

ALSIK- a sustainable light tower in Sonderborg

The ProjectZero-vision regarding a CO2-neutral Sonderborg area by 2029, has been taken into consideration from the beginning of Sonderborg's new hotel "Alsik", which the Bitten and Mads Clausen foundation and PFA pension has established at the harbor in Sonderborg.

By Peter Rathje.



Alsik is to become a showroom, for the rest of the world to become inspired by the newest technological solutions for reducing CO₂-emission, and energy consumption when new sustainable buildings with low CO₂-prints are established during their initiation, as well as when they are fully operational.

"Alsik demonstrates sustainability in many dimensions. There is an integration of Danfoss' products and energy efficiency they deliver. We are proud of showing this in a new, large, local building. Alsik, however, also represents social sustainability, since it contributes to developing Sonderborg, create new local jobs and attract tourists and visitors to the area. It a goal for the Bitten and Mads Clausen foundation that the Alsik hotel is to create sustainability in more than one way" says Peter Mads Clausen, chairman of the board in the foundation.

Alsik actively contributes to the ProjectZero-vision of Sonderborg, and reaches out for the big zero in 2029

Calculations made by experts show, that the Alsik hotel is 76% CO₂-neutral, based on building in low energy class, energy efficient installations and the related energy supply.

"Since the start of the project of Alsik, sustainability has been the driving force for the solutions we have chosen to utilize, and the sustainability is divided into three dimensions: Social, Economic and Environment. It has been important for us to reduce energy consumption, apply sustainable solutions and integrate them intelligently, so that the short-term goal does not interfere with the long term – and the other way around. Building sustainably is about prioritizing extras", says John Knudsen, project leader in the Bitten and Mads Clausen foundation.



As examples, the project director mentions that the face of Alsik is made out of reusable aluminum, concrete made of natural materials with high thermic capacity, certified and sustainable material on the inside, and greens rooftops that provide shade, remove and reduces the energy, that is necessary for the cooling and heating of the hotel. At the same time, excess heat is stored in a large storage system, that ensures recycling of the energy.

Green energy and heating

Alsik is supplied with power from 380 m² PV-panels from local green district heating that secures heat supply for the 190 rooms of suits, three restaurants along with a spa and wellness area in the hotel.

" With green energy from the windmill park Lillebaelt South, Alsik can, in the long term, become 100% CO₂-neutral" says CEO of ProjectZero, Peter Rathje, who speaks highly of the hotel's builders for considering climate and sustainability since its initiation.

All of the rooms in Alsik utilize technology for decentral ventilation that, just like the remaining technological installations, DHW light, and cooling are connected to a booking system and registration of room usage, so that it is only active when occupied by a guest. The technology enables the guest to save energy by making use of the natural ventilation.

" We have found a good balance between economy and CO₂-neutrality, and we are proud of reaching a 76% CO₂-neutrality at the opening of the hotel. At the same time, we are ensuring that the investments and the running costs enable the hotel operator to run Alsik and manage a hotel that is functional every day regardless of the weather", says John Knudsen.

The Alsik hotel's hot water is preprocessed with an electro light generator, which makes it possible to lower the flow temperature from 55 to 40-45 degrees Celsius, and thereby, saves energy and reduces the energy loss. This, however, means that the flow temperature is so low that it cannot be recycled:

" The hot water is an example of how we have been forced to prioritize the solutions and, in this situation, we have had to choose whether to reduce the energy consumption to produce hot water, or if we want to use the energy from the grey waste water. We found the optimal solution to be reducing the flow temperature" John Knudsen explains.

Local companies ensure low energy consumption and CO₂-emissions.

Apart from the newest energy efficiency solutions from Danfoss, other local solutions from Danish Clean Water, among other, are being utilized. They have developed a legionella control solution, so that the flow temperature can be reduced without harming the quality of the water.

During the entire building phase, there has been a focus on creating jobs for many in the local area, and when the hotel opens, many more will be created including both skilled and unskilled labor.

" A large part of the team on the construction site, such as subcontractors, suppliers and site operators come from Sonderborg and the local area. The many local actors and suppliers have minimized the CO₂-pollution from vehicles. An example of an economically sustainable delivery is the Kolumba bricks from Petersen Tegl in Broagerland, which make up a long wall in the ground floor's restaurant", John Knudsen, project director in the Bitten and Mads

Clausen Foundation explains.

A Sustainable view from the 16th floor

The view from the 16th floor, is an example of Alsik contributes to creating social sustainability, which falls, completely, in line with Peter Mads Clausen's vision of, Alsik contributing to the Sonderborg area's ambition of attracting tourists, along with giving the locals an attraction.

The view platform only has natural ventilation, and no energy is consumed for the room's indoor climate, so when it is cold outside it will be hot on the inside and the other way around. With a summer like in 2018 it will become hot, but we are not sure of, exactly, how hot, but that remains to be seen" John Knudsen, concludes.

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