

12 September 2014

Director - Infrastructure Projects
Department of Planning and Environment
Number: SSI 13_6136
Major Projects Assessment
GPO Box 39
SYDNEY NSW 2001

NorthConnex Application Number: SSI 13_6136

I **object** to the project as described in the EIS. I am shocked to think that any government in this day and age would consider such a public health risk in locating the Northconnex omissions stack in such an inappropriate position, located close to schools and residential homes.

Our local GP who is part of the Doctors action group, has informed me of her research into the health implications and I have now undertaken my own research and am horrified at the implications of the proposed location of the northern ventilation stack.

Whilst I live in Roseville, and therefore are not directly impacted I had intended to send my son to primary school in Wahroonga, which incredibly is only a few hundred meters away from the ventilation stack proposed location. Obviously, if the stack ever were to go ahead in that location, I would not send him there. However, many parents are not in the position to make this choice, and I feel outraged that they may be forced to place their children in such dangerous conditions.

I have read numerous papers and studies to get to this view point and am now of the strong opinion that the detrimental impact on children's lungs is significant.

I would urge the government to review the material presented by the European Lung Foundation: <http://www.erswhitebook.org/chapters/outdoor-environment/> Chapter six, specifically reviews research on the impact of the outdoor environment, largely traffic pollution, on lung health. The evidence is overwhelming: pollution causes lung disease, asthma, and stunted lung growth.

Even if our government decides ethically that sick children and adults are not an issue, there is also a strong financial argument for keeping children and adults out of hospitals. I would urge Northconnex and Minister Pru Goward to review the literature, or have an independent body tasked with reviewing the material:

- Eisner MD, Anthonisen N, Coultas D, *et al.* An official American Thoracic Society public policy statement: novel risk factors and the global burden of chronic obstructive pulmonary disease. *Am J Respir Crit Care Med* 2010; 182: 693–718.
- Götschi T, Heinrich J, Sunyer J, *et al.* Long-term effects of ambient air pollution on lung function: a review. *Epidemiology* 2008; 19: 690–701.

- Gowers AM, Cullinan P, Ayres JG, *et al.* Does outdoor air pollution induce new cases of asthma? Biological plausibility and evidence: a review. *Respirology* 2012; 17: 887–898.
- Jacquemin B, Schikowski T, Carsin AE, *et al.* The role of air pollution in adult-onset asthma - a review of the current evidence. *Semin Respir Crit Care Med* 2012; 33: 606–619.
- Künzli N, Perez L, Rapp R. Air Quality and Health. Lausanne, European Respiratory Society, 2010. www.ersnet.org/airquality (in English, French, German, Italian, Turkish, and Catalan).
- Pope CA 3rd, Dockery DW. Health effects of fine particulate air pollution: lines that connect. *J Air Waste Manag Assoc* 2006; 56: 709–742.
- Schikowski T, Mills IC, Anderson HR, *et al.* Ambient air pollution: a cause for COPD? *Eur Respir J* 2013 [In press DOI: 10.1183/09031936.00100112].
- World Health Organization. Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. Global update 2005. WHO/SDE/PHE/OEH/06.02. 2005. Geneva, World Health Organization, 2005.

Studies related to the figures

- Beelen R, Hoek G, van den Brandt PA, *et al.* Long-term effects of traffic-related air pollution on mortality in a Dutch cohort (NLCS-AIR study). *Environ Health Perspect* 2008; 116: 196–202.
- Filleul L, Rondeau V, Vandentorren S, *et al.* Twenty five year mortality and air pollution: results from the French PAARC survey. *Occup Environ Med* 2005; 62: 453–460.
- Gehring U, Heinrich J, Krämer U, *et al.* Long-term exposure to ambient air pollution and cardiopulmonary mortality in women. *Epidemiology* 2006; 17: 545–551.
- Hazenkamp-von Arx ME, Schindler C, Ragettli MS, *et al.* Impacts of highway traffic exhaust in alpine valleys on the respiratory health in adults: a cross-sectional study. *Environ Health* 2011; 10: 13.
- Naess Ø, Nafstad P, Aamodt G, *et al.* Relation between concentration of air pollution and cause-specific mortality: four-year exposures to nitrogen dioxide and particulate matter pollutants in 470 neighborhoods in Oslo, Norway. *Am J Epidemiol* 2007; 165: 435–443.
- Nafstad P, Håheim LL, Wisløff T, *et al.* Urban air pollution and mortality in a cohort of Norwegian men. *Environ Health Perspect* 2004; 112: 610–615.

Further studies on air pollution and respiratory health

- Brandt SJ, Perez L, Künzli N, *et al.* Costs of childhood asthma due to traffic-related pollution in two California communities. *Eur Respir J* 2012; 40: 363–370.
- Castro-Giner F, Künzli N, Jacquemin B, *et al.* Traffic-related air pollution, oxidative stress genes, and asthma (ECHRS). *Environ Health Perspect* 2009; 117: 1919–1924.
- Curjuric I, Imboden M, Nadif R, *et al.* Different genes interact with particulate matter and tobacco smoke exposure in affecting lung function decline in the general population. *PLoS One* 2012; 7: e40175.
- Downs SH, Schindler C, Liu LJ, *et al.* Reduced exposure to PM₁₀ and attenuated age-related decline in lung function. *N Engl J Med* 2007; 357: 2338–2347.

- Gauderman WJ, Avol E, Gilliland F, *et al.* The effect of air pollution on lung development from 10 to 18 years of age. *N Engl J Med* 2004; 351: 1057–1067.
- Gehring U, Wijger AH, Brauer M, *et al.* Traffic-related air pollution and the development of asthma and allergies during the first 8 years of life. *Am J Respir Crit Care Med* 2010; 181: 596–603.
- Gilliland FD. Outdoor air pollution, genetic susceptibility, and asthma management: opportunities for intervention to reduce the burden of asthma. *Pediatrics* 2009; 123: Suppl. 3, S168–S173.
- Imboden M, Schwartz J, Schindler C, *et al.* Decreased PM_{2.5} exposure attenuates age-related lung function decline: genetic variants in p53, p21, and CCND1 modify this effect. *Environ Health Perspect* 2009; 117: 1420–1427.
- Jacquemin B, Kauffmann F, Pin I, *et al.* Air pollution and asthma control in the Epidemiological study on the Genetics and Environment of Asthma. *J Epidemiol Community Health* 2012; 66: 796–802.
- Jacquemin B, Sunyer J, Forsberg B, *et al.* Association between modelled traffic-related air pollution and asthma score in the ECRHS. *Eur Respir J* 2009; 34: 834–842.
- Künzli N, Bridevaux PO, Liu LJ, *et al.* Traffic-related air pollution correlates with adult-onset asthma among never-smokers. *Thorax* 2009; 64: 664–670.
- Künzli N, Kaiser R, Medina S, *et al.* Public-health impact of outdoor and traffic-related air pollution: a European assessment. *Lancet* 2000; 356: 795–801.
- Nafstad P, Håheim LL, Oftedal B, *et al.* Lung cancer and air pollution: a 27 year follow up of 16 209 Norwegian men. *Thorax* 2003; 58: 1071–1076.
- Perez L, Declercq C, Iñiguez C, *et al.* Chronic burden of near-roadway traffic pollution in 10 European cities (APHEKOM network). *Eur Respir J* 2013 [In press DOI: 10.1183/09031936.00031112].
- Pope CA 3rd, Burnett RT, Thun MJ, *et al.* Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *JAMA* 2002; 287: 1132–1141.
- Raaschou-Nielsen O, Andersen ZJ, Hvidberg M, *et al.* Air pollution from traffic and risk for lung cancer in three Danish cohorts. *Cancer Epidemiol Biomarkers Prev* 2010; 19: 1284–1291.
- Romieu I, Garcia-Esteban R, Sunyer J, *et al.* The effect of supplementation with omega-3 polyunsaturated fatty acids on markers of oxidative stress in elderly exposed to PM_{2.5}. *Environ Health Perspect* 2008; 116: 1237–1242.
- Romieu I, Sienra-Monge JJ, Ramírez-Aguilar M, *et al.* Genetic polymorphism of GSTM1 and antioxidant supplementation influence lung function in relation to ozone exposure in asthmatic children in Mexico City. *Thorax* 2004; 59: 8–10.
- Samoli E, Peng R, Ramsay T, *et al.* Acute effects of ambient particulate matter on mortality in Europe and North America: results from the APHENA study. *Environ Health Perspect* 2008; 116: 1480–1486.
- Schindler C, Keidel D, Gerbase MW, *et al.* Improvements in PM_{2.5} exposure and reduced rates of respiratory symptoms in a cohort of Swiss adults (SAPALDIA). *Am J Respir Crit Care Med* 2009; 179: 579–587.

NorthConnex EIS Submission

I urge NorthConnex and the government to protect the community and locate the stack AWAY FROM RESIDENTIAL AREAS. I support the proposal from the community group CAPS to locate the chimney into bushland, and am very concerned about locating the stack in a valley, where the wind will not be able to disperse the pollution from the tunnel.

I would ask NorthConnex to verify the claim that there will no portal emissions from the current proposal. How can this be proven?

I believe the air quality modeling is flawed:

- a) The meteorological data from other weather stations used to extrapolate the effect does not represent the local topography, and the valley location.
- b) The background air quality is based on air taken at Lindfield and Prospect and the lack of any actual data on PM_{2.5}

Having spoken to several people living in Wahroonga, I was surprised to find none were aware of the proposal. None claim to have had any letter sent to them. Surely community consultation should be inclusive of the very people who are living in the community. I am concerned that there hasn't been effective, inclusive community consultation.

In conclusion, to address our concerns I am asking for the following to be undertaken:

- An independent review of the literature on pollution and health as provided in this letter, so that the government can truly understand the magnitude of the health risk associated with vehicle emissions
- An independent assessment of the alternative options for the location of the ventilation stack/portals. Extending the tunnel to bush land may cost more, be slightly less convenient for motorists, but this is a cost worth paying if it keeps our children safer
- Effective community consultation, with an aim of reaching the local community personally, and raising the awareness of the proposal in their suburb; the current 'community consultation' does not appear to have been effective in reaching those who will be impacted
- The Department does not approve the project in its current form as it does not meet the principles of Ecologically Sustainable Development as required by the Environmental Planning and Assessment Act.

To conclude, one of the mothers I spoke to about this said she isn't worried at all about the proposal, in her words "***There is no way on earth, our government would let something like this go ahead, in this day and age. It just won't happen***".

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Roseville