



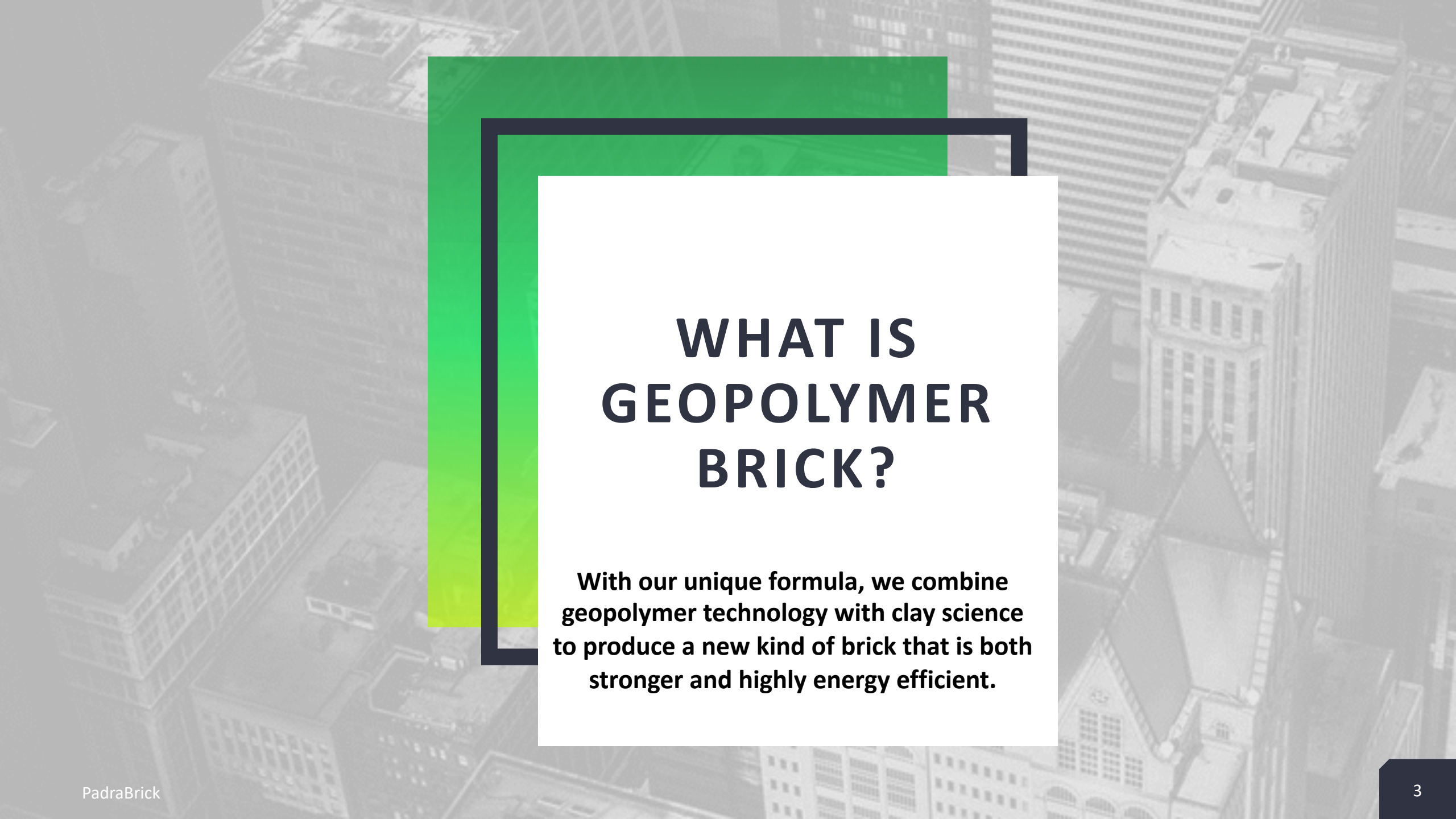
GEOPOLYMER BRICKS

From waste materials

NEW GENERATION FACING BRICKS

Our startup produces bricks using industrial waste materials and by-products



An aerial, grayscale photograph of a city with numerous skyscrapers and buildings. Overlaid on the image is a large graphic consisting of a green rectangular area on the left and top, and a black L-shaped frame on the right and bottom. Inside the black frame is a white rectangular box containing the main text.

WHAT IS GEOPOLYMER BRICK?

With our unique formula, we combine geopolymer technology with clay science to produce a new kind of brick that is both stronger and highly energy efficient.

CLAY-BASED GEOPOLYMER BRICKS

Suitable for indoor and outdoor

PadraBrick has pioneered energy efficient clay bricks.

The technology of producing **geopolymer bricks** with **aluminosilicate wastes** will make durable products with a compressive strength of at least **30 MPa**, depending on the materials used, the curing method, and the proper kiln temperature.

TECHNOLOGY DESCRIPTION

- Raw materials

A) Kaolinite

Chemical Composition

C	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	Na ₂ O	TiO ₂	K ₂ O	LOI
%	62.7	28.9	0.12	0.84	0.13	0.18	1.15	0.06	5.7

Si:Al=1.8-2 Kaolin%=5.7:14=40-41% weight

B) Alkaline based reagents+Aluminosilicate waste materials

C) Shale

Chemical Composition

C	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	LOI
%	40.8	22.6	19.25	1.43	0.46	0.69	0.96	9.43

Mixing

- Based on the mixed design, raw materials will be **weighted accordingly**
- The materials will be **put into the crusher accordingly**
- **Alkaline solution provides a reaction medium** and assures the mixing and handling of the mixture



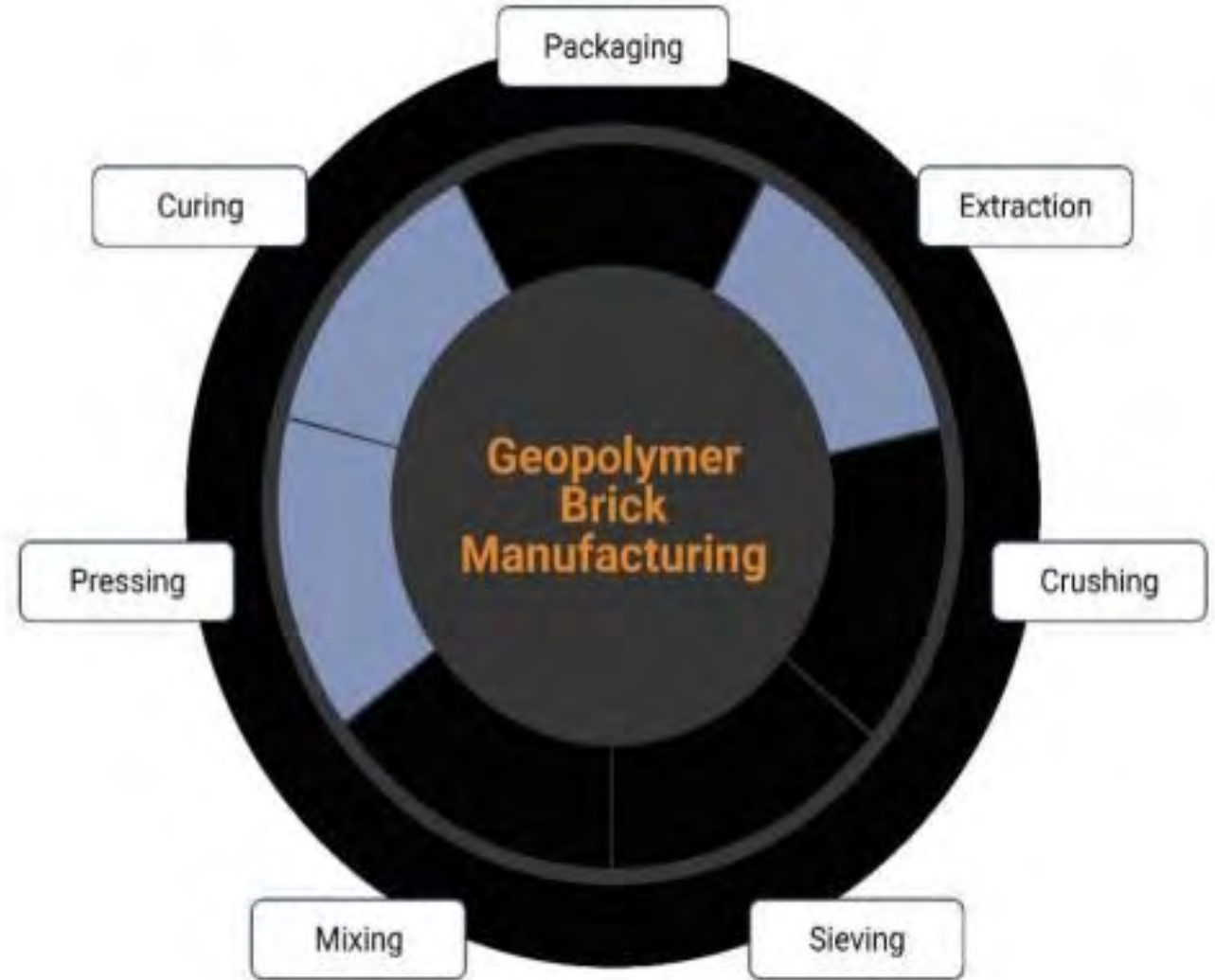
Pressing

- Our bricks can be manufactured in **different sizes from 3 to 6 cm (1" to 2") thick**
- They are made with the **dry pressing method** with hydraulic press machines (**300 tone**)
- With 2 Press Machines (300 Ton, 7200 PCS/8hrs) we make **5,000,000 bricks/year**

MANUFACTURING PROCESS

Manufacturing process has **six general phases**:

1. Mining and storing raw materials (Extraction)
2. Preparing raw materials (Crushing, Sieving, Mixing)
3. Forming bricks (Pressing)
4. Drying
5. Firing and Cooling (Curing)
6. Packaging and storing finished products



Note: In the highlighted blue areas (Extraction, Pressing, and Curing), our work differs from that of ordinary clay brick production.



The Curing Process

To cure our bricks, we use shuttle kilns. The **drying and heating process takes about 8 hours**. We heat up to **800 degrees Celsius**. **We heat bricks to color them.**

COMPETITIVE ADVANTAGE

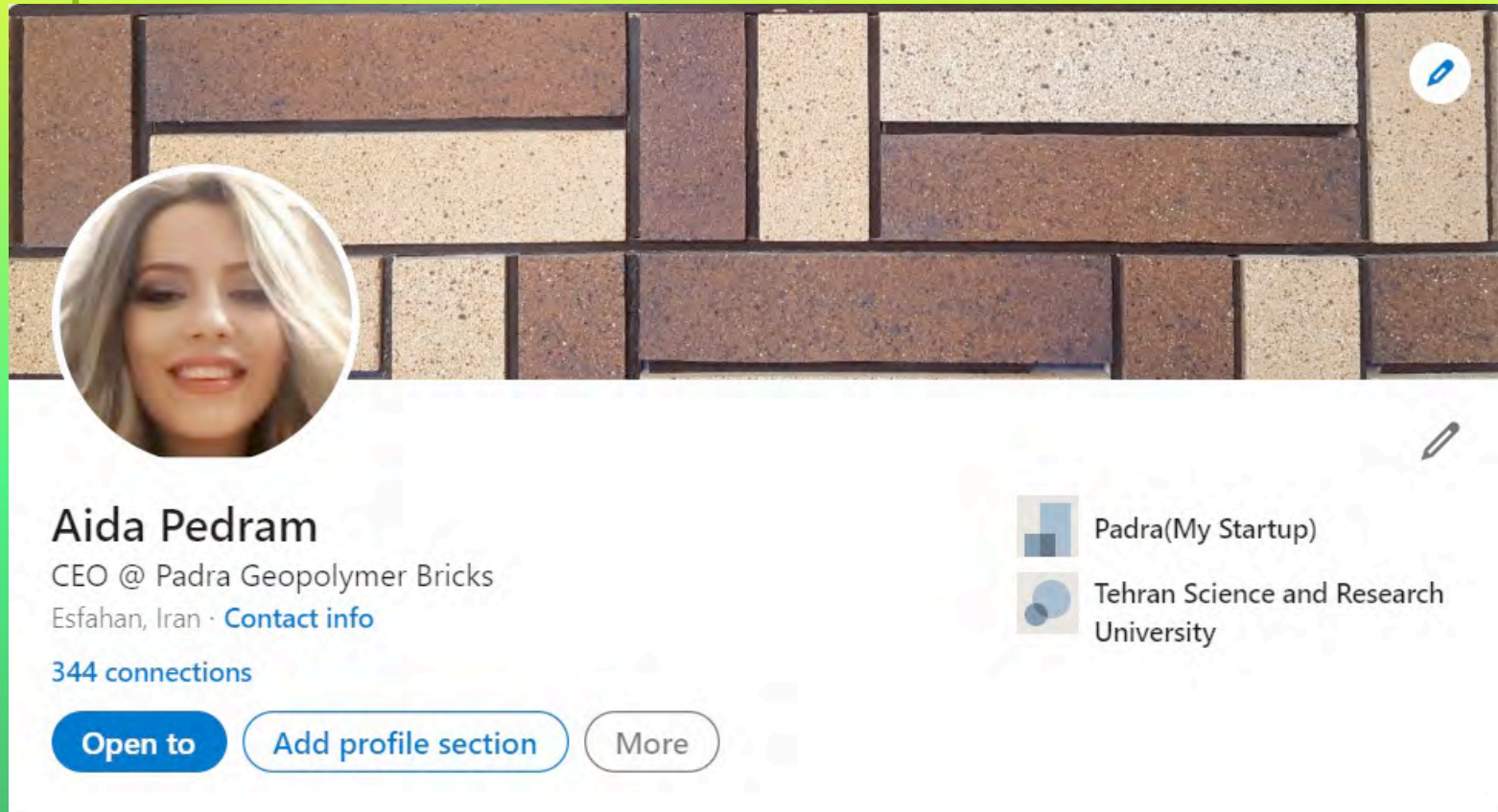
- PadraBrick uses **energy-efficient** formulas that do not require high temperatures to make very strong bricks, while **ordinary bricks require 1000-1200 degrees C** for at least 10 hours
- As a result of our novel formula, the temperature for manufacturing the bricks decreases, resulting in **less consumption of fossil fuels**, also **less pollution**
- The **use of industrial wastes and by-products** reduces natural resource use, saves energy, and **preserves the environment**
- The **price** of our product is **lower** than the price of competitors in the market(Every brick costs us **10 cents**, and we sell it for **60 cents**.)



Mine Tailings(Aluminosilicate waste materials)

Contact me via:

Linkedin



A screenshot of a LinkedIn profile for Aida Pedram. The profile picture shows a woman with blonde hair. The background of the profile header is a brick wall. The profile name is Aida Pedram, CEO @ Padra Geopolymer Bricks, located in Esfahan, Iran. She has 344 connections. The profile includes a company logo for Padra (My Startup) and an affiliation with Tehran Science and Research University. There are buttons for 'Open to', 'Add profile section', and 'More'.

Aida Pedram
CEO @ Padra Geopolymer Bricks
Esfahan, Iran · [Contact info](#)
344 connections

[Open to](#) [Add profile section](#) [More](#)

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THANK YOU

I was unable to attend this year, hope to see you next year!