

THE CAMP FOR CLIMATE ACTION IN SCOTLAND

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Adverse effects
of open-cast
coal mining



Health Stats

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Introduction

There has been no commissioned research into the effects of open-cast coal mining on the health of Douglasdale residents. Globally, no research has yet been undertaken on the health effects of open-cast coal-mining operations which span such large spatial extents and decades-long time scale as those pending for the Douglasdale region.

Simple analysis performed on publicly available data reveal striking ill-health in people who reside near the Douglas and Dalmellington open-cast coal mines, as compared with aggregated UK health statistics and with a nearby Scottish town upwind from the mines.

Glossary

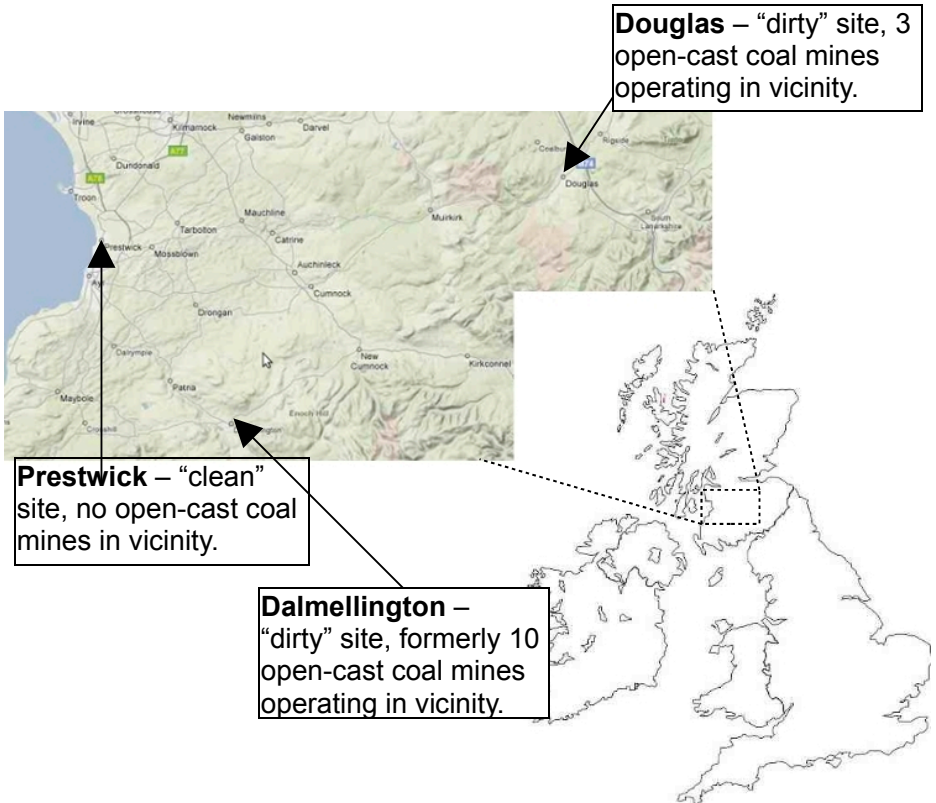
Open-cast coal-mining - a method of extracting coal from the earth by first removing the overlying soil and rock, then extracting the underlying coal. During this procedure, large quantities of particulate matter of varying composition is lofted into the atmosphere. The end result of open-cast mining is a sheared-off mountaintop and a large open pit. Restoration activities include replacing some portion of the rock and/or filling the remaining pit with water.

Particulate matter - tiny particles of solid or liquid that are suspended in a gas or liquid, such as coal and mineral dust in the atmosphere.

Chronic Obstructive Pulmonary Disease (COPD) – condition that causes the airways of your lungs to narrow, leading to intolerable breathing difficulties. Can result from scarring of lung tissue due to repeated exposure to particulate matter such as dust from coal mining.

Chronic Kidney Disease (CKD) – also known as chronic renal disease, is a progressive loss of renal function over a period of months or years. Considered a hereditary disease, it also occurs within populations adjacent open-cast coal mines for undetermined reasons.

Site Comparison



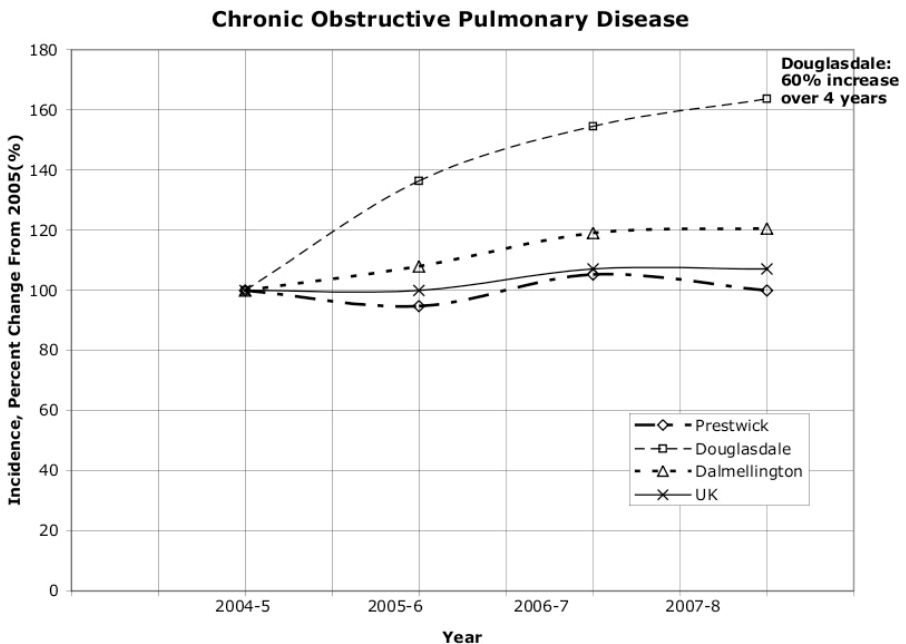
The Douglasdale area, comprised of the villages of Douglas, Rigside, and Coalburn, is host to multiple simultaneously operating open-cast coal mines, the extensions alone to one of which mines is estimated to contain 4 million tones of coal. Douglas is currently the proposed, and approved, site of several new coal mining extensions and of an entirely new open-cast mining operation to be located within 1000mt of the village’s hospital.

Prestwick, a seaside town with prevailing winds coming off the Irish Sea, is a relatively “clean” site, its atmosphere free of particulate matter arising from coal mining activities. Dalmellington, a village once ringed by 10 operational coal mines, most of which are now defunct, is

considered a formerly extremely “dirty” site.

The Dalmellington site is helpful as an extreme case to assess the ill health effects of increasing the concurrently open tonnage near Douglas, and Prestwick is helpful in the opposite extreme, to control for any contributing factors to ill-health, such as poor diet or smoking, in the general Scottish population.

Health Statistics



Given space limitations of this pamphlet, we emphasize a single disease, chronic obstructive pulmonary disease (COPD), that is characteristic in individuals that regularly inhale particulates associated with coal-mining activities.

The figure above demonstrates that, at the coastal site of Prestwick, the incidence of COPD cases is relatively stable over the 4-year period

of publicly available data, despite the presence of atmospheric particulate load contributions from the international airport there.

In Dalmellington, where the 10 local open-cast mines are no longer operational, the number of newly diagnosed COPD cases is increasing at a much lesser rate, but the number of existing cases is unusually high, at 7.6%, which is 5 times the UK average of 1.5%.

Currently, COPD incidence in the Douglasdale Medical Practice is over twice the UK average, up 60% from 2005, concurrent with the increasing extent of open-cast coal mining activities in the area.

A sampling of other comparative health statistics also reveals amplified incidence rates at the Douglasdale locale: asthma and hypertension up 44%, hypothyroidism up 80%, and cancer rates up 250% over the past 4 years.

Some disease statistics are less reliable, having only been surveyed for the past two years, such as chronic kidney disease (CKD), a disease that has been shown to have increased incidence in areas adjacent coal mines in the eastern United States. The incidence of CKD between these two years in Douglasdale has doubled.

The cancer rates in Douglasdale merit specific mention. NHS Scotland reports that the greater Clydesdale area cancer rate is 5% less than the Scottish average, however Douglasdale, situated within Clydesdale, has a cancer rate 23% greater than the Scottish average.

Conclusion

The above preliminary analysis of disease incidence and mortality indicates that there are significant differences between baseline health statistics and those in areas in which there are open-cast coal mines.

Such readily apparent differences warrant the halt of further expansion of open-cast coal mining in the region until it is determined, by commissioned epidemiological study, what the tolerably safe level of concurrent open-cast coal mining is.

International Studies

Mortality from heart, respiratory, and kidney disease in coal mining areas of Appalachia. M Hendryx, *Archives of Occupational and Environmental Health*, 2009.

Environmental Impacts of Coal Mining In India. Krishnamurthy, K.V. *Proceedings of the National Seminar on Environmental Engineering with special emphasis on Mining Environment, NSEEME-2004*, 19-20, March 2004.

Relations between Health Indicators and Residential Proximity to Coal Mining in West Virginia. Michael Hendryx and Melissa M. Ahem. *American Journal of Public Health*, Vol 98, No. 4, April 2008.

Consultations of Children Living Near Open-Cast Coal Mines. Denise Howel; Tanja Pless-Mulloli; Ross Darnell, *Environmental Health Perspectives* 109, 567-71, 2001.

Early Childhood Lower Respiratory Illness and Air Pollution. Irva Hertz-Picciotto, et al. *Environ Health Perspect.* 2007.

Contact & Version Info

This preliminary report has been compiled by Kirstie Stramler, Ph.D under the auspices of the Indymedia team at the Mainshill Solidarity Camp during The Scottish Camp for Climate Action.

This report is a first draft composed solely with the use of uncontested, publicly accessible data, and as such is subject to modification pending the accumulation of further evidence.

Report available at <http://coalhealthstudy.wordpress.com>

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What People Say

Miner's View... Against the Open Cast Mines

... for the record and for the thousandth time we will make our position clear. We oppose all opencast mining and call upon the government to exploit fully Britain's enormous deep-mined coal reserves. To do otherwise is to leave this country at the mercy of foreign coal, gas and oil merchants who will continue to raise the price for energy as our own coal and gas reserves are depleted through overuse of gas and sterilization of coal. –“The Miner”, NUM Journal, April/May 2005

Meikle's view in 1996... Against the Open-Cast Mines

... Danny Meikle, argued, for a final decision to be delayed while all the environmental and health issues are looked into... He claimed that Clydesdale could end up as “a moonscape” if unfettered opencast developments were allowed... He further doubted claims of any major job gains for the area. When Dalquhandy opened, it was claimed 100 local jobs would be created; in reality it only came to a few dozen and, even then, mostly for workers who travelled from Ayrshire. –Lanark Gazette, 25 January 1996

Meikle in 2008... In Favour of the Mines... What's changed?

I am 100% behind the opencast mines and the introduction of new jobs to the area... These people need to look at the bigger picture and the bottom line is that the coal has to come out... The benefits that the development can bring in terms of jobs are fantastic. We have to attract more companies like Scottish Coal to the area. --Danny Meikle, Lanark Gazette, 23 July 2008

Scottish climate policy is hypocritical & counter-productive

The Scottish government boasts of stringent targets to cut emissions while squeezing North Sea oil reserves and approving new opencast coal mines. No wonder people are taking into their own hands to highlight this hypocrisy. –George Monbiot, Guardian UK, 7 Aug 2009

Rogue's Gallery

Questions to Answer?



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