

10 Principles for Fighting Climate Change

Since the COP 22, health has been a central topic of discussion. It is within this context, and on the day before the *One planet Summit* to be held tomorrow in Paris, that 10 principles for protecting respiratory health from climate change were proposed by an *ad hoc* workgroup from the Environment and Health Committee of the European Respiratory Society. Those principles have just been published in European Respiratory Journal: <http://erj.ersjournals.com/content/50/6/1701912>

Isabella Annesi-Maesano, INSERM Research Director, is a co-author of this article.

1. **Climate change is real.** The first principle reasserts that climate change and global warming are realⁱ, which is a precondition to any defensive actions against climate change.
2. **Health and the environment are inextricably linked to climate change.** Despite this, political action and investments currently underway are not yet enough to confront these challenges on the worldwide scale.
3. **Climate change has a direct effect on respiratory health.** Cold temperatures, rising temperatures, humidity, variations in atmospheric pressure, storms, flooding, and other phenomena are a serious threat to respiratory healthⁱⁱ.
4. **Climate change also has an indirect effect on respiratory health.** Climate change can also trigger heightened exposure to other respiratory illness risk factors, for example atmospheric pollution, pollen, and infectious agents, and this can cause them to develop and become worse more quickly^{iii iv}.
5. **Few data are available.** Yet understanding these phenomena better would make it possible to carry out risk simulations and better organize prevention.
6. **The impact on health is not the same for everyone.** Certain populations are at greater risk since they are more vulnerable. For example, 30% of the world's population is threatened by "deadly heat waves." The impact is felt even more intensely by those who suffer from respiratory illnesses or who are predisposed to them. v
7. **The challenge is to change.** The anthropic greenhouse gas emissions responsible for global warming and climate change can be primarily attributed to humans (population size, economic activities, lifestyle, energy consumption, soil use methods). Fighting climate change requires a combination of reduction measures to treat the causes and adaptation measures to treat the impact.
8. **Reduction (mitigation).** Climate change can be mitigated by drastically reducing greenhouse gas (GHG) concentrations or, at the very least, stabilizing them in the atmosphere at a level that prevents all dangerous anthropic disturbance to the climate system. This can be achieved by reducing GHG emissions and pollutants. This includes the action of atmospheric pollutants with a short lifespan in order to reduce the greenhouse effects in the short term, which involves the protection and improvement of GHG sinks and reserves (e.g., forests and soil).
9. **Adaptation.** Local action plans can be made to protect health in the event of a heat wave or excessively cold temperatures, to deploy specialized emergency medical services, to improve the monitoring and supervision of climate-sensitive illnesses, and to sanitize drinking water. The "polluters pay" concept must no longer be accepted, as less harmful alternatives are an option.
10. **Action must be taken now.** And it must be taken by governments and nations. In Europe, the following must be done (among others):

- invest in green fuels and technologies
- take political measures to reduce Diesel emissions
- adopt and apply the WHO air quality standards as EU limits
- prosecute those who violate EU legislation

Conclusion

Healthcare professionals have a duty to contribute to the application of these principles.

“Ten principles for climate, environment and respiratory health”

Maeve Barry¹ and Isabella Annesi-Maesano²

¹Advocacy and EU Affairs Department, European Respiratory Society, Brussels, Belgium,

²Epidemiologie des maladies allergiques et respiratoires, IPLESP, INSERM, UPMC Sorbonne Universités, Faculté de Médecine Saint Antoine, 27 rue Chaligny 75571 Paris Cedex 12, France, FAX: +331447383454, Tel: +33144738449, isabella.annesi-maesano@inserm.fr

Contact:

Isabella Annesi-Maesano

INSERM Research Director

isabella.annesi-maesano@inserm.fr

Tel: +33 1 44 73 84 49 /665

Mobile number provided upon request

ⁱ. Climate change is happening nowⁱ. The rise in global average temperatures is quite clear. The deviation from the average for the period of reference, ranging from 1961 to 1990, has almost always been positive since the early 1980s. The decade from 2001 to 2010 was 0.21°C warmer than the decade from 1991 to 2000, and is 0.48°C higher than the 1961-1990 average. 2016 was the warmest year (by 1.2° Celsius) on the planet since temperatures began being recorded in 1880, marking the third consecutive annual heat record according to the National Oceanic and Atmospheric Administration (NOAA). The land and ocean surface temperature was 0.94°C higher than the twentieth-century average of 13.9°C, which was 0.9°C higher than the previous record for 2015, according to NOAA. Land surface temperatures alone were 1.43°C higher than the twentieth-century average, and ocean surface temperatures were 0.75°C higher (or 0.1 point higher than the 2015 record). Rising temperatures and the resulting extreme weather (flooding, heat waves, storms) are caused by the increase in carbon dioxide (CO₂) and other greenhouse gases (methane, nitrous oxide, fluorocarbons) in the atmosphere due to human activity.

ⁱⁱ Climate change and respiratory diseases ERR 2014 23

ⁱⁱⁱ Mendell MJ, Mirer AG, Cheung K, et al. Respiratory and allergic health effects of dampness, mold, and dampness related agents: a review of the epidemiologic evidence. *Environ Health Perspect* 2011; 119: 748–756.

^{iv} Ayres JG, Forberg B, Annesi-Maesano I, et al. Climate change and respiratory disease: European Respiratory Society statement. *Eur Respir J* 2009; 34: 295–302

^v Annesi-Maesano I. UN Climate Change Conferences: COP21 a lost opportunity for asthma and allergies and preparing for COP22. *J Allergy Clin Immunol* 2016;138:57-8