

Safety v Economics

Aviation and Windfarms

Airports and the Ministry of Defence are statutory consultees for windfarm planning applications because of possible safety impacts on operations. Existing wind turbines cause clutter on radar screens used by air traffic controllers and future turbines may well cause further clutter. The majority of planning objections are due to clutter effects on primary surveillance radar (PSR).

Radar screen clutter (from wind farms or other sources) results in a number of specific concerns:

- Clutter may be considered to be a genuine aircraft (or target).
- Genuine aircraft may become lost within clutter.
- The radar screen becomes more difficult to use because of the additional displayed clutter.

In practice these concerns may be less serious than they first seem for a number of reasons:

- Wind farm clutter is rarely mistaken for genuine targets as most radar units also have secondary surveillance radar (SSR) which is not usually affected by windfarms. Also wind farm clutter comes from relatively small known screen areas – genuine targets are only likely to first appear in such areas if aircraft are flying from airfields near the windfarm area or are flying low.
- Aircraft will not normally be lost unless they carry out significant manoeuvres over large windfarms. Even if they are lost they may not be lost for long. SSR Radar units will not lose SSR equipped aircraft as they overfly windfarms.
- Radar screens often display a lot of information, most of it associated with genuine aircraft. Air Traffic controllers are trained to manage a lot of radar screen information.

Air traffic controllers are duty bound to provide a safe and expeditious service to aircraft under their control so they do not direct aircraft into unsafe situations. Should controllers consider it unsafe to direct aircraft into a particular section of airspace for any reason the aircraft will be directed elsewhere. This means that a particular windfarm cannot in itself make aviation unsafe although it could make a particular section of airspace unsafe in certain situations. A windfarm could possibly cause:

- Air traffic delays
- Increases in fuel burn
- A reduction in airspace capacity
- A restriction on air traffic growth
- An increase in controller workload

Many existing windfarms are detected by radar and do not affect operations in practice. However, the level of air traffic is growing rapidly in the United Kingdom and there is a lot of pressure on airspace used by all sectors of aviation. Most windfarm objections are therefore actually due to potential reductions in airspace capacity as well as restrictions to future growth. The issue is therefore one of economics rather than safety.