IN THE HEART OF EUROASIA

1. BIGGEST INVESTMENT PROJECT
   - $4 000 000 000 total investment
   - 174ha construction site
   - 1 000 000 m² GFA
   - The biggest sphere in the world

2. FIRST SUSTAINABLE PROJECT
   - Thermo-heating
   - Solar energy supply
   - Bream certified
   - Automatic vacuum waste collection

GDP $340Bn
8.1% average growth rate

POPULATION 60 000 000

POPULATION OF KAZAKHSTAN – 17 000 000
Regulatory and legal framework in Kazakhstan

* Law on energy efficiency and conservation from January 1, 2014
* Energy conservation Program 2020
* Regional plans of Energy conservation of Kazakhstan’s cities
Goal:
• creating favourable conditions for lowering the energy content of Kazakhstan GDP by reduction of energy consumption and ineffective resource usage.

Objectives:
• Upgrading energy efficiency of domestic industry;
• Curbing losses of heat in heating and electrical supply;
• Active nationwide promoting of energy efficiency;
• Stimulating energy conservation and efficiency;
• Means of motivating energy supply companies;
• Preparation of specialists in energy efficiency;
Regional plans of Energy conservation in Astana (basic principles):

- Energy conservation in an industrial and non industrial, constructional and transportation sectors
- Energy – manufacturing and classification of Energy resources
- Energy conservation in a budgetary area
- Energy conservation
Integrated promotion of energy conservation and efficiency in Astana by the Government
Key instruments of energy conservation and efficiency advancement

- Focus on **environmental** and social (improved quality of life) benefits derived from reducing greenhouse emissions as a result of energy conservation.
- Supporting wind energy development (2004-2011)
- Energy efficiency in public heating supply (2007-2013)
- Efficient design and construction (2011-2015)
- Supporting energy efficiency in housing services of small towns (2013-2014)
- Supporting sustainable transport (2011 – 2016)
Projects on energy efficiency and renewable energy sources:

Implemented since 2000

Wind energy project (2004-2011)

Project on Public heating (2007-2013)

Wind atlas of Kazakhstan
Projects aim to reduce greenhouse gases emission through developing and implementing organizational, financial and technical measures in public housing sector and construction.
Heating energy demand

Degree-days of a heating season
Payments for public utilities (Astana)

- Electrical energy: 31%
- Heating: 22%
- House maintenance: 21%
- Gas: 10%
- Cold water: 7%
- Hot water: 5%
- Entrance phones: 3%
- Waste disposal: 1%

Payments for public utilities (Astana)
Additional thermal protection of constructions and energy saving transparent materials

Outside wall thickness of 1-5 levels – 730 мм, above 5th level – 600 мм (extra thermal foldings
Thermal isolation of the spaces of staircase and lifts across concrete scaffold Extra thermal
isolation of outer walls of the attic mineral insulating material дополнительное утепление

Resistance to heat conductance of the above window materials $R_{Fr} = 1.0$
m$^2\cdot$C/W
(the often used ones have a value of 0.59)
Object heating is from heating electrical station, automated heating systems are installed in each section block as well as a common heating monitoring device. Each level has a recuperation system (ventilation devices) Each apartment has its own heating monitoring device. Thermostats installed in heating radiators. Central computer for dispatching purposes. LED lights in public places.
System for heat recuperation from outbound air

Recuperation devices (ventilation aggregates)

Air pipes in each apartment

Controlling and regulation in apartments
EXPO IN A NEW ERA

2000 | Hannover, Germany | «Humankind - Nature - Technology»
2005 | Aichi, Japan | «Nature’s Wisdom»
2008 | Zaragoza, Spain | «Water and Sustainable Development»
2010 | Shanghai, China | «Better City, Better Life»
2012 | Yeosu, Korea | «The living ocean and coast»
2015 | Milan, Italy | «Feeding the Planet, Energy for life»
2017 | Astana, Kazakhstan | «Future Energy»

Starting from 2000, EXPOs are dedicated to sustainable development.
“GREEN ECONOMY” IN KAZAKHSTAN

TARGETS

Renewable energy generation share

2020: 3%
2050: 30%

Reduction in greenhouse gas emissions

2020: 15%
2050: 25%

Increase in energy efficiency (compared to 2010 levels)

2020: 25%
2050: 50%

Kazakhstan is making an unprecedented investment in building a “Green Economy,” a state program that supports sustainable economies throughout the region with new technology and key investments.
Astana EXPO partnership program guarantees the best-practice approach when it comes to understanding of the partners needs and development of customized partnership programs.

Astana EXPO Partnership program is based on the following:

**PR&Marketing**
- Greene energy core problems and solutions
- Marketing campaign in Kazakhstan and abroad
- PR&M Marketing before and during EXPO

**Market analysis and new product development**
- Regional market behavior analysis
- Testing new products and services

**Business opportunities**
- Exclusive sales rights
- Largest market in Kazakhstan
- Corporate participation at Astana EXPO
- Meetings with government officials, corporate and official participants of Astana EXPO-2017
Thank you for attention!