

Urban Food from Residual Heat

Site description four – Oskarshamn

VINNOVA



OPEN

Innovation Competition

Urban Food from Residual Heat

- DEADLINE JUNE 2, 2017

compete for
210 000 €

Oskarshamn – a hub for sustainable food production

Oskarshamn is a town with a population of approximately 26,000 located in south-eastern Sweden, in the middle of Kalmar County. Oskarshamn and Kalmar County have a vibrant business community including several large companies, built on innovative thinking and entrepreneurialism. Oskarshamn also champions research and development as an engine for regional growth. Unique, local expertise in the field of geoscience is one example of this.

Kalmar County is highly involved in both small and large scale food production and processing. The region successfully combines its natural environment, traditional knowledge and local entrepreneurial initiatives with advanced insight into sustainable development, technology, and marketing. The food industry is a high-priority area for regional development, with a focus on increased competitiveness and economic growth, as well as the creation of sustainable and innovative products and new partnerships. Several regional actors have already come together to pursue these goals.

Oskarshamn has launched a project to establish a food centre, Food Centre Oskarshamn, at an old airfield site located in the city's catchment area. The purpose of the food centre is to unify logistics, energy, and food production in a sustainable way. Food Centre Oskarshamn aspires to become Europe's most cutting edge centre for circular industrial food production. Its innovative solutions will balance economic and environmental sustainability.

Site description

Oskarshamn Airport

Food Centre Oskarshamn will be built on an old airport site, which is located approximately 10 kilometres north of the city. A business park and cluster of companies is already emerging in this area and their activities cover primary production, processing, and marketing. The area covers 93 hectares and is conveniently located right next to the E22 highway. Food Centre Oskarshamn will be established to encourage innovative solutions for energy supply, new vehicle fuels, business models, and financing. Food Centre Oskarshamn aspires to include both large and small companies, employing 200-500 people.

Oskarshamn's Inner Harbour district

There is an extensive urban transformation going on in the Inner Harbour district of Oskarshamn. The area was historically one of the industrial parts of the city, however, in 2015 the city council unanimously approved a development plan to turn the area into a residential and commercial urban environment. The idea is that this new district in Oskarshamn will be designed and developed to create an area which will provide social functions such as spaces to meet, use services (cafes, bars, restaurants etc.), host public events etc. The development of the area aims to be as environmentally

sustainable as possible through measures such as developing high quality buildings, solar panel installation and extensive bike and footpath networks. Once complete it is foreseen that the area will be home to some 1000 residents.

Residual Heat from the area's industries



OKG Nuclear power plant near Oskarshamn

Oskarshamn Municipality contains several, large industrial companies, which produce large flows of residual heat. The OKG nuclear power plant, for example, uses water to cool its reactors, which generates massive quantities of residual heat. Several studies have validated the potential for establishing large-food production of fish or vegetables using this residual heat.

Challenge description



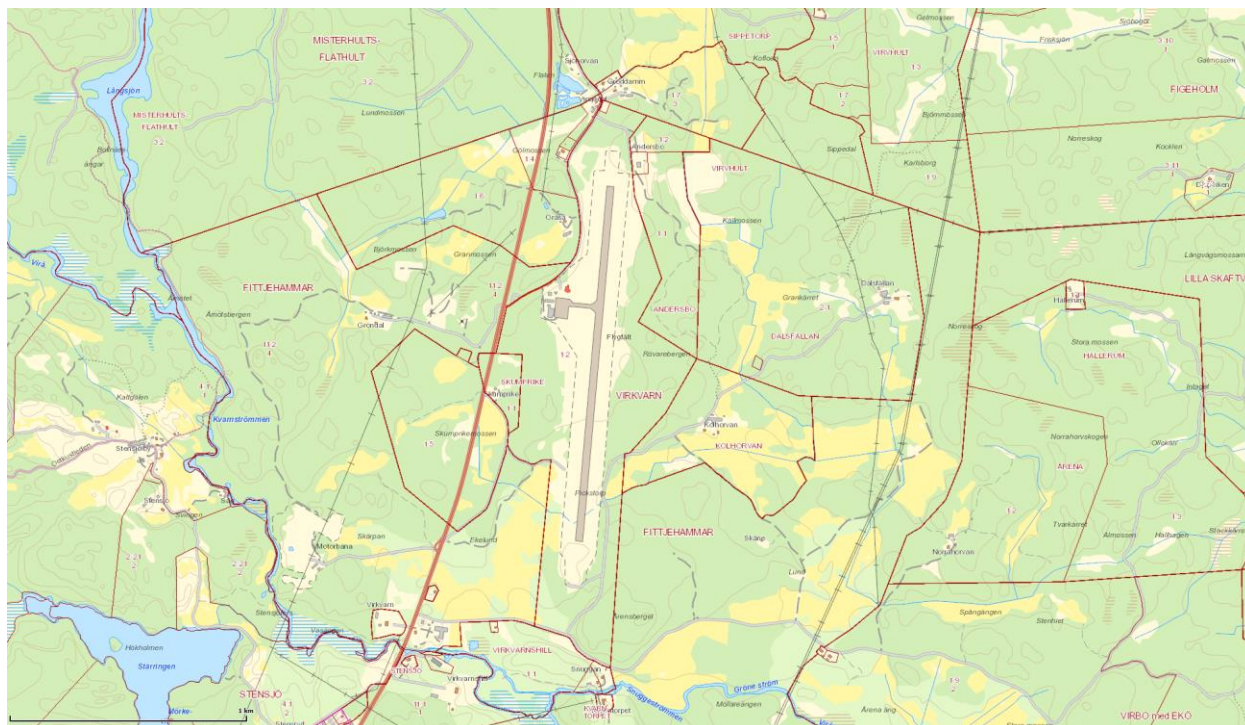
Development preview – Oskarshamn's inner harbour

There is a local desire to establish a sustainable food production demonstration site in an urban environment, in order to promote regional innovation and development. Opportunities for demonstration sites exist both around the actual Food Centre Oskarshamn, located at the old airport site, and in the Inner Harbour district. The latter location used to be an industrial area but is now being transformed into an attractive neighbourhood that acts as an obvious space for people to meet and socialise. Establishing a demonstration of urban food production in the centre of the city allows the use of both industrial residual heat, as well as residual heat from the district system. Fairly extensive work is being undertaken to transform this part of the city, which means that no specific area has been approved yet for the demonstration facility, meaning there is room for flexibility.

Maps of the Greater Oskarshamn area



Map 1 map of the Greater Oskarshamn area including the old airport (Flygplatsen)/proposed Food Centre Oskarshamn site and OKG nuclear facility to the north



Map 2 map of the area surrounding the old airport/proposed Food Centre Oskarshamn site



Map 3 map of the OKG Nuclear power plant facility