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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN  
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**A Clean Air Programme for Europe**

(Text with EEA relevance)

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**1. INTRODUCTION**

Europe's air quality has improved markedly in recent decades but air pollution remains the principal environmental factor linked to preventable illness and premature mortality in the EU and still has significant negative effects on much of Europe's natural environment. According to the OECD, "Urban air pollution is set to become the top environmental cause of mortality worldwide by 2050, ahead of dirty water and lack of sanitation".<sup>1</sup>

Whilst the EU's air quality standards still lag behind those of other developed nations, compliance with some of these has been challenging for a variety of reasons. This new Strategy tackles the reasons for the widespread non-compliance. It also proposes legislation to reduce harmful emissions in the longer term which contribute to poor air quality and damage the natural environment. In addition, it will promote measures which also mitigate atmospheric warming and climate change. The timelines for the emission reductions are fully consistent with the new 2030 framework for climate and energy policy which will allow investors to maximise the synergies of their investments.

Better air also offers economic opportunities including for the EU's clean technology sectors. Major engineering firms in the EU already earn up to 40% of revenues from their environment portfolios, and this is set to increase. There are clear signals that emerging economies are focusing seriously on air pollution and a smart European policy will continue to give our industry a head start in these major developing markets.

The measures in this new strategy build on those presented in the 2005 Thematic Strategy on Air Pollution<sup>2</sup> and will deliver further progress towards long term objectives of the 6<sup>th</sup> and 7<sup>th</sup> Environmental Action Programmes<sup>3</sup>. The Strategy is accompanied by a legislative proposal for a revised National Emission Ceilings Directive<sup>4</sup>, and a proposal for a Directive which will for the first time control emissions from Medium sized Combustion Plants and contribute significantly to the achievement of the necessary emissions reductions. The strategy also contains non-regulatory support measures to enhance capacity and co-operation at all political levels, with priority areas including urban air pollution, research and innovation, and the international dimension of air policy.

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<sup>1</sup> The OECD Environment Outlook 2050 available at [http://www.oecd.org/document/11/0,3746,en\\_2649\\_37465\\_49036555\\_1\\_1\\_1\\_37465,00.html](http://www.oecd.org/document/11/0,3746,en_2649_37465_49036555_1_1_1_37465,00.html). It estimates that number of premature deaths from exposure to particulate air pollutants leading to respiratory failure could double from current levels to 3.6 million every year globally, with most occurring in China and India. Because of their ageing and urbanised populations, OECD countries are likely to have one of the highest rate of premature death from ground-level ozone in 2050, second only to India.

<sup>2</sup> COM(2005)446 final.

<sup>3</sup> Decision 1600/2002/EC, 'achieving levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment'.

<sup>4</sup> Directive 2001/81/EC

## **2. TACKLING POOR AMBIENT AIR QUALITY IN THE SHORT TERM**

### **2.1. Current air quality**

At the moment over a third of EU's Air Quality Management Zones exceed the limit values for particulate matter (PM10) and a quarter for nitrogen dioxide (NO<sub>2</sub>). 17 Member States are currently subject to infringement proceedings for PM10 non-compliance.

### **2.2. Measures to deliver air quality compliance**

The ongoing substantial breaches of air quality standards can be resolved in the short to medium term by effective implementation of existing EU legislation, notably on emissions from light-duty diesels,<sup>5</sup> and complementary measures at national level. Transposing the amended Gothenburg Protocol agreed in 2012 would also be needed to align the EU regulatory framework to the EU's international commitments. The aim of these measures is to achieve full compliance with existing air quality standards by 2020 at the latest.

#### *2.2.1. Completing unfinished business: fixing the light-duty diesel emissions problem*

Successive generations of Euro standards and fuel quality standards have been agreed so as to control vehicle emissions in the EU. The required reductions have been delivered, with one exception: NO<sub>x</sub> emissions from light-duty diesel engines. Real-world NO<sub>x</sub> emissions from Euro 5 cars type-approved since 2009 now exceed those of Euro 1 cars type-approved in 1992, and are in the region of five times the limit value. This has a major impact on concentrations of NO<sub>2</sub>, ozone and secondary particles across Europe, generating negative publicity and reputational damage for vehicle manufacturers.

In its CARS 2020 Communication, the Commission noted the shortcoming of the current procedures and committed to a new test procedure in the type-approval framework to assess NO<sub>x</sub> emissions of light-duty vehicles under real-world driving conditions.<sup>6</sup> Real driving emissions (RDE) of NO<sub>x</sub> will be recorded and communicated as from the mandatory Euro 6 dates (in 2014) and, no more than three years later the RDE procedure will be applied for type approval, together with robust not-to-exceed (NTE) emission limits. This will ensure the substantial reduction of real-world NO<sub>x</sub> emissions required to achieve Euro 6 NO<sub>x</sub> emission limits under normal driving conditions.<sup>7</sup>

Further tightening of EU vehicle emissions standards beyond Euro 6 is not currently necessary to achieve new air policy targets for 2025 and 2030. Rather, measures supporting sustainable urban mobility will help target localised transport problems (see section 2.2.3).

#### *2.2.2. Fostering enhanced technical and management capabilities*

To support Member States' competent authorities with reinforcing the development and implementation of air pollution control programmes and the measures contained therein, they will be able to draw on finance under the 2014-2020 European Structural and Investments Funds<sup>1</sup> (ESIF) and the new LIFE instrument for 2014-2020. The Commission proposal for the ESIF includes an air quality component, in particular for urban areas. Member States, regions and cities with notable air quality problems are encouraged to consider the use of these funds,

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<sup>5</sup> I.e. implementation of the Euro 6 vehicle controls under Regulation (EC) 715/2007 so as to ensure that real world emissions of nitrogen oxides (NO<sub>x</sub>) from light-duty diesel vehicles are close to the limit values in the legislation.

<sup>6</sup> COM(2012) 636 final, Brussels, 8.11.2012

<sup>7</sup> Investigation and repression of some of the possible causes of these deviations (poor maintenance, cycle beating at certification, aftermarket defeat devices that eliminate or bypass pollution reduction equipment) should also be enforced, as this would allow to reduce emissions from high emitters without waiting for a new generation of vehicles to enter into service.

where relevant, to implement actions to reduce air pollutions, not least through the promotion of innovative technologies. LIFE will support the temporary additional efforts that may be needed to improve overall air quality governance and help leverage more substantial additional finance from other funding sources. The LIFE projects will be structured building on the recent positive experience with the joint Commission and EEA air implementation pilot project (section 3.2.6).

#### *2.2.3. Broadening the local and regional air quality management toolbox*

The main responsibility for resolving localised compliance problems lies with Member States, where there is substantial scope for enhanced national and local action. The current assessment and management options available will be supplemented by the measures on sustainable mobility in the Communication 'Together towards competitive and resource-efficient urban mobility', in particular those on Sustainable Urban Mobility Plans and on Urban Vehicle Access Regulations. Guidelines for retrofit programmes and for promoting the uptake of advanced technology options will be developed, building on the "Super Ultra Low Emission Vehicle " concept developed in the U.S.A. The latter concept will also be expanded to other sectors to support Member States with compliance problems. To improve public information on the performance of products and the success of national and local air quality action, new public-oriented indicators will be developed to track progress in mitigating air pollution nationally and locally. To facilitate consumer choice, citizens will also be informed of the real-world vehicle emissions measured according to the new test cycle (from the Euro 6 deadlines onwards).

#### *2.2.4. The Ambient Air Quality Directive*

The air policy review indicated that it is not appropriate to revise the Ambient Air Quality Directive now. Policy should focus rather on achieving compliance with existing air quality standards by 2020 at the latest, and on using a revised NEC Directive to bring down pollution emissions in the period to 2030. Such emission reductions will in turn drive down background concentrations across Europe, bringing major benefits for public health and ecosystems.

The Ambient Air Quality Directive remains a key policy if we are to ensure future concentrations below the WHO guideline values everywhere. It will be kept under review, with a view to revision once the NECD has set background concentrations on the right downwards track.

### **3. REDUCING THE IMPACTS OF AIR POLLUTION IN THE LONGER TERM**

A thorough review of EU air policy to date has shown that the combination of targets and legislation has delivered real benefits for human health and the environment. The health impacts from particulate matter – the main cause of death from air pollution – fell by around 20% between 2000 and 2010. The acid rain ("acidification") problem has been broadly solved in the EU, thanks to a substantial reduction in emissions of the main pollutants involved.<sup>8</sup> EU air policy has stimulated innovation in pollution abatement and radically improved the environmental performance of key economic sectors. This has safeguarded growth and jobs and opened up green technology opportunities in the EU and beyond.

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<sup>8</sup> The emission reductions are due to EU legislation on sulphur emissions from large combustion plants (LCPs), and to the low sulphur road transport fuel requirements that also enabled the use of enhanced after-treatment devices from Euro 4 onwards.

Despite these successes, substantial impacts remain (Table 1), and they are a continuing source of significant concern to a large proportion of EU citizens.<sup>9</sup> Air pollution is the number one environmental cause of premature death in the EU, responsible for ten times the toll of road traffic accidents. In 2010 it caused over 400 000 premature deaths as well as substantial avoidable sickness and suffering including respiratory conditions (such as asthma) and exacerbated cardiovascular problems. The overall external costs of these impacts ranged between €30-940 billion, including labour productivity losses and other direct economic damages valued at €23bn per year in 2010. Ecosystems are also suffering, with algal blooms, fish die-off and other ecosystem disruption driven by nutrient nitrogen pollution ('eutrophication'). This problem is particularly acute in Europe's richest and most diverse natural areas,<sup>10</sup> more than three-quarters of which are under threat.

**Table 1: Principal health and ecosystem impacts of air pollution in 2010**

Impacts	Health impacts <sup>11</sup> (premature mortality due to particulate matter and ozone )	Ecosystem area exceeding eutrophication limits <sup>12</sup>
2010	406,000	62%

Even if existing legislation is implemented in full, the EU will suffer very significant negative impacts on public health and the environment (Table 2). Human health impacts (in terms of pollution-related premature mortality) will only reduce by slightly more than one-third by 2025, with most of the reduction happening before 2020. Only minor improvements are expected for eutrophication, with more than half of the EU ecosystem area expected still to exceed the threshold for ecosystem damage. External health and environment costs<sup>13</sup> associated with air pollution would remain substantial, reducing by around 30% in 2025, and 35% in 2030 to an estimated range of €12-740bn.

**Table 2: Expected evolution of the principal air pollution impacts up to 2030 assuming full implementation of current legislation (reduction in impacts relative to 2005)**

Impacts	Health impacts (premature mortality due to particulate matter and ozone )	Ecosystem area exceeding eutrophication limits
2025	-37%	-21%
2030	-40%	-22%

<sup>9</sup> See Eurobarometer report 'Attitudes of Europeans to air Quality', [http://ec.europa.eu/public\\_opinion/flash/fl\\_360\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_360_en.pdf), based on interviews with over 25 000 EU citizens.

<sup>10</sup> Notably in the " Natura 2000" network of protected sites.

<sup>11</sup> See report *TSAP Baseline: Health and Environmental Impacts* [http://ec.europa.eu/environment/air/pdf/tsap\\_impacts.pdf](http://ec.europa.eu/environment/air/pdf/tsap_impacts.pdf) for calculation methodology.

<sup>12</sup> Percentage of EU ecosystem area exceeding critical loads for eutrophication.

<sup>13</sup> This is an estimate of all costs due to air pollution, i.e. not only the direct costs to the economy (of lost productivity, health care, lower crop yields etc.) but also the monetized valuation of ill health on the individual. The estimate is mainly health-based because there are methodological shortcomings with valuing ecosystem impacts in monetary terms.

### 3.1. New strategic air policy objectives for the period up to 2030

The long-term EU objective for air pollution implies no exceedence of the World Health Organisation guideline levels for human health<sup>14</sup> (which may also develop over time) and no exceedence of the critical loads and levels which mark the limits of ecosystem tolerance.<sup>15</sup> The new strategy pursues two priorities in parallel: to achieve full compliance with existing legislation by 2020 at the latest, and to set a pathway for the EU to meet the long-term objective.

The new air policy objectives for 2030 are set out in Table 3 below in line with those aims. They will deliver an additional third of the health improvements and an additional half of the eutrophication reduction compared with existing legislation.

**Table 3: New air policy objectives for 2030 relative to 2005**

Impacts	Health impacts (premature mortality due to particulate matter and ozone )	Ecosystem area exceeding eutrophication limits
2030	-52%	35%

The benefits associated with the 2030 reductions greatly outweigh the compliance costs. First, the proposed measures will translate into people in the EU living longer and healthier lives as a result of reducing deaths from diaseses caused by air pollution.<sup>16</sup> Second, when the reduced impacts of ill-health are reflected, the net benefits of the policy are around €40 billion per year, according to the most conservative estimate. This is without taking into account the very substantial environmental benefits of reduced ecosystem damage, which are difficult to monetise. Once productivity gains from implementation are taken into account,<sup>17</sup> the net GDP impact of the policy is fully offset, and further direct benefits accrue from reduced health care costs linked to the reduction in pollution-related illness,<sup>18</sup> and from reduced crop losses and infrastructure damage. The Impact Assessment considered differential impacts across Member States, and concluded that these are proportionate in the proposed policy.

### 3.2. Delivering the targets

Delivering the above targets will require a combination of regulatory and non-regulatory measures. The EU and Member States must work together, and Member States must work with their regions and cities. Full compliance with existing legislation is possible by 2020 through a combination of national and EU efforts, with the latter focused on full delivery of existing source controls. The targets for 2030 will require additional EU action to reduce emissions at source. The resulting reductions in background concentrations will in due course enable us to revise ambient concentration standards towards the WHO guidelines.<sup>19</sup> The

<sup>14</sup> Strictly speaking, there is no known safe level of exposure for some pollutants such as particulate matter, but WHO guidelines are set at low risk levels and regularly revised.

<sup>15</sup> Critical loads and levels, i.e. the maximum levels the ecosystem can tolerate without degrading.

<sup>16</sup> The proposed measures are estimated to lead to an additional 500,000 life years gained each year.

<sup>17</sup> An additional increase of 15 million working days per year though reductions in ill health due to air pollution.

<sup>18</sup> The proposed measures are estimated to lead to lead to EUR 650m in reduced health care costs per year.

<sup>19</sup> The Ambient Air Quality Directives were the legislative focus for the 2005 TSAP, but the priority for those now is to achieve full compliance as soon as possible.

measures outlined below will also focus on delivering benefits for climate change mitigation by targeting those pollutants that contribute significantly to climate impacts as well as air pollution (such as the "black carbon" component of particulate matter) or promoting measures that tackle air pollutants and climate gases simultaneously (such as ammonia and nitrous oxide).

### 3.2.1. *Revising the National Emission Ceilings Directive*

To achieve the new air policy targets for 2030, pollution emissions from each Member State need to be substantially reduced. The principal instrument for delivering cost-effective reductions is the National Emission Ceilings (NEC) Directive.

The accompanying proposal for a revised NEC Directive extends the policy horizon to 2030, with two important interim milestones: for 2020, transposition of the EU's new international obligations agreed under the amended Gothenburg Protocol; and for 2025, intermediate reduction obligations to maintain the trajectory towards 2030. The proposal also strengthens coherence with the assessment and management of air quality standards contained in the Ambient Air Quality Directive and with climate change mitigation, and will contribute to limiting climate change.<sup>20</sup> It also features enhanced provisions on inventories, projections, and ecosystem monitoring, to measure implementation more effectively. The reporting timetable has been aligned with that for greenhouse gases. Further opportunities for synergies across dataflows will be examined in the forthcoming evaluation of the European Pollutant Release and Transfer Register.

For 2030 the proposal includes<sup>21</sup> cost-effective national emission reduction obligations for the four original air pollutants (SO<sub>2</sub>, NO<sub>x</sub>, non-methane VOCs, and NH<sub>3</sub>), and for two new ones: primary PM<sub>2.5</sub> (fine particulate matter, which has major health impacts) and CH<sub>4</sub> (methane, a key short-lived climate pollutant). In implementing the PM<sub>2.5</sub> reductions, particular emphasis will be placed on reduction of black carbon (BC), the other major short-lived climate pollutant. The CH<sub>4</sub> and BC measures will provide direct climate co-benefits whilst also preparing the ground for international action. Flexibility arrangements are proposed, to allow for uncertainties regarding emission inventory methods and the future energy mix without undermining the integrity of the instrument.

### 3.2.2. *Tapping the full potential of existing source controls: Industrial Emissions, Ecodesign, and Non-Road Mobile Machinery*

While the NEC Directive gives Member States maximum flexibility to identify appropriate measures, many stakeholders requested support through targeted EU source controls. The possible sectorial contributions are detailed in the Impact Assessment accompanying this Communication. Existing and planned EU source measures will continue to make a substantial contribution to achieving the required reductions, ranging from 57% of the required reduction for VOCs to 72% for NO<sub>x</sub>. The main instruments involved are:

- The Ecodesign Directive, tackling emissions from domestic combustion sources;

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<sup>20</sup> The proposal maintains the requirement for national pollution control programmes but adapted so as to maximise synergies with the ambient air quality directives and climate policies.

<sup>21</sup> Action on Short Lived Climate Pollutants (SLCPs) was specifically examined. While a separate ceiling for black carbon (BC) is not currently appropriate, the EU and Member States are to prioritise measures with an impact on BC in meeting their PM<sub>2.5</sub> reduction obligations. The new methane ceiling will exploit the substantial potential for low- or zero-cost reduction, thus complementing the VOC and NO<sub>x</sub> reductions required to reduce the concentrations of ozone both in the EU and internationally. These actions are aimed also at promoting international action on SLCP to reduce hemispheric air pollution.

- The Industrial Emissions Directive (IED) and its ongoing programme for developing BAT conclusions, which covers the main industrial sources, including in particular combustion plants over 50 MW;<sup>22</sup>
- Revision of the Non-Road Mobile Machinery Directive, which will generate substantial benefits by extending the capacity range and machinery types covered, and by aligning controls with the Euro VI heavy-duty limits.

For ammonia, by contrast, EU source legislation will deliver only around 25% of the required reduction. Thus the case for source measures for agriculture is pressing, and the issue is taken up in section 3.2.4 below.

### 3.2.3. *Proposal for a Directive on Medium Combustion Plants*<sup>23</sup>

The main gap in EU source legislation (other than agriculture) concerns emissions from combustion installations of a thermal capacity between 1 and 50 MW, which are important also to avoid tradeoffs between air quality and renewables policy (notably related to increased biomass use). The proposed Directive on the limitation of emissions of certain pollutants into air from medium combustion plants (MCP) will provide an effective instrument to further reduce pollution of NO<sub>x</sub>, SO<sub>2</sub> and PM through appropriate limit values for new and existing installations, coupled with a simple registration scheme. This delivers the highest benefit-to-cost ratio with low administrative costs. The Directive will help deliver a significant part of member States' emission reduction obligations.

### 3.2.4. *Measures to abate ammonia emissions from agriculture*

To achieve the new air policy targets for 2030, the proposed NEC Directive requires ammonia reductions of 27%. The Directive provides a set of source measures to be taken into account by Member States when developing national programmes. Many of these are cost-effective even on rather small farms. Member States may also provide support by earmarking appropriate resources under the Rural Development Funds. Options for further source controls at EU level will be examined, including a general requirement for a nutrient balance in the application of fertiliser, specific controls on manure management, and labelling and other provisions for inorganic fertilisers (in the context of the ongoing review of the Fertilisers Regulation). Many of these measures will also help reduce emissions of nitrous oxide, a potent greenhouse gas regulated under the Kyoto Protocol.<sup>24</sup>

### 3.2.5. *Controlling emissions from shipping*

The 2012 revision of the Directive on the Sulphur Content of Liquid Fuels<sup>25</sup> ensures that the most cost-effective measures to reduce sulphur emissions from shipping in the EU are already on the way, with the SECA standard of 0.1% sulphur content in the Baltic and North Sea from 2015, and the global standard of maximum 0.5% sulphur in all EU waters from 2020.

<sup>22</sup> There is a timetable in place to adopt all BAT conclusions by 2020, but Member States will play a key role in determining the level of BAT, and thus the reduction delivered by the IED.

<sup>23</sup> The air quality benefits of the Renewables Directive and the Energy Efficiency Directive are integrated into the baseline.

<sup>24</sup> UNEP has estimated that, globally, N<sub>2</sub>O emissions equivalent to 0.8 gigatonnes of CO<sub>2</sub> could be avoided every year by 2020, amounting to 8% of the 'emissions gap' between reduction pledges made by countries and the action needed to keep global temperature rise below 2°C.

<sup>25</sup> Directive 2012/33/EU.

However, previous analysis shows that emissions from shipping will continue to impact air quality on land,<sup>26</sup> and that reductions from the sector could be cost-effective. Considering the international character of shipping and Europe's dependence on it, preference must always be given to policy development at the international level (IMO), such as designation of NOx Emission Control Areas and enforcement of NOx emission standards already agreed by the IMO. The proposal for a revised NEC Directive aims to incentivise reductions from shipping, by allowing them to be offset against the reduction obligations for land-based sources for 2025 and 2030.<sup>27</sup>

### 3.2.6. *Non-regulatory measures*

As part of the review, the Commission and the European Environment Agency jointly conducted an air implementation pilot project<sup>28</sup> to assess the practical experience of twelve European cities with the current policy framework. The policy's overall adequacy was confirmed, but a number of areas for improvement were identified, including the need for better co-ordination and capacity-building on assessment and management. A range of non-regulatory measures are presented to support policy implementation, targeting in particular the urban, agriculture and international dimensions while promoting closer links between policy-makers and the research and innovation community. The urban dimension was considered in section 2.2.3 above; the others are taken up below.

#### 3.2.6.1. Active engagement with the farming sector

The contribution that agriculture can make to improved air quality is clear, and a number of work strands are coming together: the revised ammonia ceilings under the NECD, the UNECE Ammonia Guidance Document,<sup>29</sup> the increasing focus in the Common Agricultural Policy on environmental protection, and the co-benefits of air pollution control for climate, water and soil. To fuse these strands into a critical mass and promote active engagement with the farming community, the Commission's agriculture and environment services will jointly establish an agriculture platform as part of the European Clean Air Forum (see section 5.1 below).

#### 3.2.6.2. Mobilising international action

EU ratification of the 2012 amendment to the Gothenburg Protocol is important to stimulate wider ratification by non-EU parties, to promote the green economy in third countries and ultimately to reduce their impact on EU air quality. A proposal for ratification therefore accompanies this Strategy. The Commission will also continue to engage with Eastern Europe, Caucasus and Central Asia (EECCA) states to implement the Gothenburg Protocol, inter alia by providing financial assistance where appropriate through EU development co-operation assistance. The new targets for 2030 will also set the agenda for a future revision of the Gothenburg Protocol, which should aim at coherent policy approaches to further reduce air pollution within the UNECE region, but also engagement with large emitters outside, particularly in Asia.

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<sup>26</sup> In the EU, in 2005 NO<sub>x</sub> and SO<sub>2</sub> emissions from international shipping were equivalent to about 25% and 21% of the land-based emissions. While NO<sub>x</sub> emissions from land sources are expected by 2030 to be 65% lower, on business as usual shipping emissions would reduce only 2%.

<sup>27</sup> This Communication and the accompanying Impact Assessment fulfil in substance the request of Article 7(2) of Directive 1999/32/EC.

<sup>28</sup> <http://www.eea.europa.eu/publications/air-implementation-pilot-2013>

<sup>29</sup> Decision 2012/11, ECE/EB/AIR/113/Add. 1, adopted by the Parties to the LRTAP Convention at the 31<sup>st</sup> session of the Executive Body of the Convention on Long-Range Transboundary Air Pollution (11-13 December 2012).

### 3.2.6.3. Promoting research and innovation

The review also delivered a clear agenda for national and EU research in support of better air quality management in the EU. The EU's research and innovation programme for 2014 to 2020, Horizon 2020, aims at facilitating the societal transformation to a green economy, so reducing the negative effects on health and the environment due to air pollution in Europe. It will foster integrated approaches to tackle both air pollution and climate change so as to find long-term, sustainable solutions in the EU. Advanced and innovative tools and strategies to improve air quality will be developed, taking account of specific local circumstances. Technological developments in the area of transport will include new engines with low real-driving emissions, and reduction of non-exhaust emissions. In addition there is a continued need to improve the integration of knowledge for policy application at various policy levels. FP7 research currently supports the implementation of EU air policy in areas such as integrated assessment tools, short lived climate forces, socio-economic aspects and effects on ecosystems. In addition to pursuing these measures, the Commission will publish and regularly update the R&I priorities for improving air quality.

## 4. GROWTH AND COMPETITIVENESS

The new air policy will provide a stimulus to the economy through enhanced labour productivity and markets for environmental technology and services which is of the order of the pollution control costs. Both small and large engineering companies that thrive in the clean technology sector are some of Europe's most advanced and innovative firms. The additional stimulus plus the enhanced focus of Horizon 2020 will ensure that the drive towards innovation continues. The policy will increase productivity in the region of 100 000 full time equivalents, of which around 40 000 will be new jobs created.

The market for this technology is increasingly international. Our main trading partners in the world's advanced economies already have more stringent standards than the EU. To sell into those markets we need domestic technology drivers. The OECD's Environment Outlook 2050 report also shows an increasing focus on air pollution in emerging economies. This will generate a further demand for clean air solutions globally with increased market opportunities for European firms. China has recently announced investment of 0,4% of GDP per year over the next five years on air pollution control in Beijing alone<sup>30</sup> – an order of magnitude larger than the implementation costs of this package for the entire EU. European business will be well-placed to benefit from this investment.

## 5. MONITORING, EVALUATION, AND REVIEW

### 5.1. The European Clean Air Forum

The Commission will set up a Clean Air Forum to facilitate the coordinated implementation of this Strategy and bring together all relevant stakeholders every two years. The Regulatory Committee on air quality and its associated expert groups will continue to be used for technical improvements to the Directives, and to bring the air quality and emissions communities closer together.

### 5.2. Timing and process

Progress on achievement of the objectives and implementation of the instruments will be reviewed on a five-yearly basis, with the first review by 2020. Progress towards the new air policy targets for 2030 will be assessed using the indicators in which they are expressed.

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<sup>30</sup> [http://news.xinhuanet.com/english/china/2013-09/24/c\\_132746706.htm](http://news.xinhuanet.com/english/china/2013-09/24/c_132746706.htm).

Reductions in real-world emissions from light-duty diesels and progress in compliance with the Ambient Air Quality Standards will be tracked closely through the existing reporting mechanisms. The analysis that underpins the impact assessment will be updated every two years, and progress reviews will be presented to the Clean Air Forum.

The first review will assess the scope for further action on ambient air quality standards, considering also the appropriate balance between air quality limit values that apply everywhere, and alternative concepts that focus on areas with particularly high population exposure.

## **6. CONCLUSION**

Europe's ambitious long-term goal on air quality can only be achieved in steps. The reductions of the previous (2005) Strategy will be broadly delivered by 2020, through a combination of Member State and EU action. This will deliver a major reduction in the negative impacts of pollution on people's health and on the environment, but substantial problems will remain. The new Strategy shows that further steps towards the EU's long-term objective are possible, delivering health benefits of €45 billion and large environmental benefits. This will pave the way for EU ambient air quality standards to progress towards the WHO guideline concentrations.

A strong air policy will answer citizens' aspirations for their health and wellbeing, but also has direct economic benefits. Improvements in productivity and reduced health-care costs fully compensate the compliance costs, and the policy is expected to deliver a net increase in employment. Opportunities will be opened up in the rapidly expanding global markets for abatement technology and services. The EU can gain a competitive advantage and exploit opportunities by focusing research and development on resource-efficient and less polluting technologies that other countries will eventually need to adopt.