INTEGRATED SUSTAINABLE LIVING – MALAYSIA
JOHOR, MALAYSIA

The Integrated Sustainable Living (ISL) project aims to create a unique Malaysian township, establishing a benchmark in the country for sustainability and affordability, as well as conserving the mangrove forest surrounding the site. BuroHappold Engineering provided support to ensure that underlying infrastructure systems would facilitate the concept and aspirations of the development, working collaboratively with local stakeholders to identify solutions that are feasible and offer real value for future inhabitants.

One of our main solutions was the development of an integrated waste management concept that focused on creating a circular economy. We looked at how to reduce waste arriving on site through better logistics and distribution networks, as well as promoting recycling and reuse of materials within the site. Organic waste will be reused on community farms, allowing residents to produce some of their own food, whilst also performing outdoor activities that support a healthier lifestyle. At the same time, inorganic waste will be collected and sorted, providing raw material for clean industrial businesses on site.

These measures would significantly improve on current waste practices in the country that mostly revert to landfills.

Our team also looked at a range of solutions to reduce energy demands across the site, including the use of solar power, battery insulated housing and a district cooling system for the central business district. Such a system would have a far lower energy demand than a traditional air-cooling system, along with low maintenance requirements and associated cost savings. Further savings regarding energy systems are expected to be achieved by introducing a township management network. This will ensure an integrated and efficient oversight of resource usage on site by linking energy generation and usage thus benefitting residents by reducing utility bills.

In accordance with the aspirations of the project, smart infrastructure systems will enable the development to provide a large proportion of affordable housing, whilst also encouraging innovative businesses to co-locate, providing job opportunities as well as contributing to the circular economy within the township.