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**BBC NEWS**

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Thursday, 21 September, 2000, 00:37 GMT

01:37 UK

**Cancer rise linked to power lines**

The pylon debate has raged for decades

**By Alex Kirby, BBC News Online environment correspondent and presenter of Costing the Earth**

UK researchers claim to have found sharply higher cancer rates in people living close to overhead power lines.

If their findings apply nationally, it would suggest premature deaths on the scale of the annual road accident toll.

The researchers say the excess cancers are found only in people living downwind of the lines.

And they say this is strong evidence to support one theory of how electric fields may damage health.

But their work, described in BBC Radio Four's environment programme "Costing the Earth" has been rejected by the National Grid, the company that operates the power lines.

**Ionising effect**

The research appears to vindicate a theory developed by Professor Denis Henshaw of the Physics Department at Bristol University in the West of England.

He has found that a power line ionises the surrounding air, and believes this makes windborne pollution much more dangerous.

"It splits the air up into positive and negative electrical charges, which are blown away from the power line by the wind" he says. "They attach themselves to the particles of pollution in the air, and put an electrical charge to them. When you inhale those small particles, they have a much higher possibility of sticking in the lung."

Professor Henshaw stresses that his work deal with the electrical effects of power lines, not their magnetic fields. It is experimental and so far unproven.

But the new research finding appear to bear him out. The head of the research team is Dr. Alan Preece, an epidemiologist in the Oncology Department of Bristol University Medical Centre.

### **Large excess**

Doctor Preece told the programme: "We're assessing the relative cancer risk within 400 meters of the lines. We looked at the postcodes of all the diagnosis of cancer of SW England. We found an excess, particularly of lung cancer, in that group of people that lived within 400 m. of a line at the time of the diagnostic. You are likelier to get cancer there but only if you live downwind, which is almost proof or very strong supportive evidence, for the effect of the aerosols driven by the wind."

Dr Preece's work is yet to be published officialy. But a conference in Germany earlier this year of the Bioelectro-magnetics Society heard that it suggested an average increase in the cancer risk of 29% over the expected rate.

Across the country, this could mean more than 3000 premature death annually, roughly the number of people killed on the roads annually.

Asked how confident he was of his findings, Dr Preece said: "I'm amazed to see how robust they appear to be. Being cautious, I would love to repeat the study in another part of England to see if we've got the same effect. It would be very easy to do."

### **Sceptical note**

Studies of electrical industry workers in Canada and elsewhere support the hypothesis that electric fields are involved in the cancer process as a tumour promoter.

But the National Grid which owns the UK's power lines, says it is "sympathetic but unconvinced" by Professor Henshaw and Dr. Preece.

The Grid's scientific adviser and spokesman for the UK Electricity Association, Dr John Swanson, said the industry had spent perhaps half a billion dollars worldwide over the last 20 years researching the effects of the power lines.

"We have never said in a categorical way that power lines are safe" he said.

"What we have always said is that when you look at the totality of studies, then you come to the conclusion that the balance of evidence is that power lines and the field they produce do not have an effect on health."