



Astana Expo City 2017

Astana, Kazakhstan

ADRIAN SMITH + GORDON GILL
ARCHITECTURE

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Split into two phases, the 174 ha project will feature exhibition and cultural pavilions (118,620 sm); a residential development (686,000 sm); service areas including shopping, socio-cultural, educational and civic facilities; parks (72,000 sm); and parking.

SERVICES

Architecture
Urban Design
Sustainability Planning

CLIENT

IT Engineering

FUNCTION

Civic

The theme for the upcoming Expo in Astana is “Future Energy.” The theme is aimed at finding ways to achieve qualitative changes in the energy sector, primarily for the development of alternative sources of energy and new ways of transportation. Finding sustainable energy supplies is a critical and growing global concern. The solution to these concerns ensures economic growth and improved social standards while reducing the burden on the environment.

AS+GG’s design for EXPO-2017 will embrace the Future Energy concept by becoming the first Third Industrial Revolution city, where energy consumed by the Expo community will be provided from renewable sources. Buildings will become generators of power and their energy will be stored using innovative technologies while being distributed by a smart grid. The Expo community will provide infrastructure to encourage and support the use of vehicles that use renewable fuels.

Phase 1 or the “Expo Mode,” will see the design and construction of the exposition buildings including the central Kazakhstan Pavilion; Theme, Corporate and International Pavilions; as well as hotel, retail, art and performance spaces. The first phase will also include the design and construction of a series of buildings that will act as a “covered city,” which will include retail, residential and office spaces. Phase 1 will be completed by June 2017 to serve the Expo and its visitors.

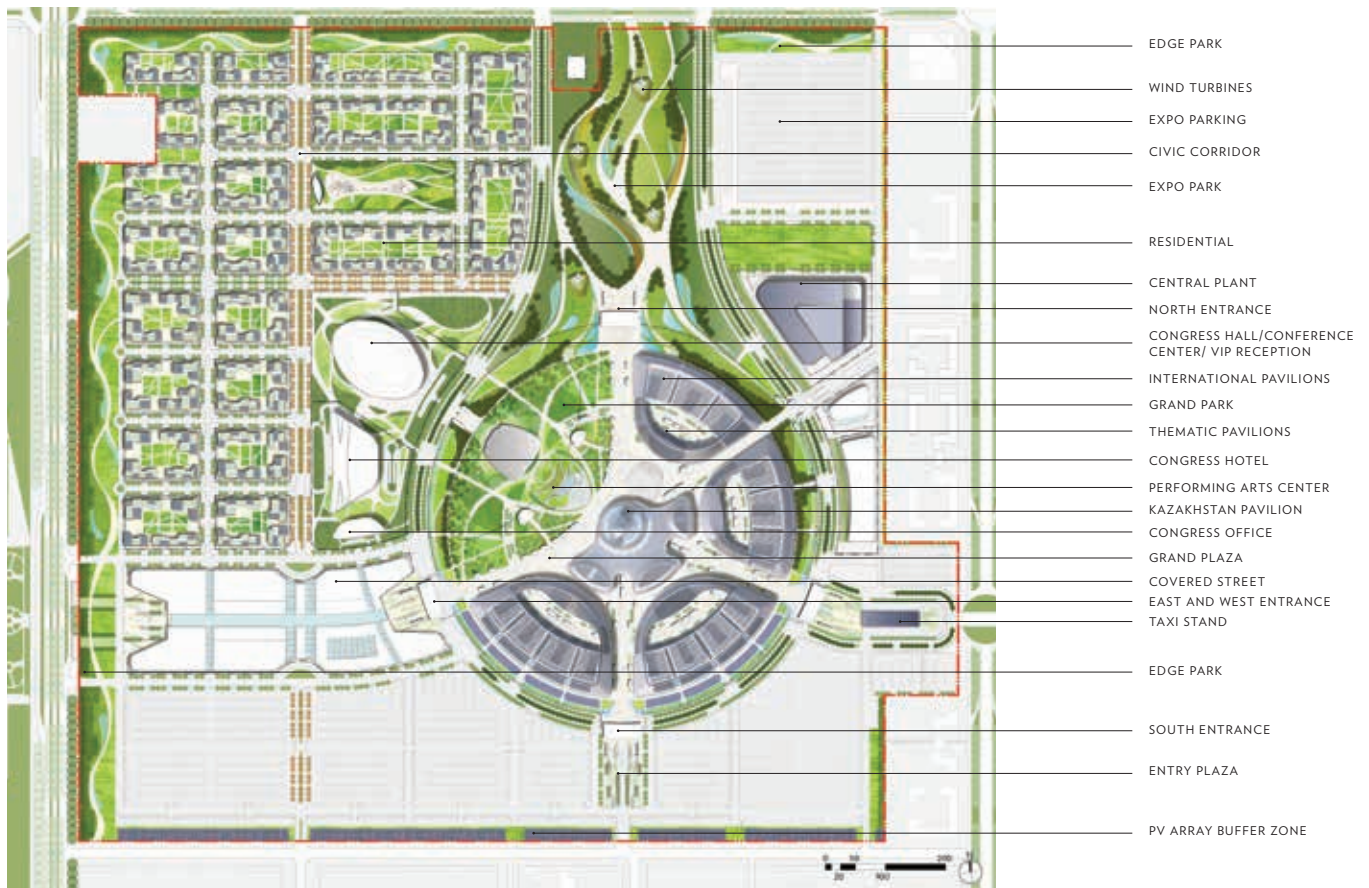
Phase 2 or the “Legacy Mode,” will finalize the first Third industrial Revolution community. The Expo buildings will be converted into an office and research park, attracting international companies and entrepreneurs. Expo parking and service zones will be transformed into thriving and first class integrated neighborhoods including an additional 700 residential units, as well as office, hotels, local markets, and civic and educational facilities.

Each of the Expo buildings was designed to take advantage of their site location. For example, everything in the residential development, from the street grid rotation, the block size and the distribution of building mass was developed through a series of studies to reduce energy use, improve comfort levels (indoors and outdoors) and increase energy harvesting for each unit.

The urban design for Expo City was determined by site specific indicators such as weather conditions, cultural context and land accessibility. AS+GG executed a series of studies with the goal of minimizing the site’s energy-use, while maximizing its energy harvesting potential and comfort levels. The resulting analysis offers the most efficient orientation in order to optimize solar radiation to reduce energy usage for heating. Not only does this strategy improve user comfort but it also maximizes the potential energy that can be generated from building mounted photovoltaics.



PHASE I MASTER PLAN



PHASE II MASTER PLAN



THEMATIC PAVILIONS



