



RENEWABLE ENERGY DESK STUDY

A comprehensive pre-feasibility assessment can be undertaken to assess the most suitable renewable generation resource. This provides a, prompt, cost effective, coordinated review employing our in-house capability, and takes into account site suitability in conjunction with planning and technical constraints.

An in-house database search and site visit are undertaken and these include consideration of: -

- Proximity to nearby buildings
- Proximity to sites of historical importance
- Proximity to ecological receptors especially important sites for birds and bats
- Potential of wind resource (wind speed and direction)
- Shadowing effects of nearby properties and vegetation
- Topography
- Geology/hydrogeology
- Orientation of property
- Proximity to electrical connection
- Meteorological data

The benefits of the Desk Study include: -

- Identification of the most viable renewable technology
- Identification of technical issues at an early stage
- Identification of an appropriate scale for the development
- An unbiased assessment of renewable potential
- Identification of the need for planning permission and compliance with GPDO
- Utilising the extensive in-house environmental and geotechnical capabilities of the Harrison Group.

A comprehensive site assessment is undertaken using a specialised database for screening of Environmental and Technical Criteria. This information is incorporated with relevant technical and planning constraints to assess the overall viability of various renewables. This includes an assessment of compliance with General Permitted Development Orders (GPDO's), which are applicable to all micro renewable installations (generating <50kW). If this is the case then it would normally be exempt from planning permission.





GENERAL PERMITTED DEVELOPMENT ORDERS

Since April 2008, General Permitted Development Orders (GPDO's) apply to all micro-renewable installations. Where they do apply, planning permission is not normally required. The following factors will determine the application of GPDO's. The Harrison Group can assess these criteria against your project: -

- Size and scope of project
- Siting in areas of historical or ecological importance
- Microgeneration Certification Scheme

GENERATION METHODS



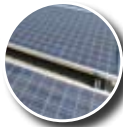
Wind

- Either roof mounted or free standing wind turbines, well sited and with a suitable wind resource can be an effective means of power generation. Assessment of the suitability of the wind resource and location can be carried out on site.
- GPDO's do not yet apply to turbines unless a microgeneration certificate is obtained.
- Technical assessments that may be required include noise, shadow flicker, ecological assessments, landscape and visual impacts and consideration of proximity to neighbouring properties.



Ground Source Heating

- Heat output from ground source heat pumps, whether installed vertically or horizontally, is optimised when used for heating properties.
- GPDO's apply to all geothermal installations.
- Constraints include space for associated infrastructure. Underlying geology (thickness, thermal conductivity and nature of deposits), groundwater, aspect and relief, determines the viability of the heat source. These can be determined by a geotechnical ground investigation and desk based assessment.



Solar Thermal / Solar Photovoltaic (PV)

- Roof mounted or freestanding arrays will heat water (Solar Thermal) or generate electricity directly from the sun (Solar Photovoltaic).
- GPDO's apply to these arrays except when reaching a certain size, when located near the boundary of the property or installed within areas of historical importance.
- Positioning of panels to achieve optimum performance is assessed on site. Shadowing effects from other buildings and vegetation combined with analysis of local meteorological conditions will contribute to confirming viability.



Biomass

- Biomass boilers use sustainable fuel sources such as wood pellets rather than fossil fuels for heating homes and supplying hot water.
- GPDO's apply in most cases unless the proposed flue is greater than 1m above roof height or installed within areas of historical importance.
- The main constraints are sufficient storage space for fuel and its availability.

