Irish Solar Energy Association

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Solar PV & Planning

Introduction

With the cost of energy rising, the financial attractiveness of installing solar PV panels is increasing. Ireland has one of the lowest deployments of solar in Europe and yet the total global investment in solar has exceeded wind every year for the last five years (*Bloomberg, 2015).* Solar PV is silent, has no moving parts, no emissions and requires no water use. In fact solar energy has the least environmental impact of all electricity generation. Planned sensitively, solar can deliver a net planning and biodiversity gain.

Site Selection and Planning Considerations

In an urban setting there are many opportunities to deploy solar effectively and sensitively. Ideally roof-tops should be flat or south facing and be structurally suitable. When planning solar projects in a rural setting, the key elements that are considered in site selection are as follows:

1. Solar resource
2. Grid connection opportunity and cost
3. Conservation designation and biodiversity
4. Site size, topography, access, and ground conditions
5. Near and far shading
6. Visual impact and landscape impact
7. Current use of land
8. Proximity to residences or other commercial activities

An optimal site is one that permits panels to be south facing thereby maximising the amount of sun that the panels are exposed to. In rural settings this is often easier, while in urban settings projects contend with issues inherent to the built environment and various urban development policies. Planning in rural and urban settings requires consideration of the impacts of project on the environment in terms of visual impact, biodiversity and other considerations. From the experience of Germany, the UK, and other European countries, a well sited large-scale solar project should not require an Environmental Impact Assessment.

Rural Considerations & Opportunities

Large-scale Solar projects requiring circa 25 acres for a 5 megawatt installation do not necessitate a complete change in land use. Agricultural land is used most often, however, the land can remain in agricultural production as 95% to 98% of the land remains under grass sward. Many well-managed solar farms are dual-use with sheep grazing carried out on the site. The land taken away from other uses is minimal compared to other energy sources[1]. During the lifetime of the solar project no intensive farming practices will take place on the land, so the soil naturally regenerates and is returned in a better condition at the end of the project life.

Solar installations do not typically exceed 2.5 to 3m in height and have minimal visual impact if suitably sited. Any visual impact can be easily mitigated with the planting of hedges around solar farms. There are a number of biodiversity benefits to solar described in the *Solar and Biodiversity Fact Sheet.*

Solar can be deployed with minimum disturbance during construction as it typically takes one week per megawatt to install. Correctly planned solar farms do not use concrete and are fully reversible, after the project life of 25 to 30 years.

Urban Considerations & Opportunities

The built environment is a significant factor in the amount of light reaching panels in an urban setting. Solar can be deployed efficiently and with minimum disturbance in cities and towns. It is the most suitable technology for distributed generation and can deliver real savings on domestic and commercial electricity bills. The negative environmental impact of roof-top solar is considered minimal, and in the UK projects up to one megawatt in size are considered permitted development and do not require planning permission.

The speed with which solar PV can be installed and taken down presents an opportunity for the temporary use of brownfields, vacant land, and derelict sites. Use of these sites for solar can temporarily generate energy for communities and businesses, while their next use is determined.

[1] EPIA (2012)