### Key Issues –

The Avonmouth Wind Power Project at Bristol Sewage Treatment Works is an excellent example of locating renewable energy generation assets in areas of significant energy demand.

The potential benefits of a predominantly industrial location with grid connection potential and good wind resource were carefully assessed against the site’s various and potentially considerable environmental and operational constraints.

The team’s challenge was to harness the wind resource in an environmentally sustainable scheme.

### Purpose of the project

As the regional water and sewage treatment provider, Wessex Water is an energy intensive business. The company has a corporate objective to achieve genuinely sustainable operations and sought to increase on-site renewable energy generation by installing wind turbines at Bristol Sewage Treatment Works. The development was subsequently delivered by Triodos Renewables.

### Description of the project

The Wind Farm at Bristol Sewage Treatment Works, Avonmouth, comprises four REpower MM92 wind turbines, each with a rated capacity of 2.05 MW.

Two of the turbines are located in an area managed as a nature reserve and two within the fully operational treatment site.
Lessons learnt

Wind turbines are large, dynamic structures which can cause a range of environmental impacts that need to be considered at the scoping and planning stage. Environmental development constraints for this scheme included proximity to nearby airfields, telecommunications links, proximity to a Scheduled Monument, designation of part of the development site as a Site of Nature Conservation Interest, the presence of protected species and potential for indirect effects on a nearby European site of nature conservation importance.

The scheme was refined throughout the assessment process to address the findings of the EIA and views of the local community and statutory consultees, whilst maintaining a deliverable and efficient scheme. One of the turbines that initially posed risk to bird and bat species was moved to a less sensitive position, and the energy generating potential of the site and optimisation of the land use was enhanced by adding a fourth turbine.

Contact details

Gemma Melvill
The Landmark Practice
Gemma.melvill@thelandmarkpractice.com
Tel: 0117 923 0455

To ensure that adverse impacts were avoided, a suite of detailed mitigation measures were secured which required careful consideration during site build out.

The seasonal nature of ecological surveys, development activities requiring European Protected Species licencing and mitigation led to a particularly complex construction programme, with negotiation with nature conservation consultees throughout.

In addition to the environmental factors, it was also necessary at every stage to consider the essential daily operational requirements of the waste water treatment works at the site.

Detailed consideration of the interfaces between the construction and operational phases of the wind farm scheme and the Wessex Water operational activities on the site was critical to ensure that both sets of operations could co-exist on this predominantly brownfield location.

For access to more EIA case studies and hundreds of non-technical summaries of Environmental Statements visit:
www.iema.net/qmark