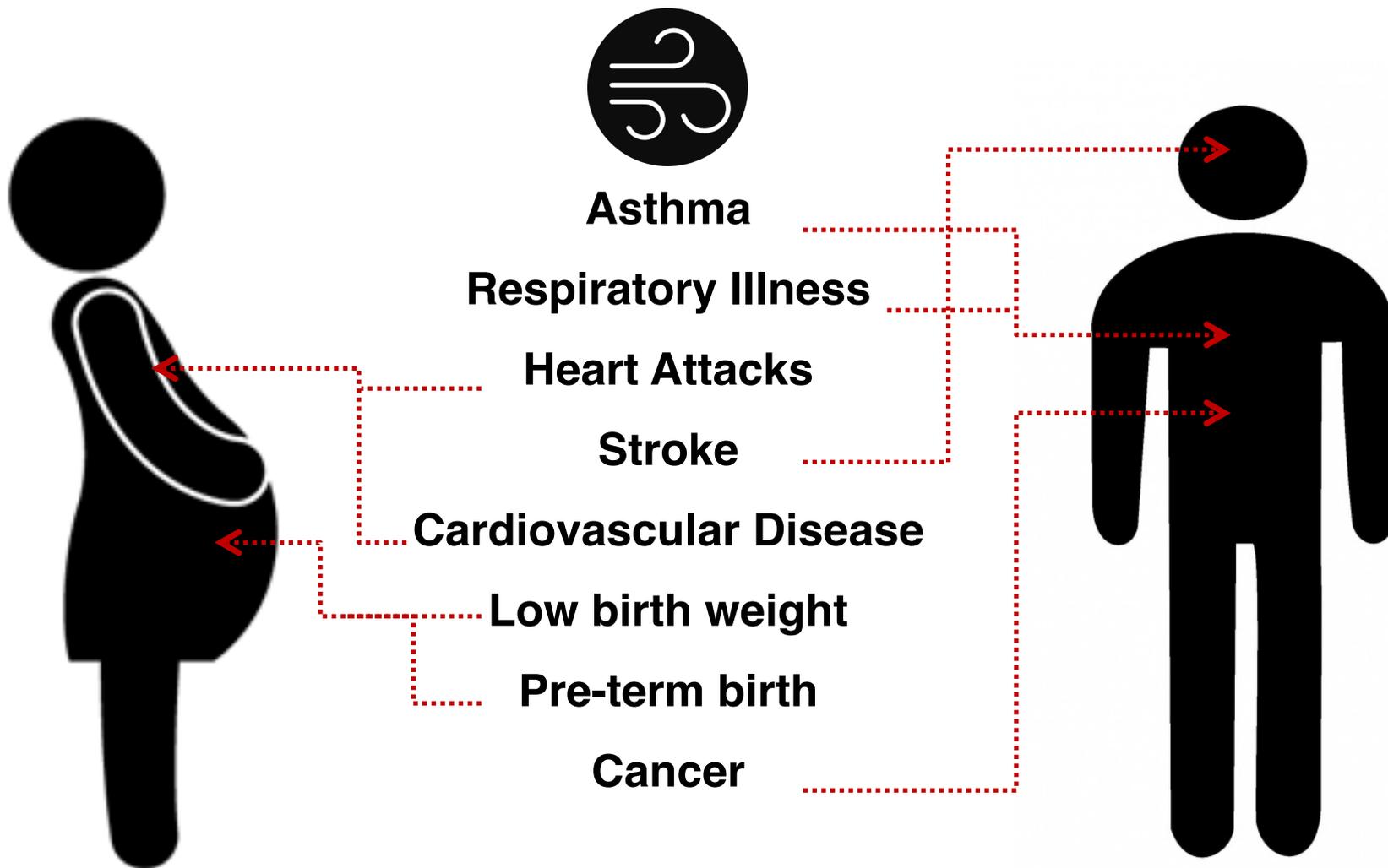
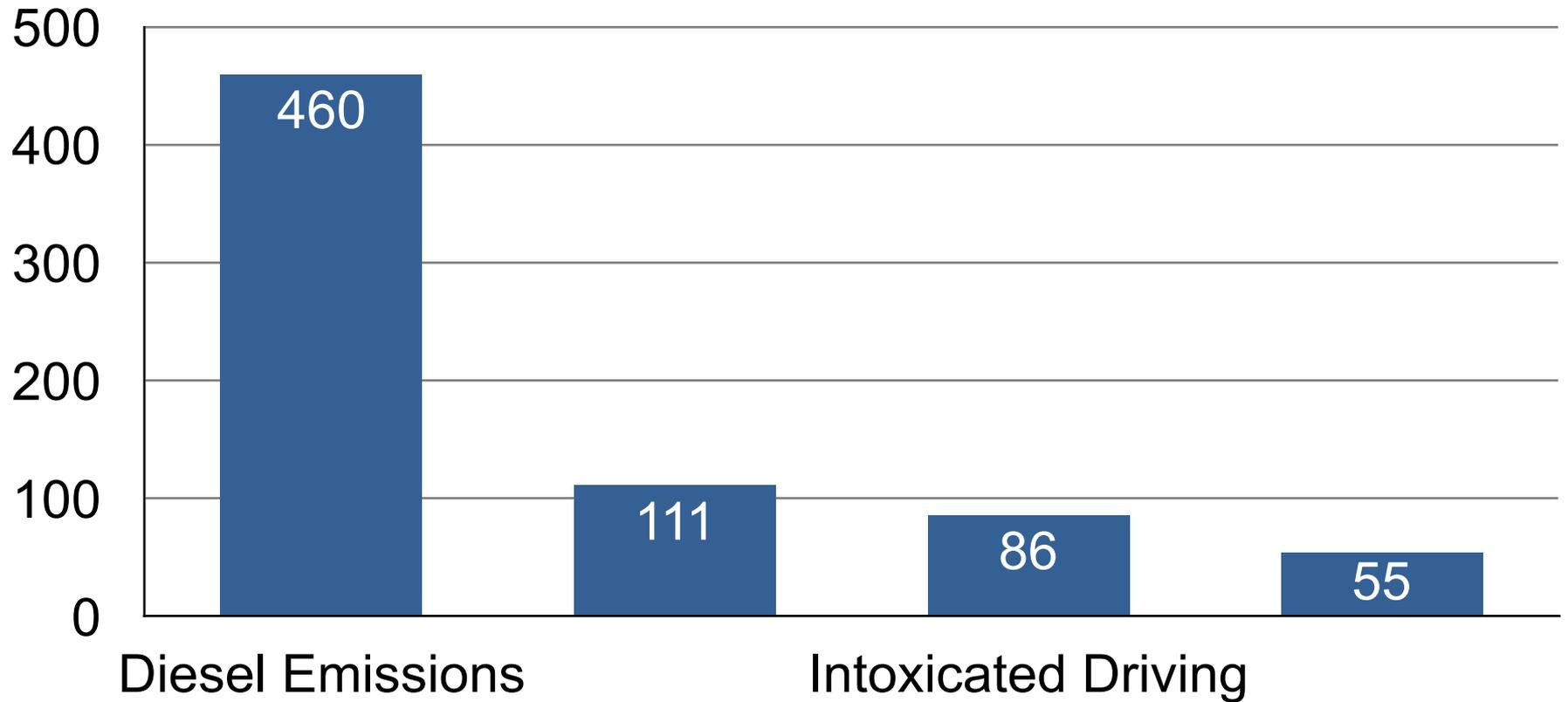


Diesel // Health Effects



Select Causes of Premature Death (Oregon 2012)



Adults

- 145 non-fatal heart attacks
- 25,910 Work Loss Days
- 151,000 Minor Restricted Activity Days

Children

- 119 Asthma ED visits
- 250 Acute Bronchitis
- 3,200 lower respiratory symptoms
- 5,300 Asthma Exacerbations

Annual Impact: \$ 3,500,000,000



Diesel // Neurodevelopmental Effects

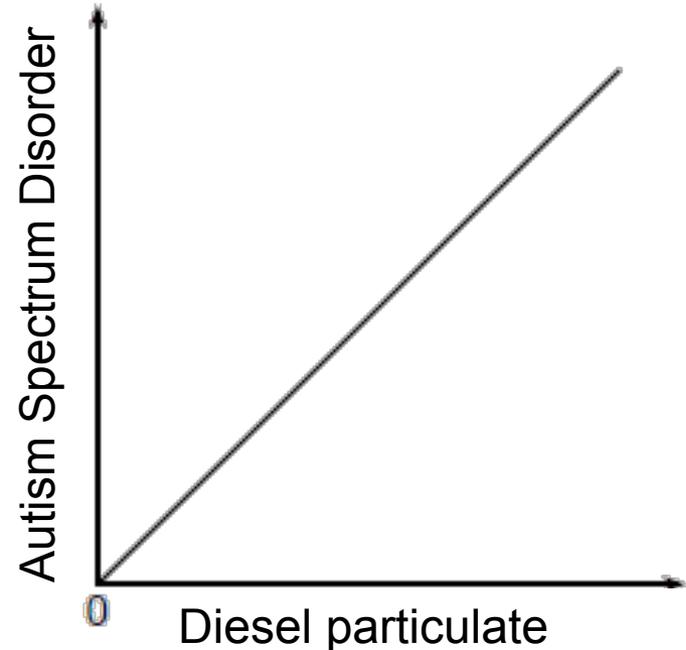


Diesel // Neurodevelopmental Effects

Table 2. Odds ratios of ASD by quintile of pollutant exposure, children of the Nurses' Health Study II, born 1987-2002.*

	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5		Wald χ^2 tests, p-values		
	Cases/ controls (n)	OR (95% CI)	Trend	Q5 versus Q1	Sex-by- pollutant interaction								
Pooled metals^d		1.0 (Ref)											
Both sexes			1.2 (1.1, 1.4)		1.3 (1.1, 1.5)		1.3 (1.2, 1.5)		1.4 (1.3, 1.6)		<0.0001	<0.0001	<0.0001
Boys			1.2 (1.1, 1.4)		1.4 (1.2, 1.6)		1.4 (1.2, 1.7)		1.6 (1.4, 1.8)		<0.0001	<0.0001	
Girls			1.3 (1.0, 1.8)		1.0 (0.7, 1.4)		1.0 (0.7, 1.4)		0.9 (0.6, 1.2)		0.32	0.74	
Overall metals^d													
Both sexes													
Boys													
Girls													
Antimony													
Both sexes													
Boys													
Girls													
Arsenic													
Both sexes													
Boys													
Girls													
Lead													
Both sexes													
Boys													
Girls													
Manganese													
Both sexes													
Boys													
Girls													
Mercury													
Both sexes													
Boys													
Girls													
Nickel													
Both sexes													
Boys													
Girls													
Diesel particulate mean (grams/m³)													
Both sexes													
Boys													
Girls													
Methylene chloride mean (µg/m³)													
Both sexes													
Boys													
Girls													
Quinoline mean (µg/m³)													
Both sexes													
Boys													
Girls													
Styrene mean (µg/m³)													
Both sexes													
Boys													
Girls													
Trichloroethylene mean (µg/m³)													
Both sexes													
Boys													
Girls													
Vinyl chloride mean (µg/m³)													
Both sexes													
Boys													
Girls													

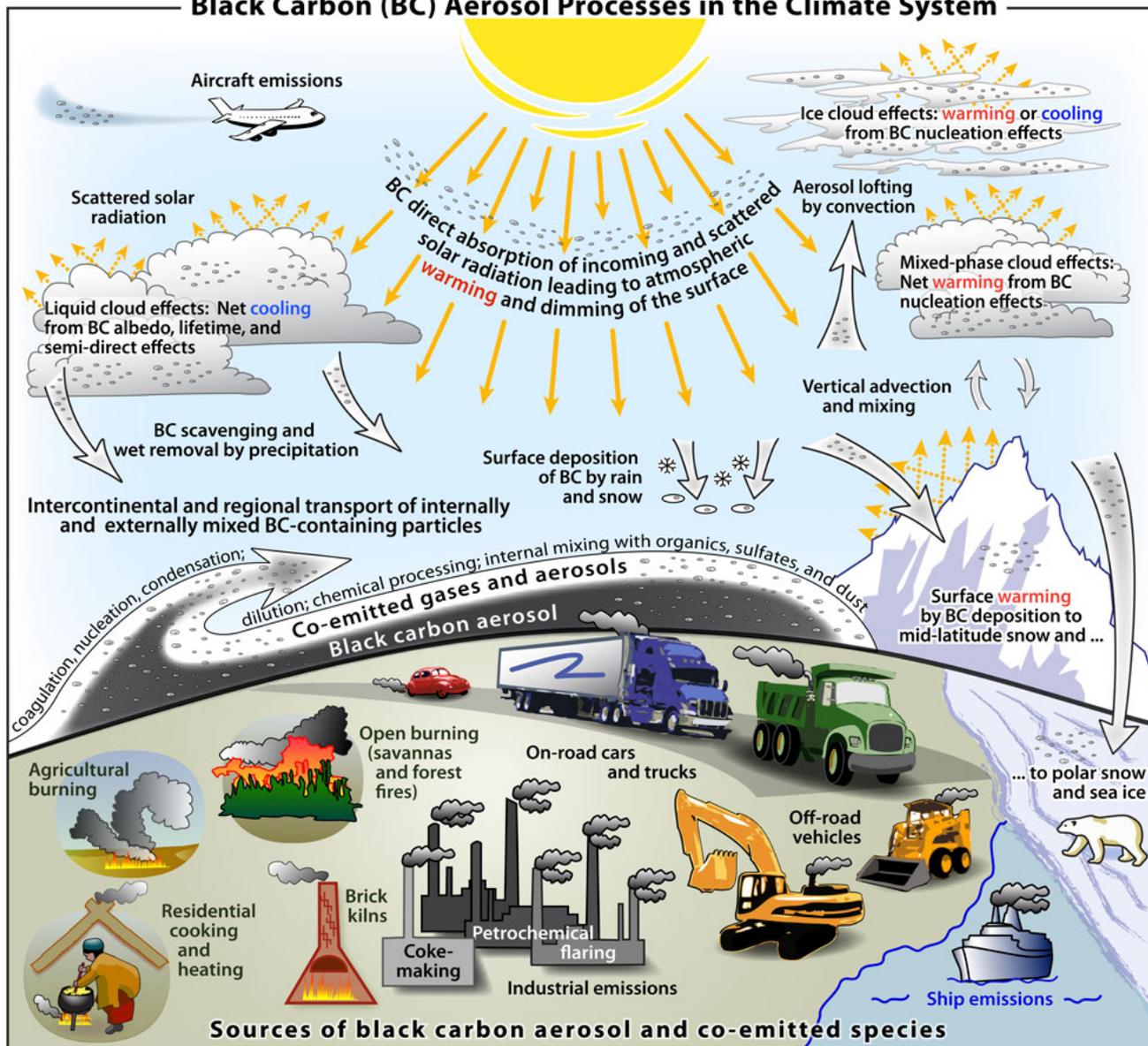
Diesel particulate mean (grams/m ³)	0.60	1.06	1.48	2.00	4.40							
Both sexes	18/953	1.0 (Ref)	21/948	1.1 (0.6, 2.2)	24/947	1.3 (0.7, 2.5)	21/947	1.2 (0.6, 2.5)	33/931	2.0 (1.0, 4.0)	0.05	0.04
Boys	13/451		16/451	1.2 (0.6, 2.5)	19/493	1.4 (0.6, 2.9)	21/468	1.7 (0.8, 3.6)	28/462	2.3 (1.1, 4.9)	0.02	0.04
Girls	5/502		5/497	1.2 (0.3, 4.3)	5/454	1.4 (0.4, 5.3)	0/479	Not estimable ^b	5/469	1.5 (0.3, 7.0)	0.98	0.58



Ref. reference.
 *Quintiles of pollutant exposure are based on the entire sample. Models adjusted for maternal age at birth, year of birth, maternal parents' education, Census tract median income, Census tract % college educated, and HAP model year. Models not stratified by sex are adjusted for sex. Antimony was not available in the 1998 model year, chromium was not available in the 1999 model year, and diesel was not available in the 1990 model year. Not estimable due to sparseness of cases in this cell. The distribution of quinoline did not permit creation of quintiles. Therefore, we present tertiles.
^bEstimates for the association of pooled metals with ASD were calculated using a random-effects meta-analysis with the SAS Mixed procedure.



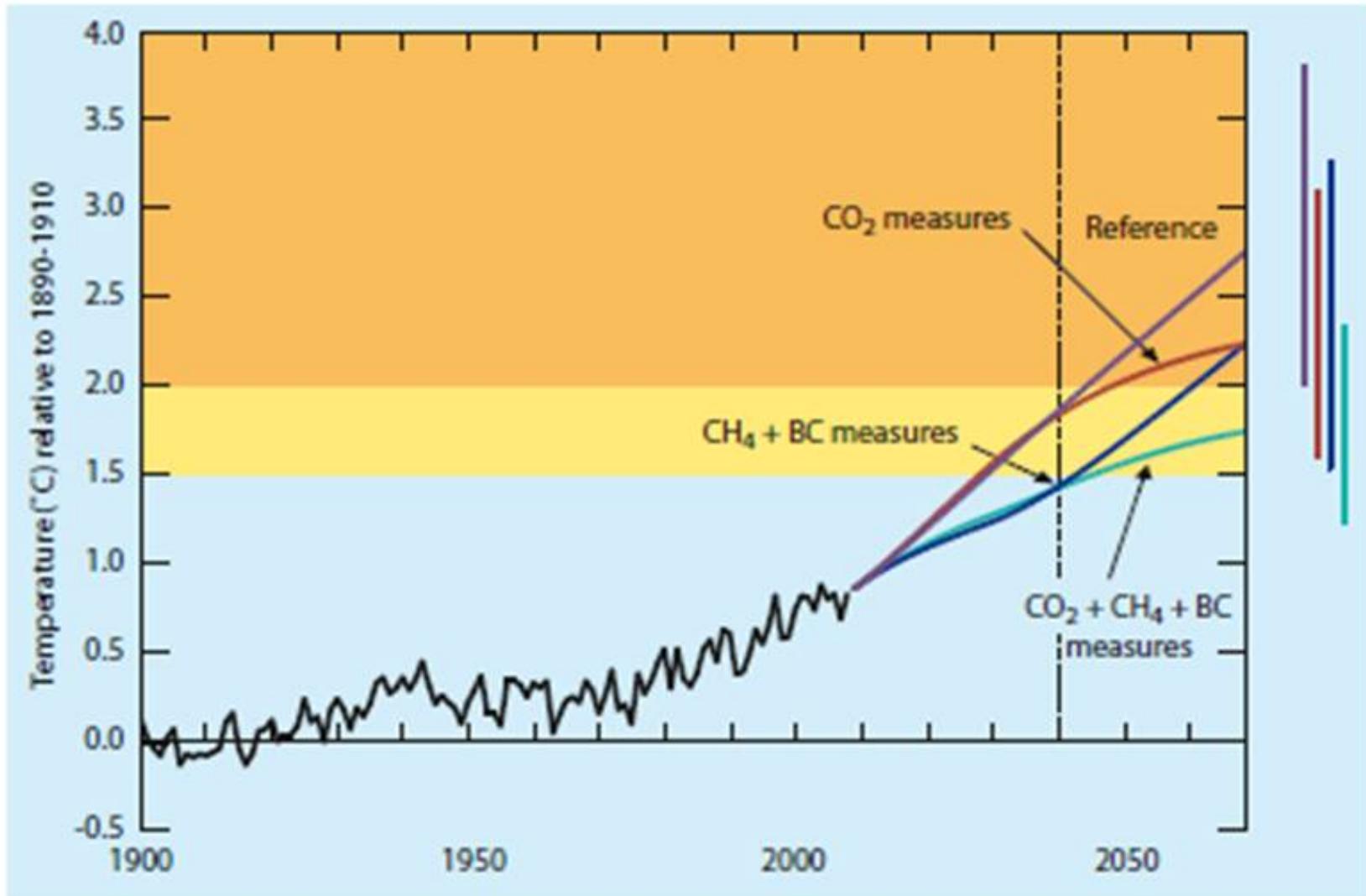
Black Carbon (BC) Aerosol Processes in the Climate System



Source: Bounding the role of black carbon in the climate system: A Scientific Assessment. Bond et al.



Diesel // Climate Change



Source: Black carbon: Integrated Assessment of Black Carbon and Tropospheric Ozone, World Meteorological Organization

