



## Anti-Smog resolution banning solid fuels for heating: Kraków case study

This brief is one of a set of four city case studies prepared as part of a study by the Institute for European Environmental Policy for the Clean Air Fund. The study examines the design and the implementation of the Anti-Smog Resolution in Kraków, which entered into force in 2019, banning the use of solid fuel for heating. In particular, this brief explores the social impacts of the measure, with a specific focus on vulnerable communities, as well as the health impacts that the ban has delivered since its entry into force.

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Kraków is the provincial capital of Małopolska, located in southeastern Poland. It is one of the most populous Polish urban centres, a cultural hub and among the wealthiest cities of the country (see Annex 1 for detailed socio-demographic data). Within this context, Kraków has faced air quality problems for decades, partly caused by burning solid fuels for residential heating. In 2013, a grassroots movement started to trigger changes. In response, the municipality adopted a resolution introducing a **complete ban on solid fuel heating systems**, accompanied by **supporting measures such as funding schemes for citizens**, which ensured the city was ready for the ban to come into force in 2019. Kraków is a pioneering case, as it is the first city to implement such a ban in Poland, historically relying on coal.

## Kraków-specific air pollution challenges

Over the decades, air pollution levels in Kraków have exceeded both the EU and WHO air quality standards<sup>1</sup> for diverse pollutants such as PM 2.5 (see Figure 1, (EEA, 2024)), PM 10, benzo(a)pyrene within PM and nitrogen dioxide (NO<sub>2</sub>). One of the main sources of this pollutant is the burning of coal and wood for residential heating. The incomplete combustion of these fossil fuels and biomass also produces black carbon, a component of PM 2.5, that has adversely affected the health of Kraków's residents for years and contributes to climate change (Rys & Samek, 2022); (Song et al, 2022). However, thanks to concerted efforts of key stakeholders and measures taken by the Municipality of Kraków, pollution has significantly decreased over the years, especially regarding particulate matter.

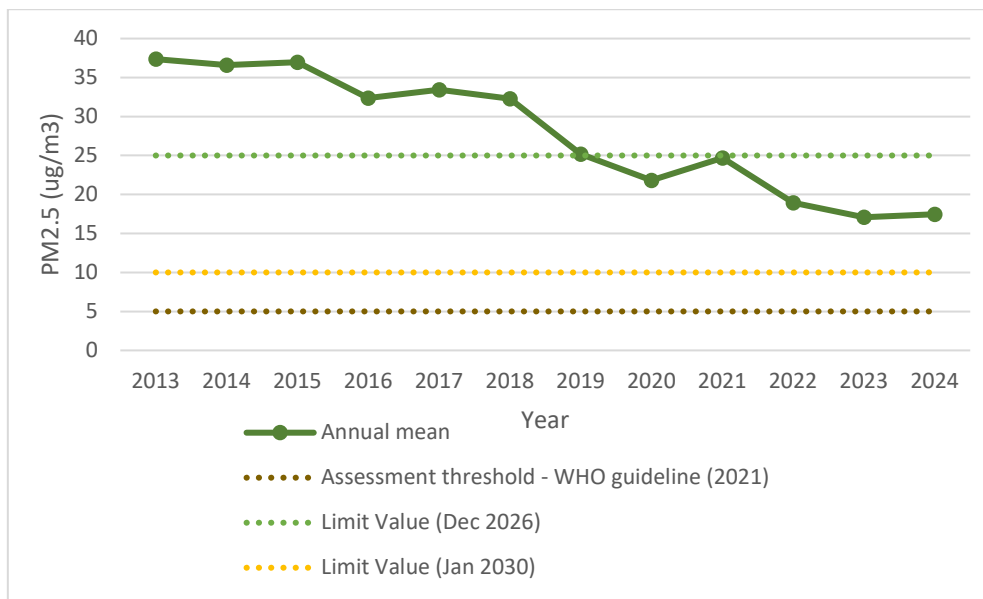


Figure 1: Annual mean of PM 2.5 levels in Kraków between 2013 and 2024, assessment threshold and limit values from the Air Quality Directive 2024/2881. From IEEP, 2026. Based on data from (EEA, 2024)

Although the annual mean of PM2.5 has overall decreased (Figure 1), peak values recorded during the heating season have been several times higher over the past decade. Recently, in the winter of 2026, Kraków was at times among the most polluted large cities in the world. (IQAir, 2026), (IQAir, 2026). In January, for instance, the average concentration of PM 2.5 reached 48.2 µg/m<sup>3</sup>, nearly twice the daily limit value that Member States are required to meet by December 2026 (IQAir, 2026).

Due to its geographical location, Kraków is particularly exposed to air pollutants (Danek, Weglinska, & Zareba, 2022). The city lies in the Vistula River valley, Poland's longest river, mostly surrounded by hills, which limit air ventilation, resulting in high concentrations of air pollutants (Lipiec, Lipiec, & Danek, 2025). Together with the neighbouring industrial towns,

<sup>1</sup> A similar situation is observed across Poland– see Annex 2 for an overview of the national air quality context and trends.

Kraków forms one of the country's main urban-industrial agglomerations. Before the introduction of measures to tackle air pollution, the city was referred to as "Poland's smog capital"<sup>2</sup>, due to high levels of pollution from coal heating. Until thirty years ago, most residential buildings in the city were heated with coal or wood, which had long been the cheapest option, in particular in comparison to district heating and to any heat system upgrades (Grobelski, 2025).

## Local pressure and policy response

Despite numerous breaches of both EU directives and WHO guidelines on air pollution (see Annex 3), the main driver to change the situation was **the local pressure from citizens** (Dworakowska, 2026); (Grzybczyk, 2026); (Grobelski, 2025). In 2013, large-scale demonstrations began to protest the poor air quality in the city, which was causing serious health problems for the population, including premature death due to the high exposure to pollutant substances, such as NO<sub>2</sub> and PM<sub>2.5</sub> (Jagiełło & Strużewska, 2025). Parents and doctors were among the first to call on authorities to take action, as children's health and daily lives were being significantly affected. The cause was also strongly supported by Kraków's public relations sector and the media, which contributed to the campaign on a *pro bono* basis, creating public pressure that authorities could not ignore (Bankwatch, 2013).

### The anti-smog resolution and related measures

A first resolution was adopted by the Małopolskie region in 2013 ([RESOLUTION No. XLIV/703/13](#)), introducing restrictions on permitted fuels in Kraków, including a complete ban on solid fuel heating, which was supposed to start in September 2018. However, this resolution was legally challenged and invalidated by the Regional and Administrative Courts in 2014/2015 because of the ambiguous article related to subnational governments' authority to pass air pollution measures in Poland's Environmental Protection Law (EPL) (Gruszecki, 2015), (Grobelski, 2025). To enable the region to adopt such a pioneering anti-smog resolution, national law had to be changed. As such, the regional authorities and the civil society jointly advocated for the change at the national level. **These efforts were effective in strengthening the capacity of local authorities to adopt more restrictive provisions on air pollution.**

Following this change of law, in January 2016, the Małopolskie Regional Assembly adopted again a resolution introducing restrictions on fuel combustion installations within the Municipality of Kraków ([Resolution No. XVIII/243/16](#)). This resolution, legally binding, established a ban on the use of solid fuels for heating in Kraków from September 2019<sup>3</sup>. This

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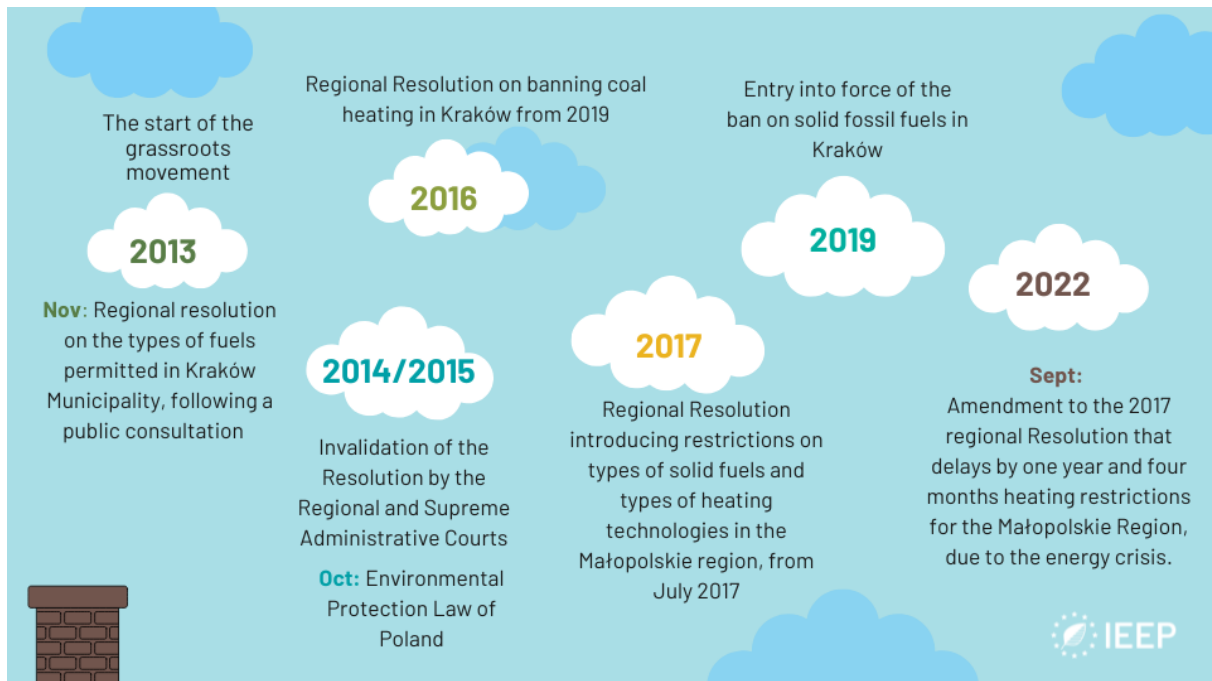
<sup>2</sup> Niranjana, A., (2026, February 20). How 'smog capital of Poland' saved 6,000 lives by cutting soot levels. The Guardian

<sup>3</sup> Only the following types of fuels are allowed: high methane or nitrogen-rich natural gas, propane-butane, agricultural biogas or other type of flammable gas, light heating oil.

is a pioneering case, as **Kraków is the first city in Poland to adopt such a ban**, in a country that has historically relied on the coal industry.

To support citizens complying with the ban before it entered into force, financial support was provided by the municipality through different programmes<sup>4</sup>, including the Low Emission Reduction Programme for Kraków (running from 1995 to 2019), which helped to replace about 45,060 furnaces and boiler rooms with more sustainable alternatives (European Commission, 2023).

## Timeline



## Social Aspects – Investigations and Stakeholder Consultations

As mentioned above, the Anti-Smog resolution emerged from a strong grassroots movement urging local authorities to address a problem affecting the well-being of the entire community. This section focuses on the social dimensions of the process that led to the introduction and the design of the ban, and incorporates feedback gathered through dedicated stakeholder

<sup>4</sup> For more information, check Annex 4 – financial support accompanying such measures

interviews. Insights from a wide range of actors, including local authorities, NGOs and researchers, significantly enriched the analysis.<sup>5</sup>

## Stakeholder engagement and public participation

The citizens' mobilisation gave rise to a genuine social movement, the Kraków Alarm Smog (KAS), which played a pivotal role in reshaping public perceptions of energy sources. Leveraging media attention, citizens pressured the Municipality to identify households still using solid fuel heating before the ban entered into force and to prompt them to take action (Dworakowska, 2026). KAS would also have regular meetings with the municipality and develop information campaigns to raise awareness among the population. This cooperation between NGOs and the municipality led to the smooth implementation of the ban and contributed to its social acceptability (Grzybczyk, 2026).

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*"At the beginning of the anti-smog campaign, the municipality and the activists working on air quality were almost like enemies. The municipality felt under attack. The situation was very new and unusual, but month after month of dialogue and cooperation, we became allies. Together, we found effective solutions for drastically improving air quality in Kraków, including banning solid fuels, and we have been working together ever since to make it happen." (Grzybczyk, 2026)*

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By framing coal phase-out within a community health discourse, embedding it in socially acceptable and nationally resonant narratives, KAS helped to normalise the transition away from coal (Grobelski, 2025). The movement inspired other cities and towns across the country and now counts 50 clean air grassroots organisations (Polish Smog Alert, n.d.). As the municipality lacked the legal authority to enact measures on air quality for Kraków, it had to engage and persuade the Małopolskie Region to create a special law to forbid solid fuels for heating in their city. Prolonged discussions eventually led to the adoption of the resolution (Grzybczyk, 2026).

Meanwhile, the municipality also organised a public hearing to gather comments from the population on the draft resolution. In 2013, in just two weeks, over 2500 opinions from institutions, organisations and citizens were submitted. Among them, 90% requested a ban on solid fossil fuels for heating systems (Region, 2013). In late 2015, the public consultation,

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<sup>5</sup> Anna Dworakowska (Executive director of Polish Smog Alert); Paweł Ścigalski (representative of the Mayor of Kraków for Air quality); Grzegorz Grzybczyk (Kraków Municipality, Head of Department of Environment, Climate and Air Quality). One more source is anonymous, being associated with Interviewee 1.

which opened for a month, gathered about 4800 comments, with 96% in favour of a complete ban (Małopolskie Region, 2016). This high participation highlights the strong engagement of the population in efforts to improve air quality and public health in the city.

### **Addressing social concerns: support schemes for an efficient implementation**

Achieving such an overarching objective required substantial financial resources, which could not be secured easily. The municipality, therefore, had to reallocate part of the city budget to support the measures, while successfully applying for and obtaining national funding programmes (Grzybczyk, 2026). This approach sparked public debate on the use of public funding. However, the Municipality maintained an active dialogue with citizens, reassuring them of their commitment to addressing air quality and people's health (Grzybczyk, 2026), thereby reinforcing the legitimacy of the intervention. All interviewees agreed that, from the outset, **the economic burden of the measures and the risk of energy poverty were considered in the design of the policies**. It is worth highlighting that in this case study, vulnerability is identified at the household level, rather than through specific social or ethnic communities. Accordingly, a range of funding programmes was available to support citizens in covering the costs of the transition before the installations, instead of reimbursement schemes.

One of the main programmes, the Low-Stack Emission Reduction Programme (PONE), initially provided full coverage of replacement costs for all households, with support gradually reduced over time to create a sense of urgency and prompt faster citizens' action, according to the income level. For low-income households falling below a certain threshold – considered vulnerable in this context – the full cost of replacing heating devices was covered and remained unchanged.<sup>6</sup> In addition, households experiencing energy poverty benefitted from targeted, hands-off assistance provided by the City Hall staff and the Municipal Social Welfare Centre. In the absence of a formal definition of "energy poverty", the authorities conducted an extensive mapping exercise to identify low-income households and those facing difficult life circumstances who required targeted support. Complimentary forms of support included energy advisory centres, dedicated information and consultation points, while extensive public communication campaigns were carried out (Scigalski, 2026). These direct communication methods, including door-to-door outreach, enabled engagement ahead of the ban's full implementation and contributed to the measure's acceptability.

During the design of the ban, the economic costs of PM 2.5 pollution in Kraków were estimated at EUR 169.6 million per year, exceeding the estimated investment costs required for heating system replacement and building retrofits – EUR 99.7 million per year (Małopolskie Region, 2016). This comparison highlights a clear cost-benefit relationship and reinforces the case for action by demonstrating that the benefits of intervention outweigh the costs, also from an economic perspective.

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<sup>6</sup> See Annex 4 for more information on the funding programmes

## Public acceptance, resistance and perceptions

The measure was positively received since the ban was first adopted in 2013, as many citizens requested it, including strong support from doctors, patients and parents (Interviewee 1, 2026). However, fears of rising costs led to some resistance, especially when the upfront costs of replacing heating systems had to be carried by citizens. Once the municipality took over those charges, those resistances decreased (Grzybczyk, 2026). Already in 2014, after the adoption of the ban, the population of Kraków selected the ban on solid fuels for residential heating as the most important change in the city over the past 25 years<sup>7</sup> (Dworakowska, 2026).<sup>8</sup>

The main resistance came from the coal and fireplace manufacturers. From time to time, the coal and boiler industry promotes petitions to change the legislation, but it has not been successful so far (Dworakowska, 2026). In addition, business entities in the gastronomy sector (owners of pizzerias using traditional wood-fired ovens) were resisting the ban (Scigalski, 2026). It is worth noting that the ban was adopted and implemented in a different geopolitical landscape, before the outbreak of the COVID-19 pandemic and the 2022 energy crisis, which may be relevant when interpreting levels of public acceptance (Interviewee 1, 2026).

## Impacts of the Anti-smog resolution

Various studies demonstrate that the ban on burning solid fuel for residential heating drastically decreased air pollution from different pollutant concentrations in Kraków. For instance, (Herman, Będowska-Sójka, & Paccagnini, 2025) evaluated the impact of Kraków's Anti-smog resolution to assess air quality gains in terms of PM<sub>10</sub>, PM<sub>2.5</sub> and B(a)P. Their results demonstrate a significant reduction in pollutant concentration, with the highest declines during the heating seasons. Reduction estimates on annual average vary across pollutants and specifications, ranging from 23–39% for PM<sub>10</sub>, 23–36% for PM<sub>2.5</sub>, and 39–41% for B(a)P in PM<sub>10</sub>. The highest decline occurs in the heating season, when solid fuels were largely used for heating purposes prior to the ban.

The number of days exceeding the daily limits decreased over the years. For instance, over the period from 2012 to 2023, **the number of days exceeding the daily PM<sub>10</sub> limit values decreased from 132 to 31** at the air monitoring station on Kasińskiego Avenue, indicating an impressive downward trend. In addition, annual PM<sub>10</sub> levels have been more than halved from 2021 to 2023 in downtown Kraków (Polski Alarm Smogowy, 2024) (Lipiec, Lipiec, & Danek, 2025). This directly reflects the impacts of the Anti-Smog resolution and related measures: from 2012 and 2019, 25,182 individual solid-fuelled devices were liquidated (European Environment Agency, 2025). Currently, most houses are heated via the city's district heating connected to a Combined Heat and Power (CHP) plant, with the suburban areas being less served by it. Single-family houses rely on gas-fired boilers or heat pumps (Dworakowska,

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<sup>7</sup> A survey led by the most popular journal "Gazeta Boratynka"

<sup>8</sup> The long tenure of Mayor Jacek Majchrowski, who held office from 2002 until his resignation in 2024 helped ensure the sustained implementation of such policies.

2026). As of February 2025, the Municipality reported that only 80 solid-fuel fireplaces were left in the city (Grzybczyk, 2026).

### **Health effects**

This reduction of pollutants has improved health with a reduction of premature death as well as a decrease in respiratory diseases in Kraków. The European Clean Air Centre conducted a study on the reduction in mortality due to improved air quality and showed that between 2011 and 2023, the decrease in black carbon concentration in PM 10 resulted in a total of 3,368 to 7,655 **avoided premature deaths** (Adamkiewicz L. , 2026). In addition, according to Mazur and co-authors' research, asthma among children between 2014 and 2018 has decreased in frequency by 22% (Mazur et al, 2022). However, health remains under threat because of the surrounding cities' emissions as well as pollutants from transport, which can explain the pollution peaks registered in Kraków for the past few years (IQAir, 2026).

## **Current city challenges**

Nowadays, Kraków continues to face air-quality challenges. The city remains affected by pollutants originating from industrial activities and solid-fuel heating in nearby towns and villages, where measures are less stringent. Although the Małopolskie region has introduced a ban on coal or wood boilers that do not meet emission standards across the entire territory, progress is slow, and pollution levels remain high, especially during the heating season. (Lipiec, Lipiec, & Danek, 2025). This is partly due to a difference in policy ambition and partly to insufficient financial resources to support households in switching to cleaner heating systems. Implementing a ban similar to the one in force in Kraków in a wider territory presents major difficulties, notably in terms of enforcement. **Effective enforcement requires significant technical, administrative and financial capacity.** In Kraków, additional staff have been hired as municipal guards tasked with monitoring compliance, a resource that is not available to most other cities or at the regional level. Pollution from road traffic is also considered a major challenge in the city (Scigalski, 2026).<sup>9</sup> These help explain the pollution peaks registered in Kraków for the past few years (IQAir, 2026).

Finally, while the air quality topic was initially a consensus in the political landscape, the current context has made it more difficult to sustain a strong clean-air agenda, even in an area where targeted policies have delivered tangible results. Although the Kraków ban is an established measure and is no longer under discussion (Dworakowska, 2026), **growing opposition to**

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<sup>9</sup> The city council, and in particular, the mayor, faced growing resistance to the new rules they introduced with the "Clean transport zone", which restricts the circulation of cars in the city. As reported by the media, this was one of the main reasons citizens requested a referendum for the dismissal of the current mayor, which was held on 24 May 2026. While the referendum resulted in the mayor's dismissal, voter turnout was relatively low, at around 30% of the electorate. A pre-referendum survey indicates 28% of those in favour of recalling the mayor cited the opposition to the LEZ as a motivating factor. (see results here). Taken together, this suggests that roughly 9% of the electorate may have supported the recall based on opposition to LEZ (without taking into account the non-voters' preferences).

**climate and clean energy policies may hinder the adoption of further measures.** This shift is reflected in the regional legislation affecting towns and villages near Kraków, which was postponed and is less stringent than the Kraków resolution. (Grzybczyk, 2026). Looking ahead, there is the risk that this opposition could lead to weakening the current legislation. (Interviewee 1, 2026).

## Transferrable lessons and recommendations

The Anti-Smog resolution in the Małopolskie region stands as an emblematic example of a successful bottom-up initiative driven by widespread public health concerns which affected the entire population. Notably, it achieved impressive results, firstly by amending the national law to expand local authorities' powers, and secondly by making significant improvements to local air quality, in a country traditionally and heavily reliant on coal. Through close cooperation and open, constructive dialogue between citizens, NGOs and local authorities, as well as the scientific community, the city succeeded in shifting away from long-entrenched heating habits. Key lessons can be summarised as follows:

- 1. Local authorities respond to the citizens' call.** Listening to the population is essential for understanding their needs and adopting coherent measures to improve air quality. In Kraków, the grassroots movement led by KAS prompted municipal action, enabling the authorities to respond to citizens' demands and to engage higher levels of government with the necessary competencies.
- 2. Stakeholder cooperation is the foundation of effective air quality policy.** Ensuring the collaboration of all concerned stakeholders, including institutions, scientists, NGOs, businesses and citizens, is key to the design and implementation process of restrictive measures. In Kraków, open and sustained dialogue between the municipality, NGOs and other actors led to the adoption of a solid-fuel heating ban that was both effective and socially acceptable, highlighting the critical role of inclusive stakeholder cooperation.
- 3. Data and mapping are essential.** Understanding the local context, including the spatial distribution of pollution and the related citizens' needs, through the production of extensive mapping is fundamental. In Krakow, this has helped the development of evidence-based and coherent measures, as well as the design of supporting tools to improve air quality and to quantify the resources required for their full implementation.
- 4. Success is reached through clear and active communication.** Municipalities should ensure that every resident is informed about forthcoming policies, their expected objectives and benefits, and any supporting measures, through clear, evidence-based communication that effectively engages citizens. In Kraków, the door-to-door operation illustrates how proactive municipal action can foster understanding of the measure and support its social acceptance.

- 5. Funding must come first.** Affordable alternatives are essential for the effective and socially acceptable implementation of restrictive measures, such as the ban introduced in Kraków. The city's replacement programmes, together with the effective mobilisation of national and EU funding well in advance of the ban's entry into force, demonstrated the importance of avoiding an undue financial burden on households, and especially vulnerable ones with the risk of exacerbating energy poverty.

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## Annex 1 Socio-demographic data in Kraków

Socio-demographic data of Kraków	
Area coverage	327 km <sup>2</sup> (A) <sup>10</sup>
Population density	2,500 habitants/km <sup>2</sup> (B)
GDP per capita of Kraków	EUR 34,188 (C)
GDP per capita of Poland	EUR 21,491 (D)
Kraków's average annual wage	EUR 29,856 (E)
Poland's average annual wage in 2024	EUR 23,077 (F)
EU average annual wage	EUR 39,800 (G)

<sup>10</sup> A (Krakow Municipality, 2022); B (Statistical Office in Krakow, 2025). Additionally, 17.2% of the population is between 0-19 years old, 62.9% between 20-64, and 19.9% is 65 or older (Statistical Office in Krakow , 2025). In 2024, the population median age was 40.9 years old. (Bank Danych Lokalnych, 2025), C (Statistical Office in Krakow , 2025); D (Bank Danych Lokalnych, 2025); E (Bank Danych Lokalnych, 2025); F (Statistics Poland, 2026); G (Eurostat, 2025)

## Annex 2 National air quality context and trends

In recent decades, Poland has experienced improvements in air quality, with a pronounced reduction in certain air pollutants. For instance, PM10 levels between 2013 and 2024 have dropped by approximately 31.5% (see Fig 2) (EEA, 2024). Nevertheless, Poland ranks among the most air-polluted countries in the EU, leading to a high number of premature deaths, particularly due to particulate matter (PM). Every year, about 39,300 premature deaths are linked to poor air quality (Jagiełło P. S., 2022). The main sources of air pollution in Poland include the combustion of fuels for residential heating, energy and industrial production, (Wojciech Zgłobicki, 2024). For instance, **55.9% of the total electricity generation in Poland is still generated out of coal burning** (IEA, 2024) (IEA, 2023).

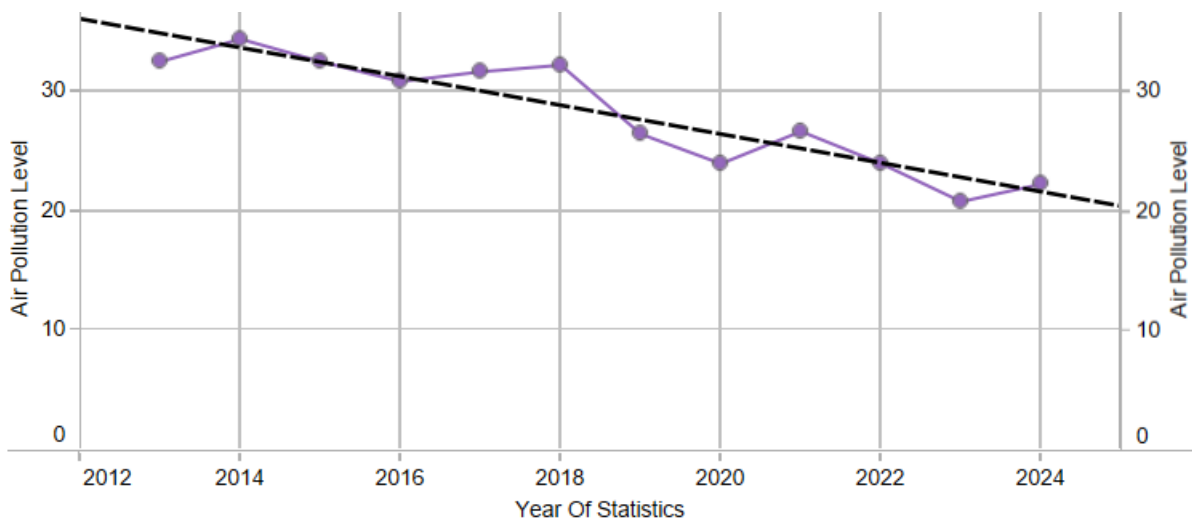


Figure 2: Annual mean of PM 10 levels in Poland from 2013 to 2024. From (EEA, 2024)

Residential heating solid-fuel systems, especially coal ones, are the main source of PM 10, PM 2.5 and benzo(a)pyrene (B(a)P) in Poland (Joanna, Mariusz, & Lechosław, 2018); (Kamila Widziewicz, 2017). The latest pollutant is a chemical element among the PM fraction, which is known to be carcinogenic (Bożena, Katarzyna, & Michałowicz, 2022). (Kamila Widziewicz, 2017) found that (B(a)P) exposure accounted for about 31% of the total lung cancer cases in Polish provinces. Additionally, cardiovascular and respiratory diseases that can lead to death in the worst-case scenario are increased by the concentration of PM 10 and PM 2.5 (Wojciech Zgłobicki, 2024).

### **Annex 3      EU legal and policy context**

Poland has repeatedly been referred by the European Commission to the European Court of Justice (ECJ) for breaches of air quality standards. The first referral was in 2009, just one year after the adoption of the EU Ambient Air Quality Directive ([Directive 2008/50/EC](#)), following Poland's request to postpone its compliance to 2011. Such a request was possible under Article 22 of the Directive, provided that the Member State concerned maintained the PM10 concentrations within a specific threshold. If unsuccessful, national governments were required to draw up an air quality plan outlining measures to ensure compliance. However, due to persistent exceedance of the limit values, the incorrect transposition of the Directive, and the failure to adopt "appropriate measures", the Commission initiated an infringement procedure against Poland. The Court of Justice ruled in favour of the Commission (see *Commission v Poland*, [C-336/16](#)), and dismissed several of Poland's arguments, including claims that the country's socio-economic challenges necessitated additional time for implementation. The Court further underscored the persistent nature of the non-compliance: between 2005 and 2007, the daily PM10 limit was exceeded in 35 zones, and the annual limit in 9 zones. Even during the extension period (2010-2011), the daily exceedances were recorded in four zones (Ward, 2018).

More recently, in November 2025, the [Commission referred Poland to the ECJ for exceeding NO2 levels](#), established under the AAQD, whose leading source is transport. These exceedances were recorded in the Kraków and Upper Silesian Metropolitan areas for fifteen and fourteen consecutive years, respectively, and it appears highly unlikely that the compliance deadlines set out in the air quality plans for these two zones will be met by 2026.

## Annex 4 Financial supporting measures

Several funding programmes, drawing on local, national and EU sources, contributed to the city's transition from fossil fuel-based heating to cleaner solutions and technologies. These include *inter alia*:

- 1) **Low Emission Reduction Programme (PONE)**: this programme provides subsidies for residents, which started with a full coverage of costs (between 2014 and 2016), and gradually decreased in the following years (80% in 2017 and 60% from 2018 to 2019). For the most vulnerable households, a dedicated Social Support Programme was available: households with incomes below 200% of the applicable threshold were eligible for full (100%) coverage of replacement costs, a level of support that remained unchanged in later years.
- 2) **Local Social Support Programme and thermal retrofit schemes**: this programme was introduced to offset increased heating costs following the switch to environmentally friendly heating systems, alongside a single-family building thermal retrofit programme launched in 2018. The latter provided up to 100% funding for eligible households meeting specific income criteria (Scigalski, 2026).
- 3) **The Integrated LIFE Project – “Implementation of the Air Protection Programme for the Małopolskie Region – Małopolskie in a Healthy Atmosphere”**: this programme was crucial for the hiring of [250 eco-advisors in 182 municipalities](#), giving residents access to professional consultations on building thermal modernisation and replacing out-of-class boilers. It also played a key role by supporting administrative capacity, including the recruitment of 22 employees responsible for managing grant procedures.
- 4) **The Clean Air Programme**: this national public grant scheme supporting residential building renovation contributed to the replacement of obsolete heating devices and deep thermo-modernisation, as required under Kraków's Anti-Smog Resolution. Although primarily financed by national funds, it is also supported by EU instruments, notably the Next Generation EU facility and the Modernisation Fund, which is an integrated part of the EU Emission Trading System.



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