

Soot a key source of global warming

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Soot from fireplaces, diesel engines and other sources could be the second largest cause of global warming.

In a computer modelling experiment reported in *Nature*, researchers from Stanford University in California say soot is second only to carbon dioxide as a cause of human-induced warming.

Research leader Mark Jacobson, a professor of civil and environmental engineering, said, "I estimate very conservatively that it causes about 15 to 30 per cent of global warming."

The research found that soot combines with other particles in the atmosphere, a previously unexpected phenomenon. Its black colour causes the mixture to absorb heat from the sun, thereby warming the surrounding atmosphere.

"These black-carbon mixtures turn out to be one of the most important components of global warming, Professor Jacobson said.

A senior researcher at CSIRO Atmospheric Research, Dr Leon Rotstajn, said yesterday that soot has been known for some time as a factor in global warming. He said the research by Dr Jacobson, a respected climate scientist, was "interesting".

"It's probably the most realistic measurement of the effect of soot so far," Dr Rotstajn said.

He said if the increased role

of soot in global warming was confirmed by further research, it raised new opportunities to mitigate global warming.

"Soot only stays in the atmosphere for a few days, whereas carbon dioxide can remain for 100 years," he said.

Reductions in soot emissions could thus lead to a slowing of the global warming trend in the short term.