



Experts' recommendations to alleviating energy poverty and reducing air pollution

This Experts' recommendations brief is inspired by the specific demand to address the cross-cutting issue of poor heating practices and increased air pollution in urban and rural areas in the Eastern European countries. Its major aim is to raise awareness on the local and national challenges to exploring the multiple environmental and climate impacts of energy poverty and propose adequate solutions.

Introduction

Energy poverty and poor air quality are both long standing issues in the Eastern Europe, but have yet not gained sufficient EU-wide recognition. Although energy poverty is rapidly spreading all over EU, it has distinct specificities in the Eastern European countries: low-income households cannot afford to change the old inefficient heating equipment or replace the poor quality heating fuels. Unfortunately, the multidimensional nature is often neglected in the political perception of energy poverty – especially the link between energy poverty and air quality is not considered by the current policies and measures. As a result, policies for energy, environment and climate issues are not integrated. In addition, there is a lack of ambitious targets for energy efficiency and reduction of climate and air pollutants.

The challenges in the EEC

The Eastern European countries have specific challenges related to the loop 'energy poverty - poor heating options - low energy efficiency - high environmental pollution', namely:

- Lack or weak emission and efficiency standards for stoves and boilers;
- There are no or weak standards for solid fuels used in residential burning;
- Lack of registration, monitoring and maintenance of residential burning appliances;
- Weak enforcement of legislation and insufficient competences/measures to address illegal burning;
- Lack of concrete, obligatory measures with regard to energy and air quality planning, esp. residential burning;
- No strict deadlines and sanctions if target values are not reached within the period set;
- Not sufficient funding for heating systems with very few emissions.

Specific of the residential burning by energy poor households

The deployment of old and inefficient stoves in the Eastern European countries is rather high. The undesired and negative effect of the low deployment of new and efficient heating technologies is the households' continuous use of inefficient heating equipment that produces excessive polluting emissions which threaten and deteriorate the population's health. The use of heating stoves and boilers is typical for the areas that are not supplied with another infrastructure (district heating, gas infrastructure), have easy access to wood and coal, and are socially segregate. There are some specifics of the residential burning by energy poor households:

Low economic status

Energy poor households are also low-income households that cannot afford better fuel and heating device. Due to their

poor economic status, they tend to buy more fuel for cheaper price, thus ending up with low quality coal and humid wood. Also, they burn paper, cloth, and even oil and waste to compensate for the lack of fuel which produces harmful and toxic pollutants not only outdoor, but also indoor, and jeopardizes the human health. On the other hand, they cannot invest in energy efficiency or new heating equipment and use one and the same old heating stove for decades whose emissions are not investigated and covered by the traditional measurement techniques. Thus, the combination of using an obsolete heating device and burning low quality fuels and illegal materials in it cannot be classified and covered by the standard emission guidelines and approaches.

Enforcement of advanced policies

Energy poor households are socially segregated and restrained, especially in isolated rural regions or impoverished urban areas. Their negative heating practices stay outside the scope of the enforced regulations and control schemes as there aren't effective 'chimney sweeps' policies and the competencies to fight illegal burning are low. There are not public registers of the residential heating devices and so they are seldom monitored and checked. Even though some regulations on the quality of the stoves are enforced, they are applied to the newly produced equipment and the old stoves are not affected; also, the penetration of the eco-labelled stoves is slow due to the persistent use of the old stoves and the inability of energy poor households to invest in woodstove replacement. Also, despite the possibility for continuous measurements at potential air pollution hot spots and detecting increased pollution, the legislation does not allow for the responsible authorities to inspect the burned fuel inside the apartment/building as it is considered private property.

Financial support schemes

The enforcement of strict regulations and control over the heating devices and fuels used is very important, along with immediate start of replacement of old and inefficient heating equipment with new, highly efficient stoves on modern biomass. For this, adequate financial support schemes for energy poor households should be designed, accompanied by promotion of energy efficiency measures, RES deployment and strong awareness campaigns on energy poverty and air quality impacts on environment, economy, and health. The support schemes need to recognise the energy poverty status of the households and be flexible towards their needs. They have to consider other energy efficiency and RES measures as well, so that comprehensive renovation of the apartment/building is ensured. Thus, the financial schemes for new heating devices need to be embedded in larger funding opportunities and provide structured approach towards financing energy measures in low-income households.

The solutions

The challenge is to change the energy behaviour of the energy poor households, to improve the fuel quality and heating device according to the real-life practices, and to enforce strict regulations and control and monitoring schemes.

The proposed solutions are related to decisive actions on local, regional and/or national in all Member States to ensure the alleviating of the energy poverty and reducing air pollution:

Policy measures

- demand that old stoves and boilers that do not meet the limit values for old appliances (installed before 2010) have to be shut down or retrofitted with a filter,
- pellets and woodchips to be subject to certification schemes,

- strengthening the policy and regulation over heating practices and fuels,
- define the duties and the role of chimney sweeps by law,
- fines for illegal burning should be high,

Control schemes

- before putting into operation, all appliances have to be checked and registered by a chimney sweep ,
- only specific fuels are allowed to be used in appliances, e.g. only allowed to use firewood with a maximum humidity of 25% (fuel storage is regularly checked in the course of the fireplace inspection by the chimney sweeps),
- introduction of standards and protocols to ensure high-quality heating devices and fuels,
- emission limits (PM, CO) for new stoves and boilers that are at least on a par with the upcoming eco-design standards for these appliances,

Monitoring schemes

- information and alerts about high exceeding of PM concentrations,
- heating systems to be subject to recurring measurements on site, which are done by the chimney sweeps,
- they also investigate the appliance at least two times in seven years (in addition to regular visits for maintenance/ usually once a year),

Financial measures

- systematic social support for vulnerable households for high-quality heating systems and fuels, incl. RES-based heating,
- market incentive programs to provide funding for solar/geo-thermal heat as well as biomass appliances (pellet, wood chip or logwood boilers as well as specific pellet stoves),
- financial support for particle separators.

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