

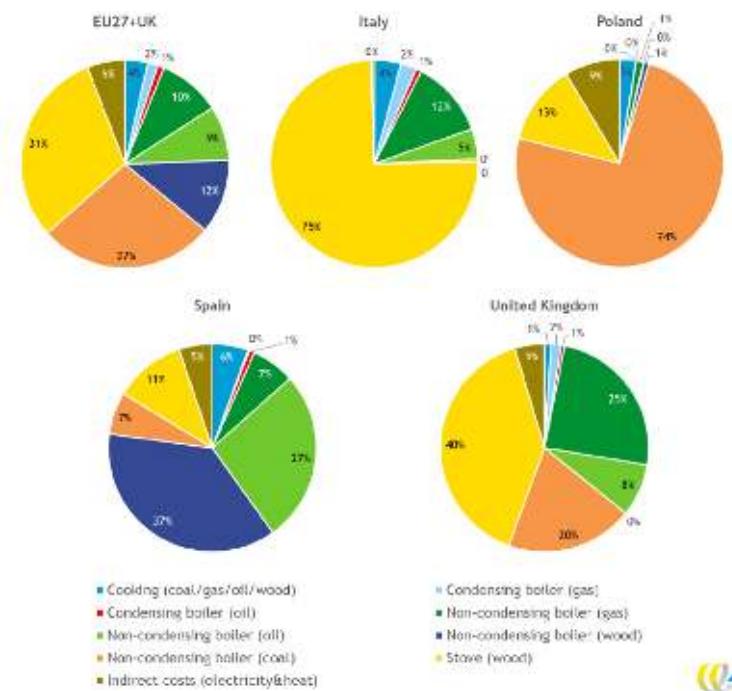
€27 billion health costs from wood & fossil fuel use in homes - study

'Big clean switch' needed as energy prices rise - NGOs

**31 March 2022** - Air pollution from fossil fuel and wood use for home heating and cooking causes €27 billion a year in health-related costs to society across the EU and UK, a new [study](#) for the European Public Health Alliance ([EPHA](#)) has found.

Air pollution is considered the [single greatest](#) environmental risk to health. Just one of the pollutants studied, PM<sub>2.5</sub>, was [blamed](#) for the early deaths of an estimated 307,000 EU citizens in 2019. [About half](#) of all PM<sub>2.5</sub> comes from energy use in households.

The study found that wood-based home appliances are the worst offenders for Europe as a whole, responsible for €12.6 billion (43%) of health-related costs. Coal is responsible for €8 billion or 27% of costs, while oil and gas pollution cause costs of €2.9 billion and €3.5 billion respectively. Indirect pollution, from electricity and non-residential heat generation, is responsible for an additional €2 billion, bringing the total health costs faced by Europe to €29 billion per year. Heat pumps cause no direct air pollutants and, combined with a fully renewable energy system with no biomass, health-related costs from air pollution would be reduced to zero, the report found.



*Total health-related costs of outdoor air pollution due to domestic heating and cooking, differentiated by technique-fuel combination (%), 2018*

At a street level, the average European household faces health-related costs of €130 a year, with homes in Luxembourg (€424) paying the most, due to their high energy use and high earnings, which translate to higher health-related costs. This is followed by homes in Czechia (€354) and Hungary (€318), where use of highly polluting fuels remains common. Costs were generally lower in countries that need less heating, including Malta (€2), Cyprus (€47) and Spain (€65). Homes in Sweden and Finland buck this trend and are the biggest users of energy in Europe, but face among the lowest health costs, at €23 and €52 respectively, because their energy sources are cleaner. Nearly three fourths of health costs in Poland are down to a relatively small number of coal boilers, while non-condensing wood fueled boilers cause most costs in Spain (37%). Wood burners trigger three fourths (75%) of costs in Italy and two fifths (40%) those in the UK. In 18 European countries, health-related costs from residential heating and cooking are higher than those from transport.

The study was carried out for EPHA by Dutch consultancy [CE Delft](#). The researchers followed WHO guidelines to calculate a health-related cost to society for a given amount of each pollutant. This 'environmental cost' is based on healthcare expenditures and a monetary estimate of various welfare losses stemming from each pollutant, including lost employment, reduced quality of life and early death. The estimated environmental costs vary from country to country, to reflect differing earnings, prices and other factors throughout Europe. These costs were then combined with data on pollution from household cooking and heating appliances.

Regulators have largely neglected heating and cooking as sources of air pollution, it said. But the EU is set to tighten the powerful Ambient Air Quality Directive this year, a regulation used by Brussels to force member governments to cut outdoor air pollution. It is also due to tighten [Ecodesign standards](#), which ban the sale of inefficient heaters and other appliances. Air pollutant limits for heating and cooking appliances should be made stricter, EPHA said.

The report warns that so-called 'green' hydrogen boilers are currently not much cleaner than oil boilers. But replacing gas boilers with heat pumps would cut health-related costs by two thirds, or end them completely if clean renewable electricity is used to power those heat pumps, the report found.

**EPHA Director General, Dr Milka Sokolović, said:** *"It is clearer than ever that burning fossil fuels and biomass at home is not only an environmental, but also a major health problem. The solution, obviously, lies in ensuring that homes are powered by clean renewables. That's why we are calling on political leaders to oversee a 'big clean switch', helping households transition to clean home cooking and heating. As people are grappling with high energy prices, we must avoid quick and dirty solutions that chain us to polluting and health and climate-harming in the long term. Our home environments must protect our health."*

The EU is planning a €72 billion [Social Climate Fund](#). Starting in 2025, it would help European low income residents switch to cleaner forms of home energy and should help reduce energy poverty, among other things. Governments recently [pledged](#) to reduce Russian energy dependence and boost domestic renewables and energy efficiency.

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*The press release was updated on 23 May, following a revision of the CE Delft study.*