Wind climatology studies

Challenge
The Environment Agency AURN (Automatic Urban and Rural Network) had air quality monitors around an on-site stack which, although a 97% reduction in emissions had been achieved, continued to show high levels of emissions. The Senior Environment Manager needed to prove that these emissions were not coming from his site but could not devise a methodology to achieve this.

Solution
The Met Office carried out a wind climatology for the site to identify the optimum location to site the wind air quality monitors. The Met Office atmospheric dispersion group suggested that with two air quality monitors, the stack emissions could be accurately monitored. A wind study underpinned the optimum location for the air quality monitors. The study combined archived wind data and a technology known as “Virtual Met Mast”. This work was complemented by a site visit by a Met Office instrument expert who considered the potential locations for the air quality monitors and recommended the best sittings.

Benefits
The company used the results of the study and the advice of our instrument specialist to position the air quality monitors to capture the emission levels from the stack. The work was fully validated by the Met Office and the datasets from the monitors can be presented to the Environment Agency for inspection.

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