

# Session on BaP and biomass burning



25. *In a discussion on benzo(a)pyrene and wood burning, participants will address the following questions:*

- (a) What are the trends in benzo(a)pyrene emissions, concentrations and depositions?*
- (b) What are the major sources of uncertainties?*
- (c) What are the consequences for health?*
- (d) How can wood-burning emission estimates be improved?*

- TFEIP and CEIP: Chris Dore and Katarina Mareckova: European emission inventories for BaP: Major sources and uncertainties (10 min)
- MSC-E: Alexei Gusev. Evaluation of B(a)P pollution in the EMEP region: temporal trends and spatial variability (15 min)
- Xavier Querol: Emission of PM and BaP from biomass burning in southern Europe (AIRUSE-LIFE+) (10 min)
- TFH: Mari-Eve Heroux: Health impact of BaP and of PM from biomass burning (10 min)
  
- 45 min discussion

**Table ES.1 Percentage of the urban population in the EU-28 exposed to air pollutant concentrations above certain EU and WHO reference concentrations (2011–2013)**

Pollutant	EU reference value	Exposure estimate	WHO AQG	Exposure estimate
PM <sub>2.5</sub>	Year (25)	9–14	Year (10)	87–93
PM <sub>10</sub>	Day (50)	17–30	Year (20)	61–83
O <sub>3</sub>	8-hour (120)	14–15	8-hour (100)	97–98
NO <sub>2</sub>	Year (40)	8–12	Year (40)	8–12
BaP	Year (1 ng/m <sup>3</sup> )	25–28	Year (RL, 0.12 ng/m <sup>3</sup> )	85–91
SO <sub>2</sub>	Day (125)	<1	Day (20)	36–37

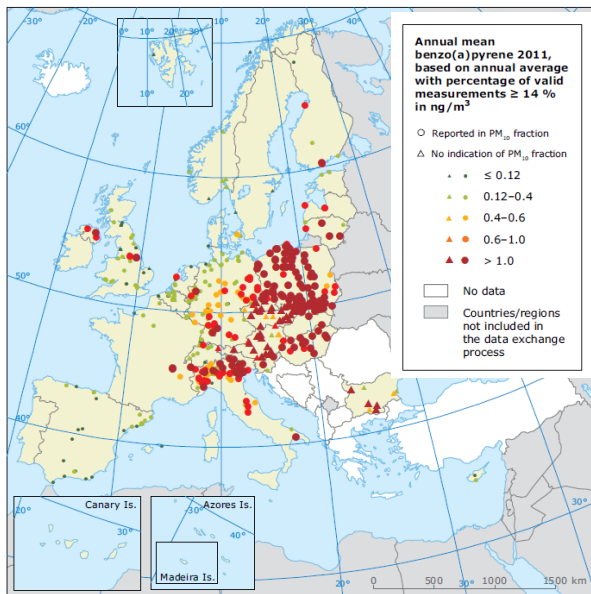
Key: 

< 5%	5–50%	50–75%	> 75%
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As the WHO has not set AQG for BaP, the reference level in the table was estimated assuming WHO unit risk for lung cancer for PAH mixtures, and an acceptable risk of additional lifetime cancer risk of approximately  $1 \times 10^{-5}$  (ETC/ACM, 2011).

Benzo[a]pyrene (BaP) is emitted from the incomplete combustion of various fuels. The main sources of BaP in Europe are domestic home-heating, in particular wood- and coal-burning, waste-burning, coke and steel production, and road traffic. Other sources include outdoor fires and rubber-tyre wear.

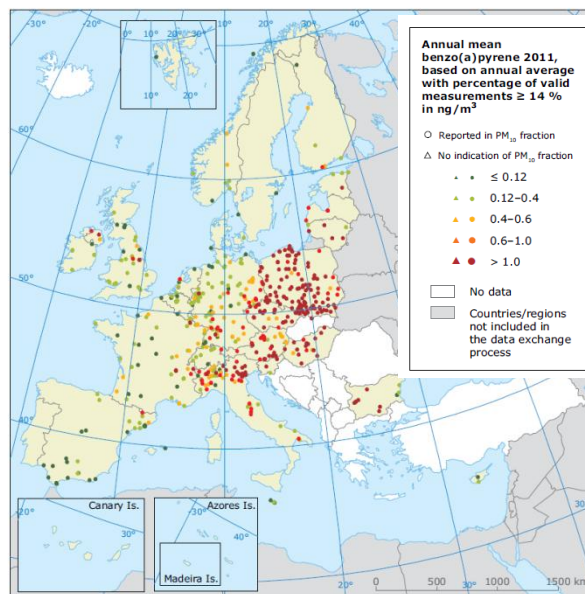
## 2011 BaP



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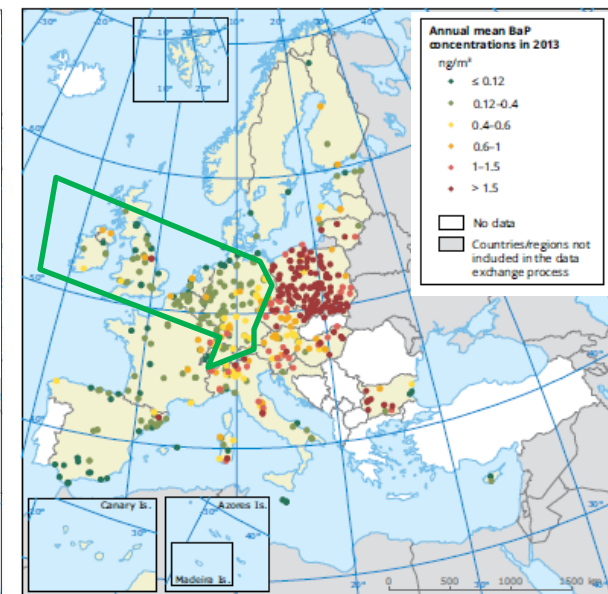
## 2012 BaP



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## 2013 BaP



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