Fact Sheet OKQ8 Häggvik – Europe's First Sustainable Filling Station

OKQ8 strive for a more sustainable motoring by supplying renewable fuels and car products with lesser impact on the environment. As a part of its strategy OKQ8, will during January 2012, open its first sustainable filling station at Häggvik in Stockholm. The new filling station will be equipped with a range of innovative features, to be tested and evaluated with the longer-term objective to have them implemented in all new sites.

Quick Facts

The Shop

- Information signs describing the selection of sustainable materials used in the construction and the building's effective use of energy
- Only offers environmentally friendly car rental alternatives such as second generation electric cars for rent
- Lightning and ventilation automatically switches on when required
- The staff is trained to communicate about all sustainable products and innovations at OKQ8 Häggvik

The Station

- All commercially available renewable fuels
- Framework built of glulam beams instead of steal
- Sun screens on windows to reduce the need for cooling
- Solar panels on the roof for heating up rain water for the car wash
- Rain collector and 30 cubic rain water tank
- Solar cells as an energy source
- Geothermal heating and free air cooling
- Sedum covered roof for insulation against heat and cold
- Detergent free cleaning of the carwash
- Titanium oxide treated concrete slabs by parking areas and roof to break down pollution with help from the sun
- Specially designed high speed rechargers able to charge electric cars
- LED lightning outdoors

Glulam beam has replaced steal for environmental reasons

OKQ8's renewable filling station has a framework of the renewable material glulam beam, which is less energy consuming than steel and binds CO^2. The station's walls are insulated with the natural material stone wool, made from mineral fibers. Stone wool is favorable both for heat isolation and sound absorption.

Sun screening limits the need to cool down the shop

The shop windows are equipped with sunscreens in order to reduce the need for cooling. 85 percent of the aluminum used as construction material is recycled.

Solar panels, solar cells and sedum roof for effective energy use

The roof is equipped with solar panels for heating up the rainwater, which is used at the station's carwash. The roof will also have solar cells for the station's own energy supply. The shop's roof is covered with sedum, which by its vegetation absorbs pollution and isolates against heat. For a cooling effect the sedum roof is kept moist.

Carbon Dioxide for environmentally adapted cooling of food
The shop's refrigerators, freezers and fast food fridges are kept cool by carbon dioxide -CO_2. By using a less aggressive greenhouse gas as carbon dioxide, a gas which otherwise would have been lost in the atmosphere is being reused. Carbon dioxide is also energy saving with good heat switching abilities. In comparison with other traditional cooling means, carbon dioxide is not poisonous or fire hazardous. For a quieter indoor environment all the shop's compressors will be gathered in a closed space.

Improved heat recycling
The heat from the shop's cooling equipment will, among other things, be used for heating the air in the station's carwash. Through an effective heat recycling the environmental and economic gain will be larger.

LED lightning for energy saving and decreased spillage
On canopies and on the station's facade LED lightning is used for the best visual effects. (LED stands for Low Emitting Diode.) OKQ8 has based its selection on that LED lightning uses less energy. The lightning diode also does not contain any materials hazardous for the environment. In addition, the lightning is connected to motion detectors, which keeps energy consumption down when the station is empty. In the shop and in all other indoor areas only low energy lightning is used.

Internally generated energy via solar cells, solar panels and geothermal heating
Most of the energy demand of the station will be supplied through internally produced energy from solar cells, solar panels, free air cooling and geothermal heating. Both geothermal heating and the free air are extracted from drilled holes within the station area, which are being directed to a cooling- and heating pump. When in need to buy external energy, it will be geothermal heating where the production mainly is renewable with low carbon dioxide emissions.

Motion initiated ventilation for minimal energy consumption
Naturally energy saving solutions like motion detected ventilation, low-energy consuming refrigerators, water-saving toilets and energy effective taps are being used to limit the station's overall energy use.

The only filling station with high speed rechargers for electric cars
Eight parking spaces with high speed recharges for electric cars are being built. The rechargers have been developed in cooperation with Siemens and are as of today the only one of its kind. Customers can buy a code in the station's shop authorizing the use of the recharger. Obviously, the station also provides electric cars for rent.

All commercially available types of fuel for both cars and larger vehicles
All commercially available types of fuel for both cars and larger vehicles are available at the station. E85, gasoline class 1, Alkylate fuel, Diesel, Bio-based fuels, RME and CNG (compressed natural gas). The type of CNG used by OKQ8 is LNG (Liquefied Natural Gas). By supplying liquefied natural gas (LNG) the expected longer-term transition to liquefied bio methane is facilitated. The station is also constructed to facilitate introduction of new renewable fuels.

Parking spaces with reinforced grass framed by concrete slabs that break down nitrogen
For a greener environment half of the station's parking spaces are covered in reinforced grass, a grass growing through a net and thereby keeping the grass in place. Each parking space is also framed by specially designed concrete slabs, which have been treated with titanium oxide. Remaining parking spaces are coated with titanium oxide treated concrete slabs. Even the part of the station's roof, which is not covered by sedum, is covered by titanium oxide. The advantages with the coating are that vehicle emissions like nitrogen are broken down with help from the sun when in contact with the titanium oxide.

Water and chemical saving carwash with maximum wash capacity
The majority of the water supply for the station's carwash comes from a water tank with a storage capacity of 30 cubic meters rainwater. The facility recirculates the water and therefore only approximately 60 liters of water is used per washed car. As normal standard a carwash use between 200 to 300 liters of water per car.

The carwash also recycles 100 percent of the high-pressure-wash, undercarriage cleaning and brush cleaning. The detergent use for the carwash is around 0,2 kg per car. To reduce use of detergent and the water, solar panels on the roof will heat up parts of the rainwater used for the carwash. The water heated by the sun will primarily be used in OKQ8's quick wash. The water is also cleaned through cyclone cleaning and filters with particle separation. The station's cleansed water is therefore free of chemicals.

Through the use of a conveyor belt the carwash at the station can process as many as 40 cars per hour. A normal carwash is only able to process 6 cars.

For further information about OKQ8's sustainable filling station, please contact:
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