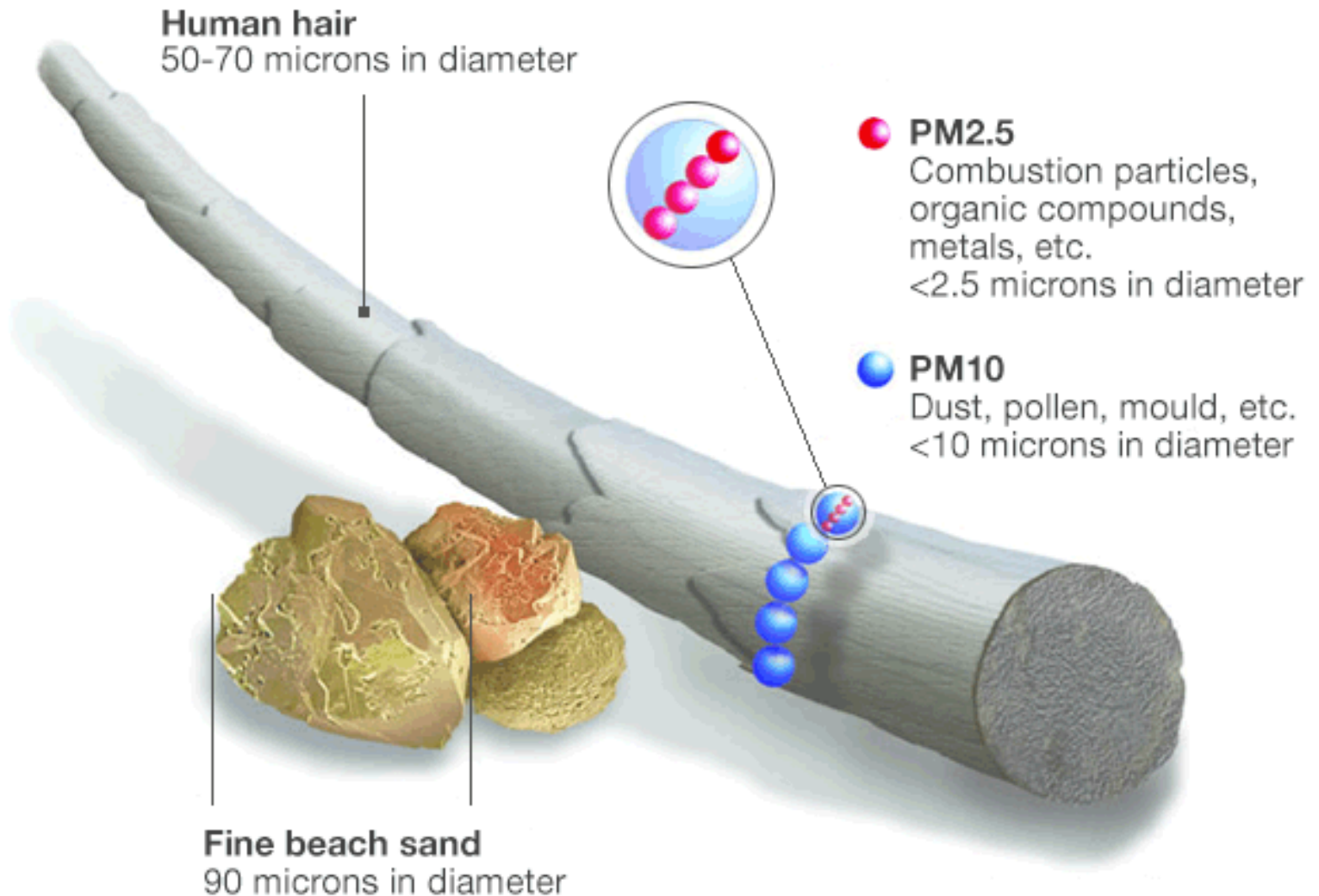


# Air quality in Newcastle

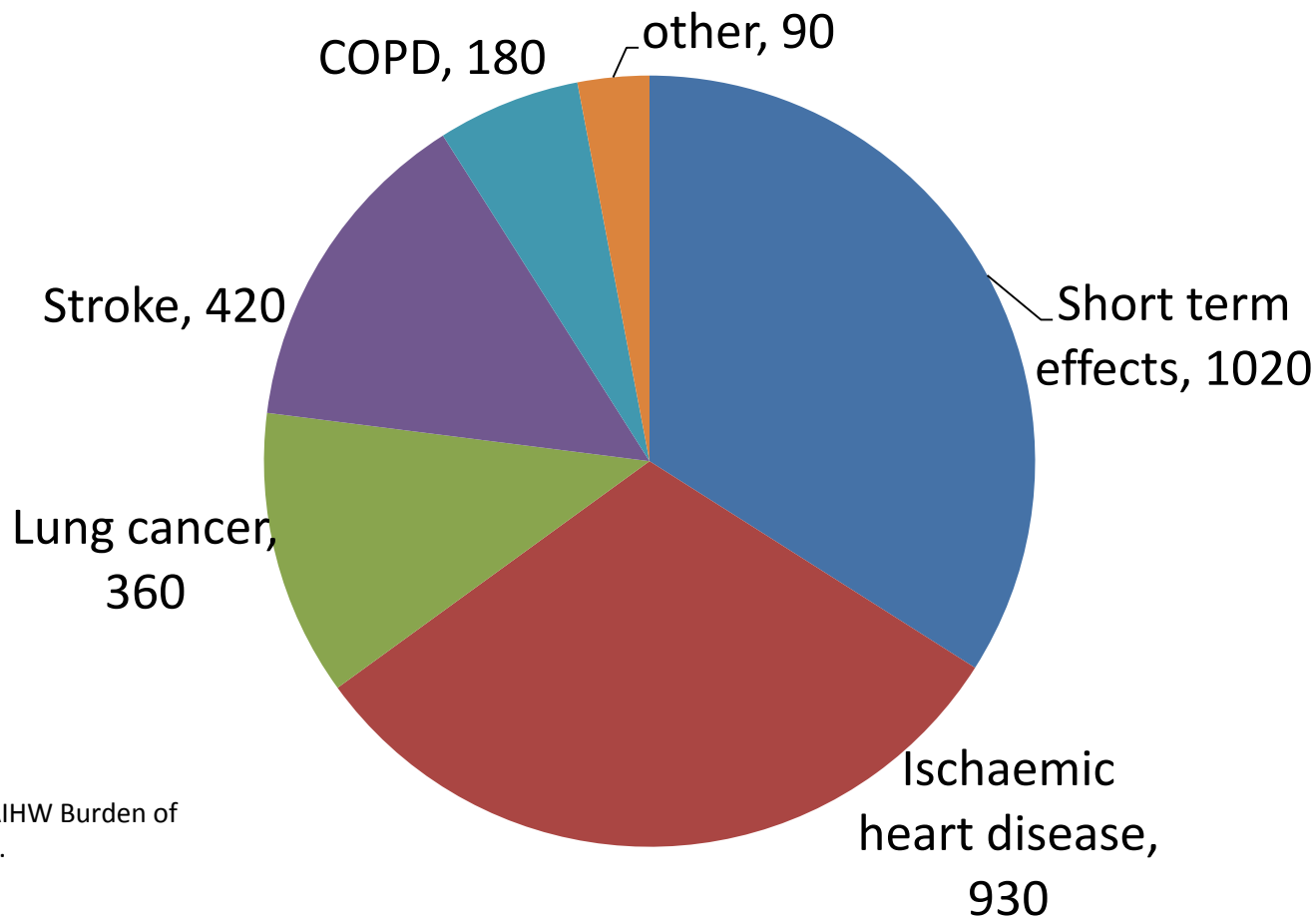
Fourth coal loader and the new  
NEPM standards

Dr Ben Ewald

# Particulate air pollution

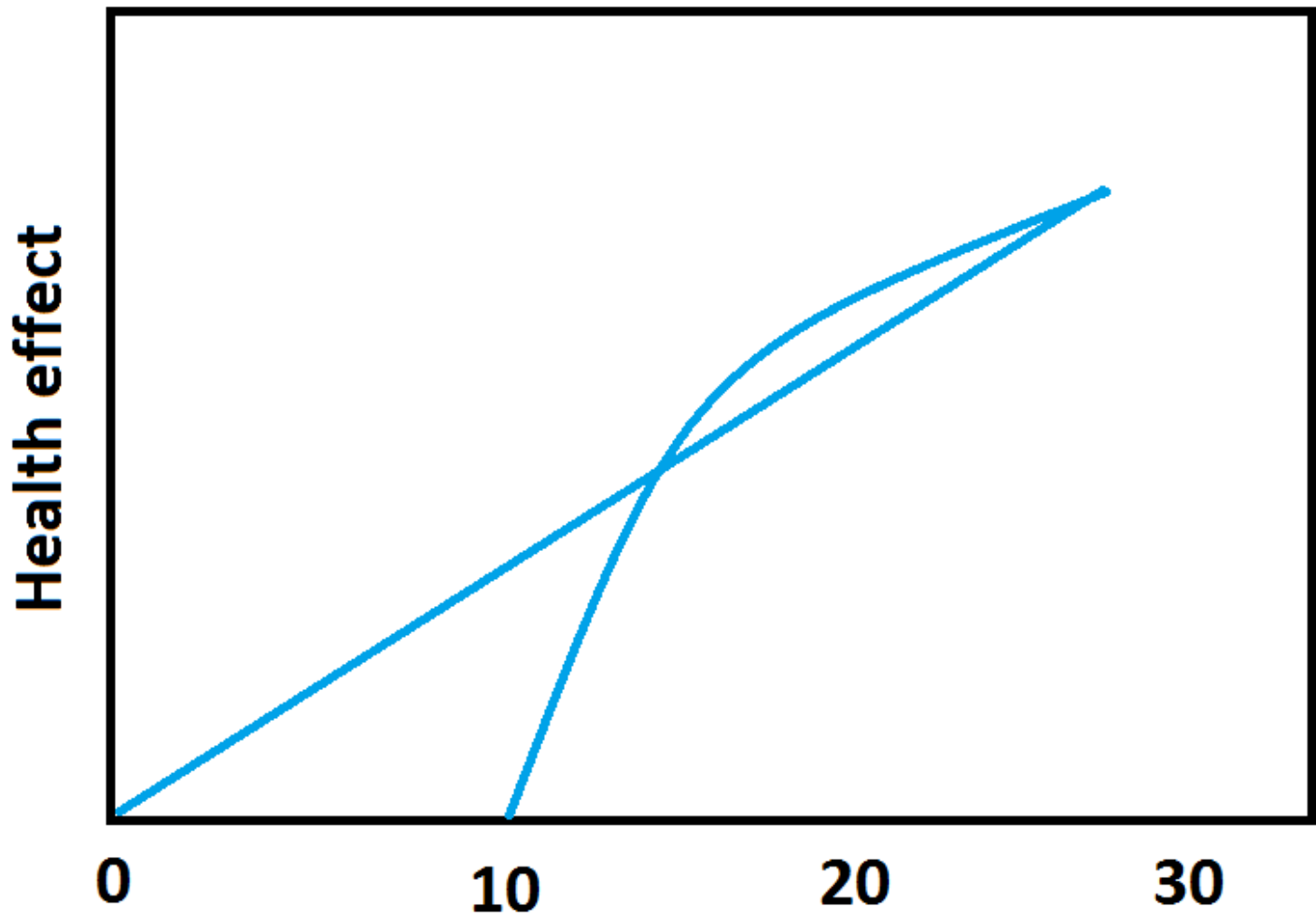


# 3000 deaths per year in Australia due to air pollution



Begg, 2003, AIHW Burden of disease study.

# Many effects have no threshold



# Old and new NEPM standards

Particle size	Old standard	New standard	Allowed exceedences
PM 10 daily	50 ug/m <sup>3</sup>	40 or 50	5 / year
PM10 annual	none	20	Nil
PM2.5 daily	25 ug/m <sup>3</sup> advisory	25 compulsory	Nil
PM2.5 annual	8 ug/m <sup>3</sup> advisory	8 compulsory	Nil

# Annual averages at EPA monitors

ug/m <sup>3</sup>	Walls PM10	Newc PM10	Beres PM10	Walls PM2.5	Beres PM2.5
2006	18.5	21.1	21.3	6.4	6.8
2007	17.3		20.4	5.8	6.3
2008	15.4	20.6	18.5	5.9	6
2009	26.7	31.3	28.7	8	8.6
2010	14.9	18.7	16.6	4.7	6
2011	14.2	19.1	17.2	4.8	5.5
2012	14.9	20.6	21.4	5.1	8
2013		22.6	21.5	7.6	8.3
Mean	17.4	22.0	20.7	6.0	6.9

# Modelled receiver locations, and EPA monitoring sites

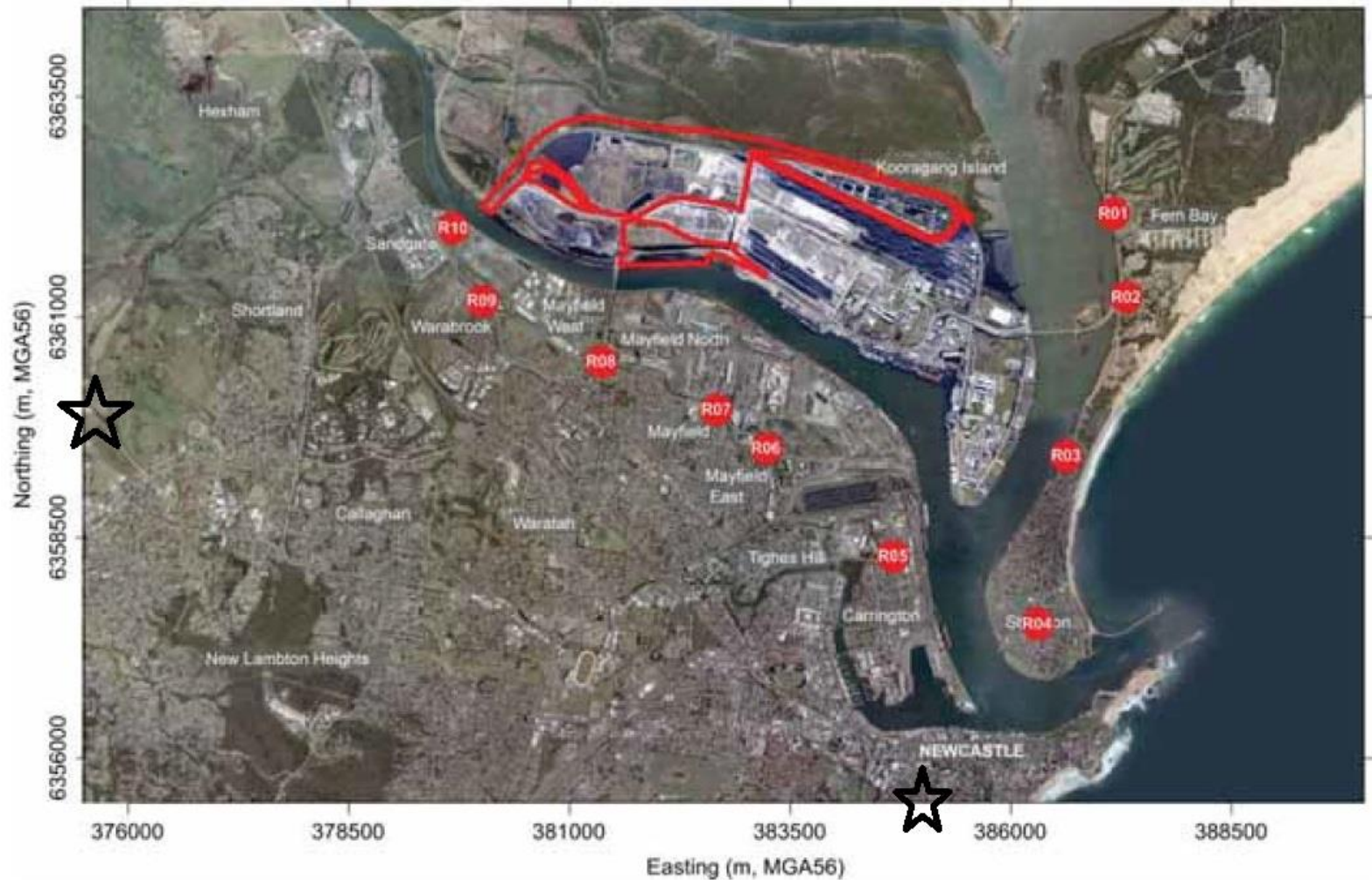


Figure 2: Assessment Locations

Table 26 appendix O, Predicted incremental and cumulative annual average PM10.  
 Scenario2, 25mtpa plus construction, with added realistic baseline values

Locations	T4 only	Baseline	Cumulative	Realistic baseline	Realistic cumulative
RO1 Fern Bay	0.3	18.5	18.8	21.4	21.7
RO2 Stockton Hosp	0.4	18.9	19.4	21.4	21.8
RO3 Stockton N.	0.4	19.6	20.1	21.4	21.8
RO4 Stockton	0.2	17.6	17.9	21.4	21.6
RO5 Carrington	0.4	18.3	18.7	21.4	21.8
RO6 Mayfield E.	0.8	18.8	19.6	21.4	22.2
RO7 Mayfield	1.1	18.9	20.1	21.4	22.5
RO8 Mayfield W.	1.5	18.6	20.1	21.4	22.9
RO9 Warabrook	1.6	18.4	19.9	21.4	23.0
R10 Sandgate	2.5	18.8	21.2	21.4	23.9



# Conclusions

- The assessment of health effects in the EIS used out of date methods, that will not meet the new standards that will be adopted before T4 construction begins.
- Newcastle's air is already polluted with particulates, this is having an impact on health, and T4 will increase the impact.
- The impact on the population along the rail corridor has not been assessed in the EIS, and will be substantial.