

Wind turbines to power arena

Kings Dock facility is set to be most eco-friendly in country

LIVERPOOL'S new waterfront arena is to be the most eco-friendly in the country after European funding masters ordered a green revolution.

A revolutionary silent wind farm at Kings Dock will generate 10% of the electricity needs of the new arena and exhibition centre, currently well under construction.

Rain falling on the vast roof space will be collected and used in utility blocks around the centre, reducing the water needs of the arena by 7.5%.

As part of a package to attract funding from Europe, the city council had to compile an energy sustainability strategy.

The result will make Kings

BY LARRY NEILD

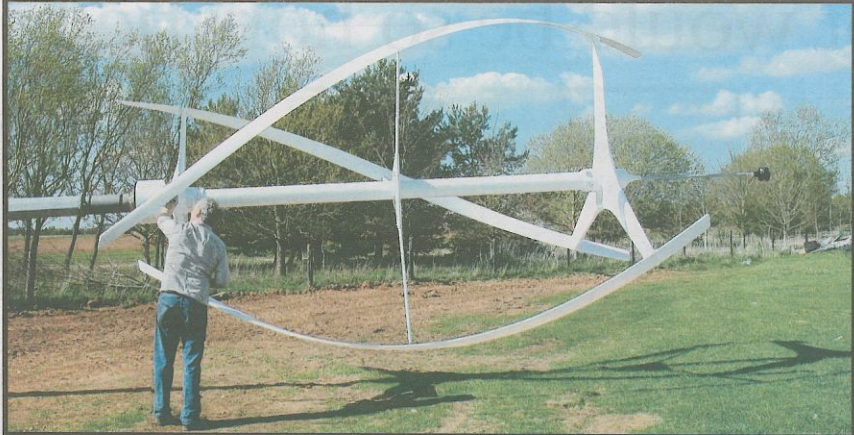
City Editor

Arena the most environmentally-friendly in the country, producing half of the carbon emissions that would be generated without the measures, and cutting electricity needs by at least a fifth.

Planning officers are now studying details of the proposals for five vertical wind turbines (six kilowatts each) close to a terrace near to the river wall at Kings Dock.

The proposed turbines have been specially designed to be virtually noiseless, to ensure

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Wind turbines like this will help power the new Kings Dock Arena

Picture: QUIET REVOLUTION LTD

Green revolution planned at new waterfront arena

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there is no disturbance to events and concerts at the showpiece arena.

Last night, Robert Maguire, development manager for Kings Arena, said: "We have developed our plans at the arena because part of the European funding package insisted on an overall sustainability strategy, which includes on-site renewable energy."

The 1300,000 turbines have been designed by energy experts to provide 10% of the energy needs of the facility.

The blades have been designed to be much smaller than those found on traditional wind farms.

Added Mr Maguire: "These have been selected after a considerable search for their sculptural qualities and their low noise output. They are part of the sustainability measures at the site, that also include collecting rainwater for use in the toilet blocks, natural ventilation and a main power plant that has been specially designed for its efficiency."

The power plant is 40% more efficient than

conventional equipment, making the most of heat-recovery systems to cut heat bills.

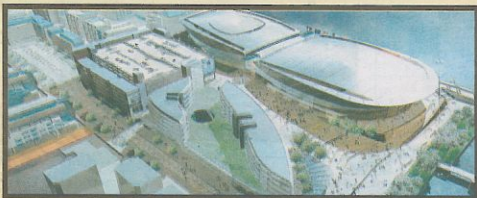
A spokesman for London-based XCo2, who have devised the turbines, said: "We are working with a number of local authorities including Liverpool. Our turbines have been specially designed to work quietly and efficiently at low wind speeds."

Clr Berni Turner, Liverpool's executive member for Green issues, said: "The measures being taken at Kings Waterfront show that regeneration can still be compatible with being green."

"We want it to be the most environmentally-friendly scheme of its type, and it is a great example for other developments. We are encouraging green schemes throughout the city Kings Waterfront shows what can be achieved with a bit of imagination."

Kings Arena is due to open in January, 2008, giving Liverpool a 10,000-seat arena as well as a major conference facility and exhibition hall.

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An artist's impression of the Kings Dock Arena site

Eco-efficient system will reduce carbon production by 50%

SYSTEMS will maximise the benefits of free cooling strategies, building controls and heat recovery systems.

It means that, when the arena's power plant is operating, the carbon production is significantly reduced.

This achieves the same aim as on-site renewable energy as it reduces the amount of electricity or gas coming from the national grid.

It has been calculated the energy required for an identical facility, without the heat recovery provision, would produce

72,000kg of carbon each year.

Due to the extensive use of heat recovery, this will be reduced by 50%.

In addition, the provision of wind turbines will reduce energy consumption from the National Grid by a further 7-8% - a saving in

conventional energy of 21%. Harvesting rainwater from the arena roof will save approximately 7.5% of the total water consumption. Extensive use of natural ventilation will help significantly reduce temperature control costs within the arena.