of Training Center (TC) for te development of this sphere	14 Salyan Road, Baku, Azerbaijan Tel.: (+99412) 480 25 36 Fax: (+99412) 565 61 90 E-mail: info@ctcholding.az



and training of local personnel. Companies of CTC holding: Habaco Construction LLC implements the construction and installation projects in Azerbaijan and abroad. CTC Agro perform purchasing and sale of food products in Azerbaijan and over the world.	
The Holding also includes Nazli Bulag recreational complex.	