GREEN PORT

Sustainable living environment
Green infrastructure and optimal water management create a sustainable living environment that has beneficial knock-on effects on public health and the environment.

Better link with the hinterland
There is enough infrastructure to cope with increases in freight and passenger transport.

Cleaner ships
Port authorities use the Environmental Ship Index (ESI) to determine the contamination levels of individual vessels. Harbour fees are set accordingly, encouraging the use of clean engines and diesel.

Appealing residential areas
Residential areas are spacious and make the most of the appealing waterside location. The residential and work facilities for the local people are adequate and the infrastructure is up to standard.

Room for aquaculture
The area is structured so that there is room to use the ecosystem for things like aquaculture.

Adaptability to climate change
Coastal defences use natural barriers such as sand, salt marshes or mangroves. They help to dampen waves and capture silt, and they also provide a natural habitat.

Renewable energy
There is room for wind turbines that can generate renewable energy for local inhabitants and companies.

Less dredging
The port design is based on current, wave and wind models, reducing sedimentation and the need for dredging. That is good for the environment and it cuts costs.

Open harbour
An offshore port island, where large sea-going vessels can moor so that the goods flows can be handled efficiently.

Room for recreation
Foreshores can be used as recreational areas.

Monitoring biodiversity
The impact of the port on biodiversity is modelled beforehand and calculations are made to ensure that a healthy ecosystem is established. The system is monitored continuously after construction has been completed.

BALANCING THE ECONOMY AND ECOLOGY

In recent years, there has been a rise in interest in 'green ports' as a way of achieving sustainable economic growth. During design and construction, economic growth, climate change and the ecosystem are taken into account. The port is designed in close consultation with local stakeholders so that it becomes an attractive place to live and work.
The impact of human intervention on the natural system is worked out beforehand and established using simulations, resulting in a clear picture of the effects on the ecosystem. The port infrastructure can manage rapid growth in container transport and ever larger ships. Coastal defences are built to withstand climate change, with nature-based engineering such as sandy foreshores and mangroves playing a prominent role. Features like this can also be used for recreation, aquaculture, fishing and nature development. There is a better balance between economy and ecology. **For more information:** cor.schipper@deltares.nl