

# Atmospheric pollution



**ASSIGN  
BUSTER**

Firstly, we must question: How does air pollution occur? To understand this, one is required to recognise the earth's surroundings. Life is totally dependant upon the blanket of mixed gases referred to as 'air' surrounding our planet earth. This atmosphere is, approximately, a five hundred kilometre thick<sup>1</sup> composite layer of colourless, odourless gasses that surrounds the earth kept in place by gravitational forces. Due to its intangible form, it is often ignored by man, making it vulnerable and easily damaged (this fact being highlighted by a large number of disasters caused, effectively, by man). The political and scientific debate on the so called 'Greenhouse Effect' is based on concern over increasing atmospheric levels of carbon dioxide resulting from combustion of fossil fuels and emissions of other 'Greenhouse Gases' - such as methane (from decomposing waste), chlorofluorocarbons (CFCs) and nitrous oxides (NO<sub>x</sub>).

The activities of homo sapiens have introduced these new chemicals into the atmosphere and disturbed the distribution of its natural constituents. At first, this was limited to the effect of the fireplace, but later, with the greatly expanded usage of coal, these effects grew more acute. And, after the Industrial Revolution, these effects were compounded. As will be made clear, this revolution reached such a point that consequences began to be regarded more than just an inevitable residue of industrialisation and the struggle for economic growth.

### 1. 1

Secondly, in order to intertwine the above information with the issue at hand, it may be necessary to ask oneself, what is environmental law, who is

using it and for what purposes? These questions are being posed, as it is imperative to understand the background of the subject, not just for this subtopic in environmental law, but any topic, before entering it in any depth. Environmental law is first and foremost, a combination of primary legislation<sup>2</sup>, secondary legislation<sup>3</sup> (which will be explained in more depth throughout the project), judicial decisions, common law principles, European Community legislation<sup>4</sup> - 'which impose an obligation on members states to enact legislation to give effect to the terms of the Directive'<sup>5</sup> which are transposed into national law (as regulations), European treaties and international law (found in treaties, conventions and protocols).

## 1. 2

The foremost function of environmental law is not, as many would imagine, to completely eliminate pollution altogether, but rather, to allow, or balance pollution levels with the gains we, as a society receive from economic growth. This phenomenon, known most frequently as 'sustainable development' is one that will be referred to time and time again in any environmental law topic. Sustainable development's widely accepted definition is to be found in the 1987 Brundtland Report

- " Our Common Future" (the report for the World Commission on Environmental Development 1987). It states:

'... development that meets the needs of the present without compromising the ability of the future generations to meet their own needs'.

In layman terms, what this report was recommending, or advising the inhabitants of this earth to do, was to use our resources on the planet in such a manner, so as not to jeopardise the way in which it can be used by others in those years after us. A classic example highlighting the necessity of sustainable development is that of the Communist regimes, such in Poland, in which they favoured production and economic development over protection of the environment. In brief, economic growth will lead to changes in the environment. If this growth is not controlled/governed, it can lead to an ugly and dangerous environment. One could be as bold as to say that obviously, the overriding consideration of any commercial enterprise is the maintenance and expansion of profit.

To achieve this, one tactic is to minimize costs and this can occur by reviewing methods of disposal of unwanted materials. If discharging these wastes into the atmosphere represents the cheapest way of accomplishing this, then the industry will have a strong inclination to adopt this strategy. The costs of disposal do not disappear when pollution is emitted into the atmosphere, and as has been discovered, the society will eventually end up paying far greater costs. Therefore, it is the governments of each nation must choose limits to benefit both the environment and economic growth. This is often referred to as 'anthroprecantic'<sup>7</sup> and most law is based on it.

As it was eventually assessed (with regards to the situation in Poland) that their lack of concern for the environment in which they inhabited was, in effect, the reason for their poor economic advancement. It was also noted that their Gross Domestic Product (GDP) was less than those countries who followed the anthroprecantic system. This perhaps is the most precise

example of how the environment plays such a big factor on our lives, not just for our health, but also for the development of our respective countries. (After all, it is the aspiration of each and every governing nation to become wealthy and prosperous - economic development is at the heart of each nation). In working towards sustainable development, whether in broad terms or looking at one particular aspect such as air quality, a number of basic concepts must guide action. These concepts have been clearly outlined in a number of governmental papers<sup>8</sup>. Within the United Kingdom's largely secular and pragmatic society, it seems inevitable that pollution is viewed in an economic context.

## 2.0

The industrial revolution was the main cause of such concern over the environment. Before this time, 'environmental law in England and Wales was characterised by a parochial focus on localised pollution problems'<sup>9</sup>. Such problems date back to the early uses of coal in domestic fires. The production of fumes and particulates from fires caused pulmonary infections and related lung diseases. Notwithstanding this effect, coal continued to be used. In 1661, John Evelyn

published his famous work on air pollution in city areas, *Fumi Fugiumi*, which not only outlined the problems that atmospheric pollution from smoke caused, but also, more importantly, tried to suggest methods by which the problem could be resolved.

After this period, much legislation was passed addressing specific problems in this area of law, for example, atmospheric pollution from chemical

industries and 'unclean' modes of transport, water pollution and the regulation of statutory nuisance.

## 2. 1

Very few areas of the United Kingdom are safe from air pollution. Pollution levels exceed Government health standards all over the country on many days every year, even in rural areas. It is difficult to assess exactly the impact of air pollution on public health. However the government itself stated that: " the Department of Health's latest assessment is that air pollution is at present responsible each year for several thousand advanced deaths; for ten to twenty thousand hospital admissions, and for many thousands of instances of illness, reduced activity, distress and discomfort" 10. It was also assessed that short-term episodes cause between 12, 700 and 19, 500 premature deaths in the UK a year<sup>11</sup>. And three years prior to this, it was estimated<sup>12</sup> that short-term pollution episodes were responsible for between 12, 000 and 24, 000 deaths per year. These figures have put new pressure on the Government to fully support the Road Traffic Reduction Bill<sup>13</sup>, from Cynog Dafis MP.

Over 400 Members of Parliament are supporting the principles of the Bill, which requires the government to produce a national plan to cut road traffic from 1990 levels by 5% by the year 2005 and 10% by the year 2010. As can be imagined, road transport is a major source of air pollution in the UK. Five of the key pollutants are: particulates (fine dust and soot particles - PM), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), benzene and hydrocarbons (HCs). 'After more than half a century of under-investment in Britain, roads

are the most congested in Europe'14. However, knowing that transport is the cornerstone of modern society, yet it is responsible for poor air quality in many urban centres around the world, what is there that can be done about its damaging effect on our environment?

There are increasing concerns about the impact of traffic exhaust emissions on the health of citizens who are exposed to the high concentrations of pollutants, plus the wider global implications. Legislation is helping clean up vehicles and fuel, but there is a significant time lag while the vehicle stock is being replaced. In the interim, mechanisms could be introduced that accelerate the replacement of vehicles or improve the existing stock.

## 2. 2

In the UK such a concept has taken the form of Low Emission Zones, which aim to restrict the use of the most polluting vehicles from specific areas in an urban environment. In Sweden, a similar concept has been in operation since 1996 whereby environmental standards are specified for heavy vehicles entering the central area of the main cities. The government has also recently set health standards for eight key pollutants. For these pollutants it has also set policy targets to be reached by the year 2005. Meeting these targets will need action locally, nationally and internationally. The Environment Act 1995 set up a system known as Local Air Quality Management through which local authorities will play a major part in reducing pollution levels.

## 2. 3

If we are to meet the Government's targets for air pollution, then pollution from traffic must be cut drastically. There are two main ways to do this:

Traffic reduction: cutting the volume of traffic on the roads. A number of environmental organisations are supporting the Road Traffic Reduction Act (which is now law) and the Road Traffic Reduction (UK Targets) Bill. This Bill, which is currently in Parliament as a Private Members Bill, aims to cut traffic levels nationally by 5% by 2005 and 10% by 2010. Greener cars: making sure that cars pollute as little as is possible. This is achieved through tightening engine technology and fuel quality standards. These standards are set at a European level<sup>15</sup>.

## 2. 4

Although the above issues are seemingly simple, everyone does not welcome the manner in which they will be implemented. For example, There are a huge number in opposition to the government increasing taxes on fuel, and in one particular instance, it was stated by a former chairman of a lobbying institution, that 'if Gordon Brown increases his fuel taxes, he will see the same situation as he saw in Autumn 2000' [where there was a great number of protests and havoc was caused around Britain]<sup>16</sup> This threat was reinforced by a totally independent party, namely the Petrol Retailers Association, who warned 'if taxes on motor fuels are increased, petrol forecourts will close'<sup>17</sup>. With statistics and threats such as those provided, it is difficult to advise what the government can do to aid the situation.

The Liberal Democrat party also showed its urgency when it released a statement highlighting its concern that the Chancellor of the Exchequer must



freeze fuel taxes in real terms for the lifetime of this Parliament. The party also called for a 'sliding scale' of car tax emissions, so that consumers with polluting vehicles paying higher duties, and those with the most environmentally friendly, paying nothing<sup>18</sup>. And, in support of this plea, it was stated, by The Confederation of British Industry, that they would be 'surprised and disappointed if there was a real increase in fuel duties'

## 2. 5

The Mayor of London, Ken Livingstone, who is behind many of the more noticeable environmental issues with regards to London stated in his manifesto that he aims to 'put the environment at the heart of London government and provide for comprehensive environmental assessment and monitoring of all strategies which the Mayor is required to produce'<sup>19</sup>. In addition to this, the Mayor said that he will 'aim to reduce road traffic by 15% by 2010'<sup>20</sup>. In favour of this aim, recent figures suggest that the UK's emissions of volatile organic compounds (VOCs) are being reduced<sup>21</sup> and in addition, greenhouse gases are also being reduced. However, as stated previously, with the correction of specific pollution problems, comes an uplift of other hazards, such as in this case, the increase in carbon dioxide emissions and recent developments in the electricity market suggest problematic situations.

## 3. 0

All aspects of environmental law have a domestic, European and international dimension to them. For example, if one lives in a country where there are dangerous waste materials being transported thorough, the

government of transporting town will ensure that the standard of safety provided is of a standard expected on an international level. These precautions must be taken in any environmental situation as will be discovered through this assignment. The influence of international law on the regulation of air pollution has been significant. This may be in recognition of the fact that many of the problems caused by air pollution can have impacts across a large geographical area (and in many cases cause seriously global effects). There have been a number of areas where international law has helped to shape policies and rules on both a domestic and European level.

Therefore, with regards to our particular topic, atmospheric pollution in England is regulated, not only by domestic bodies, but moreover, on a European and global level. The problems related to air pollution are by no means a new phenomenon. The prohibitions on certain activities producing smoke are probably the first instances of environment pollution legislation in the United Kingdom, and legislation dates back to 1863 with the Alkali Act, Public Health Act 1875 and 1936, Public Health (Smoke Abatement) Act 1926 and the Clean Air Act (CAA) 1956. The first modern piece of legislation combating air pollution, namely the Alkali Act, represented the culmination of a long period of dissatisfaction with environmental conditions, especially in London. For example, in 1819, an M. P had written,

"[T]he volumes of smoke which issues from the furnaces on every side of the river Thames opposite my own house actually blacken every flower I have in my own garden in Whitehall" 22

Until the CAA 1956 was introduced, the government of Britain has had a large amount of difficulty in tackling the problems of atmospheric pollution. Nowadays, the 3 main pollution controls in Britain (which will be clearly explained in detail in), are the Integrated Pollution Control (IPC)<sup>23</sup> and Integrated Pollution and Control (IPPC), the Clean Air Act (CAA)<sup>24</sup> 1993 (a consolidation of the CAA 1956 and CAA 1968), and the controls relating to vehicle emissions. In addition to these, the Environmental Act 1995<sup>25</sup> (EA 1995) naturally plays a large role, as it does in all environmental issues.

### 3. 1

Having discussed the topic of environmental law, recapped on the history of atmospheric pollution, and established that there is a need for change, it is now necessary to discuss and evaluate the measures and changes which have been made, by domestic, European and international governments along with a vast number of very influential pressure groups. The main three are (mentioned in section ):

a) The Integrated Pollution Control (IPC)<sup>26</sup> and Integrated Pollution and Control (IPPC) license based controls relating to a range of highly polluting industries detailed in part 1 of the Environmental Protection Act (EPA) 1990 and the Pollution Prevention Act (PPA) 1999.

b) The criminal sanction based controls over the emission of smoke and other particulate matter from chimneys and furnaces detailed in the Clean Air Act (CAA) 1993.

c) Controls relating to vehicle emissions. These controls encompass engine efficiency standards, the chemical composition of fuels, the mandatory use of catalytic converters, eco-taxes, price differentials between different types of fuel and the use of traffic management powers. 27. The aforementioned controls are an enhancement made by the Environmental Act 1995.

### 3. 2

The CAA 1993 concentrates on the control of emissions on smoke, dust and grit by means of criminal offences. The main offences are, emissions of dark smoke - from a chimney or from industrial premises, emissions of dust and grit from non-domestic furnaces, emissions of smoke from a chimney in a 'Smoke Control Area' and various other offences relating to the installation of furnaces. Having stated earlier, atmospheric pollution is not merely a domestic issue, the involvement of Europe is particularly highlighted with the great many directives established. Since 1993, when the Maastricht Treaty on the European Union (EU) reformed the Treaty of Rome, Articles 130r - 130t of the EC Treaty have provided the legal basis for Community environmental law.

Specifically, under Article 130r (2), environmental policy is guided by four principles: the precautionary, the polluter-pays principle, the integration principle, and the source principle. Moreover, the aforementioned Article further provides that a directive or regulation may include a 'safeguard clause', which allows Member States to take any appropriate measure to protect the environment in case of emergency<sup>28</sup>.

European Community (EC) measures to curb air pollution can be divided into different categories. Emissions from industrial plants - whereby the most important directive is the Large Combustion Plant Directive (88/609/EEC). In addition to this, Directives 89/369/EEC (dealing with emissions from incineration plants, and Directive 96/61/EC (IPPC) which was implemented into national law in 1999 are the most important directives regarding Emissions from industrial plants. Another category is that of Air pollution affecting the ozone layer and global warming in which EC regulations 3322/88, 591/91 and 549/91 which have banned CFCs and hydro fluorocarbons (HFCs), respectively. Air quality standards have been inputted in Air Quality Framework Directives (96/62/EC) and 99/30/EC. As can be seen, the EC has implemented a large number of directives, however, what is not apparent from the information given, is which have been implemented in British national law. The EC also concentrates on vehicle emission standards, product quality standards and atmospheric pollution and waste reduction<sup>29</sup>.

#### 4. 0

As an evaluation, it is necessary to view the opinions and publications of specialised bodies that thrive to ever improve the environment, such as Green Peace and Friends of the Earth. However, when consulting such sources, one is required to acknowledge the great possibilities of biasness, in order to assess the contribution these measures and policies have made on the atmospheric pollution levels in Britain. Regarding one particular publication issued by Friends of the Earth, it was stated, that by using government data and methods to calculate an Air Quality Indicator for 1999 established that air quality is still 'very poor'.

The calculation shows, for key monitoring sites around Britain, the average number of days on which air pollution levels were above the Government's air quality standard. John Prescott called it a "key quality of life indicator". It was also stated that road traffic is the major source of air pollution in the UK, which is responsible for 48% of UK emissions of nitrogen dioxide, 26% of particles, 2% of sulphur dioxide and 74% of carbon monoxide. Ozone is a secondary pollutant, produced by reactions between nitrogen dioxide and hydrocarbons. Road traffic is responsible for 38% of UK emissions of hydrocarbons. In this report, it was stated that the share of pollution produced by road traffic would be significantly higher in towns and cities.

#### 4. 1

The (New) Labour government took office in 1997 promising to be "the first truly green Government ever" and to put "concern for the environment at the heart of policy making". There have been real achievements. In Labour's first term, both Tony Blair and John Prescott led international efforts to agree the Kyoto treaty to fight climate change. Labour committed the UK to cut emissions of carbon dioxide, the most significant climate changing gas, by 20% by 2010. Despite Tony Blair's very close relationship with the United States, he is still prepared to criticise President Bush for reneging on this treaty and attempting to undermine support for it from other states.

Gordon Brown overcame considerable hostility from the business lobby to introduce the Climate Levy, which has begun to give industry clear incentives to cut emissions. Unfortunately, this is where achievements tend to become more difficult to establish. Early in Labour's first term, Chancellor

Gordon Brown took important steps to implement the basic principle of green taxation, that tax should be raised on polluting and environmentally destructive behaviour, with the revenues used to pay for green initiatives and to cut taxes on employment. But New Labour has now simply surrendered to the fuel tax protestors, and abandoned the process of gradually raising fuel duty to ensure that the cost of motoring more accurately reflects the environmental damage it causes. And in his last Budget, Brown put employers' National Insurance contributions back up again, increasing the cost of labour and discouraging job creation. 30

#### 4. 2

Ultimately, it appears that any capitalist economy must face the full scale of any atmospheric pollution problem presented by their production. As stated in 1. 2, a capitalist economy focuses on survival of the fittest to ensure its own self preservation. Eventually, if the exhaustion of natural resources is approached, a capitalist economy will have to modify its own behaviour to guarantee its own survival, for it requires these resources to continue its existence. It appears as though

we are, environmentally, living in a vicious circle, whereby our preventative measures are preventing one particular problem, but at the same time, causing a problem of a different nature. It is only when that problem becomes apparent to public knowledge that it begins to be tackled. It appears, from methods undertaken before, for the protection of the environment that we may be preventing the condition of our earth from

deteriorating to such a dismal point. Our structural interventions in capitalist economy do not appear without merit, albeit sometimes unnoticeable.

#### 4. 3

It was stated by Al Gore<sup>31</sup> in his book 'Earth in the Balance': 'Modern industrial civilisation is colliding violently with our planet's ecological system.' We inherited Eden and are leaving our children a depleted rubbish tip<sup>32</sup>. However, on a global scale, this appears not to be, in my opinion, the case. Having researched this project for a number of months, one can honestly believe that environmentally, things are getting better. Although issues are still to be found on a daily basis in any newspaper one picks up, the fact remains that things are getting better - or are getting worse, at a slower rate than they were previously.

#### 4. 3

'Air pollution is not a new phenomenon that has been getting worse and worse, but an old phenomenon that has been getting better and better, leaving London cleaner than it has been since the Middle Ages.'<sup>33</sup> Having evaluated governmental policies and researched air pollution, foremost in Britain, one would hope that this statement can now be conclusively agreed, or disagreed with. Evidently, the system in which the British government takes actions often referred to as the 'sectoral approach'<sup>34</sup> means that whilst our nation is tackling one particular aspect of pollution, another problem would shift to another sector. 'Britain has a problem with embarking upon the environmental issue on the whole'<sup>35</sup>.



Therefore, in a brief summary of the above conclusions, it can be said that the environmental issues themselves are not seemingly the problem. Moreover, it is the funding of the implementation that causes the problems. Environmental issues are being discovered and publicised weekly. If the nation were to consider only issues relating to the environment (which it seems the Green Party and other such organisation are aiming for), there would be no advancement in other fields. Therefore, the question of sustainable development is highlighted again. How much should a nation consider the state of the environment, when clearly it needs to concentrate on the economy? As everyone is aware, the government obtains most of its funding from taxes. If they were to continuously tax the nation, then no one would vote for them.

Therefore, they have to bind their policies with one another and establish a sustainable method in which to provide both for the present, and the growing nation. Consequently, on the whole, the implementation of policies and legislation appear to be having a generally good effect on the atmospheric pollution level in Britain. One question remains, however, and that is, for how long will the preventative principle prevail, and will be sufficient in curbing an environmental hazard?

In essence, it appears as though sustainable development is the mainframe of environmental and political ideology, and that government policy, and legislative implementation is delivering a sound task in the field of atmospheric pollution in maintaining sustainable development. After all, it must be remembered, that no organisation in this world is flawless in its methods, and with it come faults, as is evident with the topic of atmospheric

pollution. On the whole, policy and legislation appear to be achieving the ever fervent goal of sustainability.