Executive Summary

From regulating air pollution to laws on air quality governance

> The environment is unlike any other thing; it cannot be put into compartments because an occurrence in one place can have far-reaching effects on another place quite distant from the location. The effects of environmental pollution or degradation have a knack for rearing their ugly heads at the most unlikely of places. They should therefore be everybody's concern.
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> Superior Court of Judicature of Ghana. Center for Public Interest Law and Anor vs Tema Oil Refinery. Suit No. E12/91/07, Korbieh J, Ghana. www.cepil.org.gh/files/CEPILvs.-TOR.pdf.

This global study assesses national air quality legislation in 194 States and the European Union (EU) against a model of robust air quality governance developed as part of the research. The model is based on the diversity of air quality laws that exist globally, and the nature of air quality as a collective environmental and social problem that requires certain key features in a comprehensive approach to governance.

A robust system of air quality governance is one which:

- requires governments to develop and regularly review applicable air quality standards in light of public health objectives;
- determines institutional responsibility for those standards;
- monitors compliance with air quality standards;
- defines consequences for failure to meet them;
- supports the implementation of air quality standards with appropriate and coordinated air quality plans, regulatory measures and administrative capacity;
- is transparent and participatory.

The report is primarily concerned with national legislative structures for introducing and implementing air quality standards, while recognizing that the scientific case for setting those standards is likely to change over time. It does not address whether air quality standards are met in practice, but it does address whether legal measures exist for determining whether air quality standards are being met and what legal consequences exist for failure to meet them.

This report adds to previous ones on ambient air quality standards (AAQS) with its clear focus on law and legislative structures, and how these make AAQS binding within States.

Key messages

While there is no one-size-fits-all approach to air quality control, there are important reasons for embedding air quality standards in state-sponsored legal instruments (legislation) as foundations for good national air quality governance. These reasons include ensuring institutional responsibility, transparency and accountability; creating administrative architectures to support and entrench the implementation of air quality standards, including monitoring requirements and enforcement mechanisms; embedding processes for reviewing

air quality standards and plans, and the symbolic importance of legislative commitments to air quality standards.

The primary global guidance on air quality is scientific, as provided by the World Health Organization (WHO) air quality guideline values for ambient air quality. These guideline values are not intended to be binding upon States, but they reflect a high degree of scientific consensus, giving them global authority. There is a case for a complementary global treaty on AAQS that supports universal public health goals and evolving human rights protections relevant to health and clean air.

AAQS in most national laws do not comply with the WHO air quality guidelines, which in some cases reflects a process of transitioning to more stringent AQS over time, subject to political and economic circumstances.

Overall, the global picture of national air quality laws is one of heterogeneity. Different metrics, standards and obligations are adopted, and different governance actors are implicated within air quality regimes which can be explained by different systems of government and sociolegal cultures, different technical knowledge and approaches, and historical patterns of influence in relation to air quality law. Variation in AAQS themselves is particularly complex. Standards can be set at different levels of stringency in terms of allowed pollutant concentration levels; different exceedances or margins of tolerance may be allowed; they may be averaged over different time periods; and/or they may only apply to or exclude certain pollutants. This heterogeneity makes comparison of standards across countries challenging.

This lack of a level playing field means there is no single recommended template for implementing AAQS in law at the national level. It also undermines the control of transboundary air pollution issues, and risks feeding the distortion of global competition, which should be further explored and understood. Furthermore, it is at odds with the demanding requisites of global policies on climate change and climate neutrality expressed in the 2015 Paris Agreement, as far as ambitious regulation of atmospheric pollution is concerned.

The absence of an international regime on AQS partly explains the diversity of national regimes and might also be a barrier to certain legal regimes evolving contemporary approaches. Many countries need further guidance.

This report offers guidance about key aspects of air quality governance that might be embedded in national legislative regimes, by exploring the relevant dimensions of legal and institutional frameworks. A legal regime for AAQS aimed at protecting public health requires more than harmonization of standards at the appropriate level; it requires institutional frameworks to allow those standards to be established and achieved, including monitoring systems for accurate knowledge of air quality and mechanisms for institutional responsibility and enforcement.

Even if they are contained in legislative instruments, in some States, AAQS are not set at stringent levels and/or are unsupported by robust administrative systems, which risks them being used as tools for legally protecting air pollution, particularly in fossil-fuel economies.

Reliable knowledge about air quality is central to any regulatory efforts to control air pollution, and legal regimes can be designed to optimize air quality monitoring.

Effective enforcement of AAQS is a significant legal challenge, since they require legal avenues of enforcement to attain collective outcomes. In principle, this should involve a legal enforcement mechanism against the state or public actors. However, enforcement against the state is not easy legal architecture for many countries to devise, and is more easily developed in multilevel systems of government. As a result, many countries focus enforcement of AQS on individual polluters.

Citizen empowerment is a contemporary theme in global air quality law. Public knowledge about air quality is increasingly facilitated by legal requirements of public access to air quality information, public participation in air quality governance, and, in some countries, justiciable rights to clean air.

The importance of AQS for health protection has come to the fore in recent decades through public interest litigation, which relates to the rise of procedural environmental rights globally and the strategic approaches of environmental non-governmental organizations (NGOs) in pursuing improved air quality.

This report does not set out a detailed menu of regulatory measures for countries to adopt to ensure that AAQS are met in practice. This will often involve a wide range of policy and regulatory levers (from planning and transport to industry and finance). Rather, with a focus on robust air quality governance, the report highlights how such regulation and policy must be well coordinated – whether across government ministries, or across levels of government – to ensure that AQS are achieved.

Key findings

International and constitutional commitments to air quality

- There is no common legal framework for AAQS globally. A clear legal commitment to certain AAQS which is compatible with the life and health of humans and the natural environment globally does not yet exist in public international law.
- There are some key regional international legal instruments on air quality, particularly in the EU, which require individual signatory countries to develop relatively robust legal systems of air quality control.
- 66 per cent of countries are subject to constitutional legal requirements that may be interpreted (over time) to require legally mandated acceptable air quality.

Air quality law in different systems of government

- Air quality laws are designed differently in federal or devolved States, which in most cases provide opportunities for coordination of minimum air quality standards at the national level, and also regulatory differentiation at subnational levels of government. In any case, even in unitary countries, most national air quality governance systems involve structures of multilevel and shared governance, even if specific governance approaches can vary significantly.

Purpose and scope of national air quality laws

- Just over half (51 per cent) of national air quality regimes have explicit public health or both public and ecosystem health as their main objective. However, the actual content of many of these regimes does not correspond to that goal.
- Just under half (49 per cent) of countries define the notion of air pollution in national air quality regimes as extending only to ambient air pollution. Notably, a significant proportion (43 per cent) of countries do not define "air pollution", which can reflect a weak (or non-existent) scheme of air quality law or an implicit assumption that ambient air quality is the default subject of air pollution control.

Legislative incorporation of national ambient air quality standards

- The majority of countries (64 per cent) do embed AAQS in legislation, although many countries are in the process of either revising air quality legislation (21 per cent) or planning to introduce/revise air quality standards in legislation soon (16 per cent).
- The United Nations Economic Commission for Europe (UNECE) and EU legal regions all have a very high incidence of legislative AAQS, reflecting the regional Convention on Long-Range Transboundary Air Pollution and supranational legislation (Directive 2008/50/EC) binding these States. Civil law countries, and States with federal constitutional structures and constitutional guarantees relating to clean air, are also more likely to have entrenched AAQS in law.
- Of the countries that have legally mandated AAQS, 13 per cent are in primary legislation, 67 per cent are in secondary legislation (introduced under empowering legislation), 14 per cent are in policy or guidelines (with a clear relation established to the legislative framework), and 6 per cent are in more than one of these categories.
- In at least 34 per cent of countries, ambient air quality is not yet legally protected (there are no legislatively mandated AAQS). Of these countries, 86 per cent have no air quality standards at all, and 14 per cent have air quality standards that are contained in policy or guidelines only with no explicit relation to a legal basis or broader legal framework for environmental policy.
- At least 31 per cent of countries have powers to introduce AAQS that have not yet been exercised.

Setting national ambient air quality standards in legislation

- Processes for setting AQS in legislation are often driven by technical expertise and rely on standardization bodies or technical committees to establish AAQS, with processes that are not always inclusive, transparent or accountable.
- Interesting models of designing air quality legislation in some countries include mandated input from a wide range of stakeholders and expertise, and are open to public scrutiny.
- Despite evidence that air pollution can affect men and women differently, this assessment found no differential references to air pollution impacts by gender in the setting of AQS in legislation.

National ambient air quality standards and WHO air quality guideline values

- Most national air quality laws include AAQS that are not aligned with WHO air quality guideline values in terms of their headline numerical standard. There are various reasons for this, including positive reasons (such as countries intending to improve AQS over time) and less positive ones (such as countries wanting to preserve highly polluting industries, and having difficulties making complex choices).
- It can be difficult to ascertain true alignment with the WHO air quality guidelines in many cases. Constructing AQS is a matter of precise legislative drafting. AAQS are generally designed as concentration-based standards, but their stringency is affected by design features such as geographical coverage, the air quality metric adopted, the time frame for compliance, allowed margins of tolerance and other kinds of derogations. Over half (55 per cent) of countries allow air pollution exceedances, which risks disguising the true level of ambition embodied in AAQS.

Legal responsibility for national ambient air quality standards

- Institutional responsibility for AAQS, even when legally adopted, is relatively weak globally. Legal requirements to achieve AAQS as guaranteed environmental outcomes are not the norm – only 33 per cent of countries impose obligations on the state actually to meet legislatively mandated AAQS. Even where such obligations exist, their true impact on pollution sources can vary according to the stringency or leniency of the applicable standards.
- Common types of requirements on the State when legal AAQS are not being met include: duties to report this to a relevant body (such as a parliament or an environmental authority) (32 per cent); requirements to develop plans to improve air quality (32 per cent); and emergency planning requirements when air pollution is severely elevated (35 per cent). At least 17 per cent of countries impose no obligations at all on the State in relation to legislatively mandated AAQS.
- Some countries seek to make individual operators primarily responsible for achieving collective AAQS. This individualization of collective standards targets high-polluting sources and allows for private enforcement. This approach can be combined with other forms of state accountability for AAQS, but in some countries it is the only form of legal responsibility for AAQS, creating challenges of ensuring that overall levels of air quality are safe for health and that national AAQS are met.

National air quality zones and monitoring

- Ambient air – and thus people and the natural environment – is not yet legally protected everywhere. This is partly because countries often segment their land into zones, and apply AAQS to only some of these. While zoning is also used to enhance air quality protection in certain areas and adopt monitoring protocols, its use as a means of restricting the coverage of air quality controls undermines protection for all. Zoning requirements are also inherently challenging to meet in practice due to the transboundary nature of air pollution.
- While ambient air quality is monitored in many countries, this is not a legal requirement in at least 37 per cent of countries. In countries where monitoring is framed in legislation, important questions arise about the rigour of monitoring, as well as issues of capacity (such as expertise and finance).

Enforcing national ambient air quality standards

- Enforcement measures for meeting AAQS are complex to design in air quality regimes, reflecting the challenge of enforcing legal requirements that require policy coordination over a wide range of areas.
- Some forms of AAQS enforcement in some jurisdictions, such as the EU, have been adapted to the collective nature of AQS, and often rely on multilevel systems of government. Other enforcement mechanisms include actio popularis civil suits and actions that can be brought against individual operators for failing to comply with legal requirements directly linked to AAQS.
- Even the best legal enforcement mechanism will be fruitless with no institutional support behind it. From the research undertaken for this assessment, lack of enforcement capacity is often a key reason for the poor implementation of air quality law.

Empowering the public through procedural and substantive rights to air quality

- Public participation and other procedural rights relating to air quality are relatively strong globally, reflecting a wider movement of environmental democracy which has transformed environmental law in many countries, in light of Principle 10 of the Rio Declaration.
    - The majority of countries (61 per cent) include legal rights to access air quality information in their legislation. By contrast, 14 per cent of countries with legislative AAQS do not make their main text containing AAQS publicly available.
    - 11 per cent of countries have rights to participate in setting AAQS in their legislation.
    - 33 per cent of countries include legal rights to participate in devising air quality plans or actions in their legislation.
    - 19 per cent of countries have legal rights of access to justice within air quality regimes, representing a notable evolution in air quality law.
- At least 25 per cent of countries affirm justiciable rights in relation to air quality law.
- Air quality indices (AQIs) are used by 27 per cent of countries to communicate real time state of air quality to the public. However, the relationship between publicized AQI levels and compliance with legally binding AAQS is not always clear.

Coordinating national policy and regulation for achieving ambient air quality standards

- Legal coordination of policy to achieve AAQS is complex to design in many legal systems. About a third of countries (35 per cent) have legislation that includes legal requirements to coordinate air quality policy to support implementation of AAQS, with some interesting examples of legislative measures that seek to foster policy coordination for good air quality. In 41 per cent of countries, there is an established legal relationship between permitting of industrial activity or development and legally mandated AAQS.

National legal measures for transboundary air pollution

- Only 31 per cent of countries have legal mechanisms for managing or addressing transboundary air pollution, despite transnational and transcontinental transport of air pollutants affecting national air quality.

National indoor air quality standards

- Indoor air quality standards (IAQS) are infrequently included in air quality legislation globally – only 7 per cent of countries have some form of general IAQS. This is an important area for legal development, particularly in light of the impact of household air pollution on health outcomes, disproportionately for women and children, in low- and middle-income countries.