



Tilting at windmills

ONE OF THE WAYS in which the UK hopes to achieve its target of lowering CO₂ is by increasing the amount of energy we produce from wind power. Land-based wind farms have been with us now for some time, and off-shore ones have swung into operation in the last two years.

Like many other initiatives, the construction of wind farms is not without its problems, and there are some strong lobbies trying to prevent the development of this form of energy generation. Any proposal to site wind turbines is likely to meet with vociferous opposition, though the vast majority of people who live near wind farms are happy with them.

Objections include aesthetic considera-

tions and the loss of countryside, the limited amount of energy we are at present able to harvest from wind, and fears about the possible noise they might cause. It is important that we take seriously the concerns of those who reject wind power, and try to address them.

I myself have always found wind turbines elegant and beautiful, but I know that not everyone would agree with that aesthetic assessment. Even though I warm to a peaceful scene of sheep grazing on hillsides in Wales, with the gentle rhythmical dance of turbine blades gyrating lazily above, I understand that others are outraged to see turbines sprouting on our hilltops, particularly in Areas of Outstanding Natural Beauty.

Spain now has thousands of wind farms. They spread across the northern hills and line much of the coast. Even I would be appalled if every green space in Britain was requisitioned for the erection of turbines. The success of off-shore wind farms over the last couple of years has moved that nightmare scenario even further from the realms of the possible. Even before we started to achieve success with off-shore wind, however, there really were no plans to cover our green and pleasant land with wall-to-wall wind farms. Quite apart from anything else, many areas are not at all suitable for harvesting wind. Siting wind farms in areas without sufficient wind would be economically disastrous.

The figures

Do we produce enough energy from wind power to make it worthwhile? At present we generate 889 MW of electricity from 1186 turbines in 94 wind projects – a little over 1.5% of our energy requirements. By 2020 the aim is to produce 20% of our electricity from renewables, and of that between half and three quarters is likely to come from wind. For the next few years roughly half will come from on-shore and half from off-shore, but after 2015 off-shore will dominate. That may not be a huge percentage of our power, but it represents energy that we are able to harvest with no adverse consequences to the environment.

Other technologies are being researched and developed, but none is yet at a stage where it makes a contribution to rival that of wind. The embodied energy of wind turbines is not high: as the energy used in manufacturing and constructing a wind farm is recouped in just six months operation, the energy balance is extremely positive.

Wind power is a form of solar power,