A SUSTAINABLE FUTURE FOR A NEW ECONOMIC CITY

KING ABDULLAH ECONOMIC CITY (KAEC)
SAUDI ARABIA

King Abdullah Economic City is a major new economic centre benefitting from a substantial new port facility, a station on the Haramain high speed train line, and the presence of the King Abdullah University of Science and Technology (KAUST). It will directly support rapid progress in Saudi Arabia’s economic development and international competitiveness.

Part of a consortium led by SOM architects, BuroHappold Engineering was commissioned to review an existing masterplan and address how the client could secure a good economic return from substantial investments already made in the new city’s infrastructure and utilities supply. It was important that the city was responding effectively to national and international drivers, with an efficient, phaseable new concept masterplan that was in tune with the natural environment.

Having carried out an economic baseline analysis and an industry sector review, BuroHappold’s economics team developed a full economic strategy.

This identified potential target occupants of the city’s proposed industrial areas and the mechanisms by which investments in land holdings could be converted into sustainable economic activity.

Our work also involved very detailed population modelling that fed into land use planning for the city, as well as the programme for phasing development that would yield the best return on investment.

We were appointed to provide the full range of engineering services necessary to design sustainable transport, energy, water, waste management and earthworks strategies, to maximise use of available resources, enhance the natural environment and minimise infrastructure costs.

CLIENT
Emaar

MASTERPLANNING
SOM

DURATION
2006 - ongoing

SERVICES PROVIDED BY BuroHappold
Transport, energy, water, waste, earthworks, highways, flood risk management, infrastructure, bridges, utilities networks, sustainability, economics, masterplanning

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Despite its arid climate, heavy thunderstorms are not uncommon in winter, and in 2009 nearby Jeddah saw severe flooding.

The original KAEC masterplan responded with extensive concrete drainage systems that had been sized to cope with 1 in 100 year events. This meant that they were otherwise expensively over-sized. Our innovative naturalised approach to storm water management took a broader ‘system’ view, combining pipes and concrete channels with swales, rivers and wadis to ensure that the scheme was not burdened with over-engineered and costly conventional solutions.

This had the added advantage of creating high quality green spaces for residents to enjoy for much of the year.

The road system in the original masterplan featured major dual carriageways that carved their way through the planned city. Although urban road systems need to cope efficiently with the predicted volume of traffic, our experience of successful developments has clearly demonstrated that large roads that dominate the urban landscape are hostile to pedestrians and cyclists, and difficult for effective public transport.

Our balanced approach sought to define a more ‘proportional’ scale; with spaces around the roads that invite people in, helping to create vibrant communities, yet with enough space to enable dedicated bus lanes or trams to be added when the demand has grown. This had the added advantage of releasing extra space for public realm and development, and reducing the infrastructure investment.