HELIO LIDO

REFSHALEØEN

The Helio Lido envisions a sensual outdoor bathing experience using hot water and electricity powered only by the sun. Using hot water and with cover against sun and rain, the spa can be experienced during any weather conditions and in all seasons.

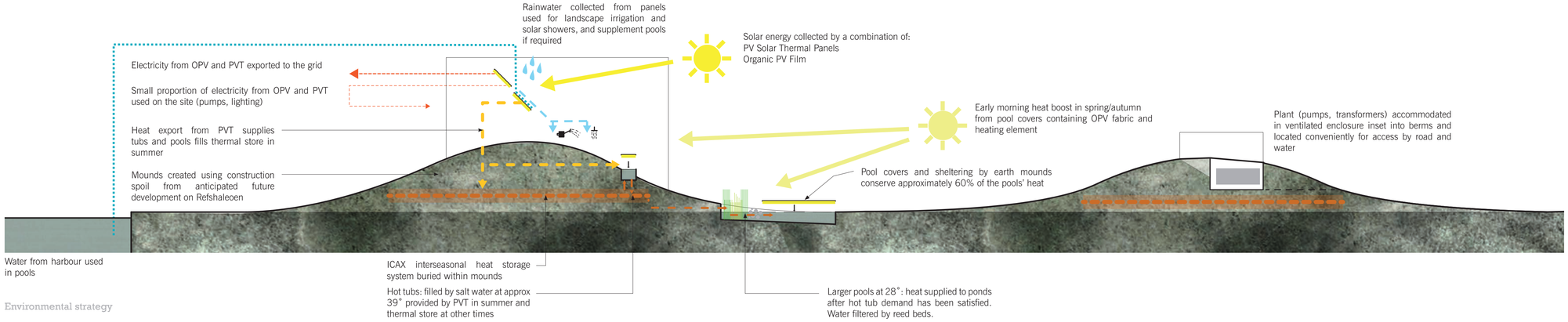
A series of hot tubs and swimming pools, heated year round, are set into an undulating, sensory landscape of trees, grasses and flowing plants. Water for the hot tubs and pools is provided by photovoltaic-solar thermal panels. In summer, heat from the panels is stored in coiled pipes buried in the earth berms. Only a small fraction of the output is required for the sea water hot tubs and freshwater pools at this time of year. In winter, when the thermal output from the PV-T array is low, the hot tubs and pools retain their temperature using solar-heated hot water from the thermal store. Since the hot water is both produced and used on site, the overall efficiency of energy conversion from the sun is improved.

A sweeping solar canopy is supported on a series of tree like structures. The canopy is articulated on the site to provide areas of shade and shelter, and it gradually reveals views out across the harbour. The canopy rises gently along its length, with the lowest elements on the south-westen edge providing shelter from the prevailing wind.

The canopy is constructed of opaque hybrid photovoltaic-solar thermal panels (PV-T) and translucent organic photovoltaic film (OPV). There are more of the latter provided where the canopy is at its lowest to maximise light levels under the canopy. The PV-T and OPV panels are angled so as to always face the optimal orientation for energy generation.

View of the hot tubs and pools with the harbour beyond

Site context



Environmental strategy