

REVOLT position statement, October 2009

1. Background

REVOLT was founded in 1991 principally to object to the proposed 50-mile 400 kV overhead transmission line from Teesside to York, using evidence, analysis and technical expertise. A second objective was to promote rational energy distribution policy. The group had all-party support and worked in collaboration with the several local authorities involved.

The Electricity Act 1989 had privatised the UK electricity industry. A “dash for gas” characterised generation in the early 1990s, as North Sea gas was exploited. This threatened to exacerbate the north - south separation of generation from demand. In the 21st century, gas is running out and government policy is driving renewable generation, especially wind farms.

After several public inquiries and hearings, with unprecedented numbers of landowners refusing to grant voluntary wayleaves, and after objectors won many concessions and delays, the new Yorkshire line was completed in 2003. By this time REVOLT was an internet-based international focus for public concerns about transmission lines, related energy policy and electro-magnetic fields (EMFs). REVOLT’s formal objectives, as amended October 2004, are:

- To oppose unnecessary, excessive and intrusive powerline development;
- To press for a co-ordinated UK energy policy;
- To monitor developments related to powerlines and to liaise with similar organisations;
- To promote a precautionary policy on public health matters relating to powerlines;
- To promote alternative systems of transmission.

2. Politics and argument

REVOLT is strictly non-party-political and has enjoyed support from all the main UK parties. We seek to follow reason and evidence in arguing a balanced and credible case, informed by up-to-date science and technology, and so welcome discussion and stakeholder dialogue.

3. Public electricity supply

While bulk generation of electricity involves waste, pollution and energy costs, REVOLT recognises the benefits of a public electricity supply and accepts the need for distribution and transmission networks. Connection to a public network can make local and renewable generation and CHP more economically viable. We do not necessarily accept all the compulsory powers in their present form and we are concerned about human rights issues.

4. Energy policy

REVOLT takes no position on economic growth or privatisation, but recognises the importance of secure, diverse and reliable energy supply, of sustainability and of efficient use of natural resources. The benefits of competition have to be weighed against the problems of private interests, regulated monopolies and market distortion. We support the broad principles of localisation and CHP, diversity of energy sources and methods, and low-carbon energy. We encourage the development of renewable and hydrogen-based energy in place of carbon-based energy and would welcome more research on small-scale distributed generation.

5. Global warming

REVOLT recognises the scientific evidence, and the uncertainty, on the different questions of

- the nature and extent of global warming,
- the increase in greenhouse gases, particularly CO₂,
- the relative influence of man-made and natural (e.g. solar) effects upon climate change,
- the risks and benefits of climate change.

REVOLT supports reducing man-made greenhouse gas emissions as a precautionary measure, provided that such measures are proportionate and do not unfairly or unreasonably create other forms of damage.

6. Wind farms

Wind power can provide some net renewable energy, but has serious limitations arising from its intermittence and high variability. Factors to be taken into account include:

- energy cost of concrete foundations and construction, and of local infrastructure,
- economic cost of stand-by generation and grid reinforcement,
- environmental impact of infrastructure and power lines,
- limited market penetration due to grid stability and balancing issues,
- bulk long distance transmission implications,
- alternative forms of renewable energy generation.

As a precautionary measure in response to the uncertainty of global warming, REVOLT accepts wind power development near areas of net demand and not in areas of high landscape value, subject to local consent and careful environmental impact assessment.

7. Nuclear power

REVOLT takes no firm position on nuclear power per se. On the one hand there are advantages of an essentially carbon-free, large-scale source of energy. On the other hand there are dangerous waste products, albeit in small volume, with both political security and long term disposal problems.

8. Transmission lines

REVOLT accepts the need for a basic transmission grid to provide a secure public electricity supply. We oppose unnecessary, excessive and intrusive development. We advocate more local generation and CHP to improve efficiency and balance of regional generation with demand. Inter-regional grid will still be needed for security and balancing purposes. Where renewable energy policy requires bulk dislocation of generation from demand, long-distance HVDC buried or sub-sea cables should be considered rather than piecemeal increase of overhead lines, especially around the UK in the context of an EU supergrid.

Transmission standards should be applied carefully in the public interest, for a minimal necessary grid, and not abused in order to promote excessive or speculative development. We encourage technological innovation into alternatives to overhead lines and into better pylon design and location, for example along motorways.

9. Underground cables

REVOLT recognises that underground cables are more expensive than overhead lines, though finds the difference is sometimes exaggerated, as is the impact of undergrounding. With the now standard XLPE technology, costs and impacts may be substantially reduced. We call on government and National grid to investigate and explain the lower cost ratios in other EU countries, than in the UK, identified in EU reports and highlighted in commercial evidence to the Beaulieu-Denny inquiry, and reiterated in commercial consultants' reports in Ireland.

We encourage research and development into new technologies. Remote drilling and tunnelling technologies are already well established. DC cables offer advantages for long undersea or underground cables. Superconducting technology offers potentially more favourable cost ratios when the large savings in electricity losses are taken into account. We recommend short-stretch undergrounding to reduce residential impacts, and pilot development of new technologies for long-distance transmission in scenic areas.

10. Environmental appraisal and protection

REVOLT supports the environmental principle of internalisation: that is the secondary effects and environmental damage caused by a project should be assessed and charged to the project, in determining its viability. This also reflects the polluter-pays principle.

In a hybrid economic system with private regulated monopolies, costs borne by utility companies may in any case be passed on to consumers through allowed price increases. This is one way to fund undergrounding and new technology in the public interest.

Proposals for new power stations should be required to include all transmission implications as secondary effects within their formal Environmental Impact Assessments (EIA). An appropriate share of the cost of "deep reinforcement", in addition to local connections, should be charged to the power station developer.

Where wayleaves for power lines are due for renewal, with or without the voluntary agreement of the landowner, and the original installation was not subject to EIA, an EIA should be required in the public interest. Local planning and public responses should then be sought, in the light of which Secretary of State should have the power to revoke consent.

Where powerline proposals are part of a larger strategy, such as providing for remote wind farms, there should be a Strategic Environmental Assessment (SEA), seeking out strategic alternatives with reduced impact. In particular, proposals relating to UK renewable energy policy should be considered on a UK and wider basis, including under-sea alternatives.

11. Property devaluation and compensation

While there is no entitlement to a view in English law, there is a serious injustice when significant damage to quality of life or loss of property value is imposed disproportionately upon residents, as a result of a public or private development. The injustice is particularly great when a new powerline passes through a neighbouring property close to a family residence, leaving the family with no influence on wayleave matters and no compensation, yet

facing losses possibly greater than their life savings. The injustice applies both to imposed visual impact and to imposed EMF exposures and health fears, particularly in urban housing.

REVOLT feels that compensation for new powerline developments should, in the public interest, reflect property devaluation and should extend to all residents affected as well as wayleave grantors. Although wayleave grantors receive compensation, current levels are far too low and should be reviewed. The lack of adequate compensation for wayleaves should not be allowed to create an unfair inducement to concede permanent easements. The cost of all such compensation should be incorporated in the cost of the powerline project, and allowed by the regulator within reasonable limits to be passed on to consumers.

We accept that such compensation may not readily extend to all commercial development, but recommend such a policy for quasi-public developments such as powerlines, wind farms and phone masts, as a matter of public interest and justice. Adequate levels of compensation would reduce objection and deter excessive development.

REVOLT calls on government to issue guidance on wayleaves for land close to powerlines. We understand the government position to be that where the line doesn't oversail the land even with swing, but comes within ESQCR safety distances, thereby imposing some liability on the landowner, the requirement for a wayleave is a civil matter to be determined by the courts. We ask government to say that a wayleave should be expected because there is a recognised imposition over the land which affects the landowners' enjoyment of it.

12. Public health issues

Electro-magnetic fields (EMFs) from powerlines are recognised by IARC (the International Agency for Research in Cancer) as a possible carcinogen, in the light of the persistent association with childhood leukaemia. There is a body of evidence suggesting other diseases, such as cancers and neurological diseases, may also be associated. Apart from EMFs, powerlines emit corona ions causing clouds of charged aerosol particles to drift in the wind, although it is not firmly established that this causes specific harm. Biological evidence suggests there may be cumulative damaging processes, such as stress upon immune systems, pro-oxidant stress, or cumulative damage to DNA which eventually leads to cancerous cells.

REVOLT accepts that it is plausible that EMFs and / or charged aerosols may contribute to cumulative biological effects which can eventually become harmful, and therefore may be factors in multi-causal and multi-effect modern diseases affecting immune, neurological or other systems, particularly in susceptible sub-groups of the general population. On the other hand, we recognise that the number of cases of childhood leukaemia attributed on current knowledge to EMF from powerlines is very small, although it is likely to be understated

- through using a threshold dose-response assumption which is not justified by the evidence (e.g. a linear-no-threshold assumption could increase the estimate 30-fold);
- through reference to inappropriate exposure measures (e.g. not focusing on nocturnal exposure and suppression of melatonin);
- and through inappropriate study populations (diluting effects by considering only whole populations and failing to consider susceptible subgroups, whereas, for example, important genetic subgroups have been identified).

Given the scientific evidence relating to diseases other than childhood leukaemia, it is unreasonable to suppose that EMF may be a causal factor for childhood leukaemia alone, and not to be a factor for others such as adult leukaemia. Since the other implicated diseases tend to be much more common, the combined impact of EMFs would be some 100 times greater than for childhood leukaemia alone.

Therefore REVOLT recommends precautionary policy in reducing such exposures as far as reasonably achievable. This should apply immediately to new powerline proposals and to new building near existing powerlines, and, in a phased programme, to reviewing existing exposures from existing powerlines. We note that some other countries have already adopted precautionary measures.

REVOLT recognises the work of SAGE, the Stakeholder Advisory Group on ELF-EMFs hosted by the Department of Health, and supports its First Interim Assessment as far as it goes. We go further and call for adopting at least the “best available option” of a 60 metre corridor between new lines and homes.

13. Action to remove existing lines

REVOLT calls for the removal of the worst cases of existing UK high-voltage powerlines on a cost-limited priority basis. We support the policy, part-funded by Ofgem, of removal of low-voltage lines in National Parks. We would wish to consider also potential health impact of the worst-case EMF exposures, both for individual homes and the group impact on large numbers of homes. Costs could be limited by an affordable levy on the power industry as a very small fraction of annual electricity costs. Features to consider for candidate cases include:

- (a) length and type of line (voltage, number of circuits) to be removed;
- (b) numbers of homes within 60 or 100 metres;
- (c) EMF measurements and other sources, e.g. masts;
- (d) visual impact on homes and amenity;
- (e) age of line and any refurbishment plans;
- (f) routes for undergrounding or alternative siting;
- (g) photographs;
- (h) any other features or related impacts.

14. Policy on commercial links and recommendations.

REVOLT does not recommend or provide web links to commercial services, for example for environmental consultants, legal services and wayleave services, because of possible perceptions of favour and also because of occasional negative feedback. We are content to take appropriate voluntary body and information links. The area of EMF measurements is a little different; we have links to some bodies which have been prominent in voluntary activity alongside offering EMF measurement services.

The REVOLT web site has links to umbrella and specialist organisations. We try to prioritise our coverage in relation to power lines and associated works like substations. We do not directly cover related and overlapping topics like masts, mobile phones, Wi Fi, electromagnetic sensitivity (ES), radio-frequency (RF) EMFs, and wind farms, but some of our links do.

MJOC (as amended 12-10-09)