skibgræs

Primary Materials

Powder-coated 12.7mm marine-grade stainless steel (SAE 316 stainless steel or Alloy 20)

Miscanthus giganteus: Rhizomes.

Nanosolar Powersheets: This photovoltaic system is comprised of a composite of flexible solar panels, a geomembrane, and associated wiring to generate 140 kWh of electrical energy for distribution through the North Sea Offshore Grid.

Maximum Environmental Impacts

This project relies on low-impact energy efficient technologies in order to minimize impact on the existing site, while remediating and reclaiming the degraded land. Skibgræs takes into account the direct and indirect effects of the proposal on people, flora, and fauna; on soil, air, water, landscape, and climate; on material assets and the cultural heritage; and any secondary or tertiary factors.

Miscanthus production minimizes the metal contents in soils left over from industrial waste byproducts and takes up as much carbon as is released when it is burned, resulting in no net increase in CO_2 into the atmosphere. One hectare produces the equivalent energy of 3,300 – 5,700 liters of light heating oil (an average medium-sized house will burn around 3,000 liters of oil per year, which releases 8.02 tons CO_2). Additionally, Miscanthus giganteus sequesters significant amounts of carbon in its rhizome system, and organic matter in soil has been shown to increase under giant Miscanthus stands.

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total energy
production capacity:
720,100 kWh/yr

biomass energy production efficiency

technology: *Miscanthus giganteum* biomass harvesting

productive area: 3 hectares

expected biomass yield: 15-20 tonnes per hectare

energy per kg: 3.8 kWh *(20% moisture content)*

total energy generated:
228,000 kWh/yr

solar energy production efficiency

technology: nanosolar thin film CIGS

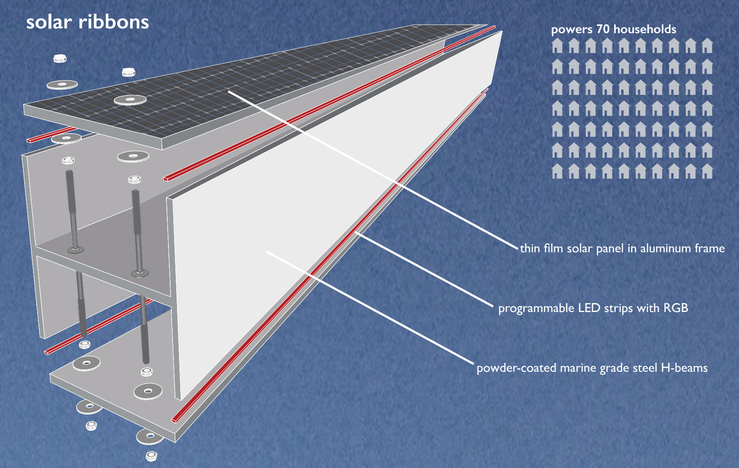
productive area: 3515 square meters

sun availability: 975kWh per square meter per year

energy-capture efficiency: 20%

expected yield: 140 kWh per square meter per year

total energy generated:
492,100 kWh/yr



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