

## North, South and West Europe

### Actions taken by governments to improve air quality

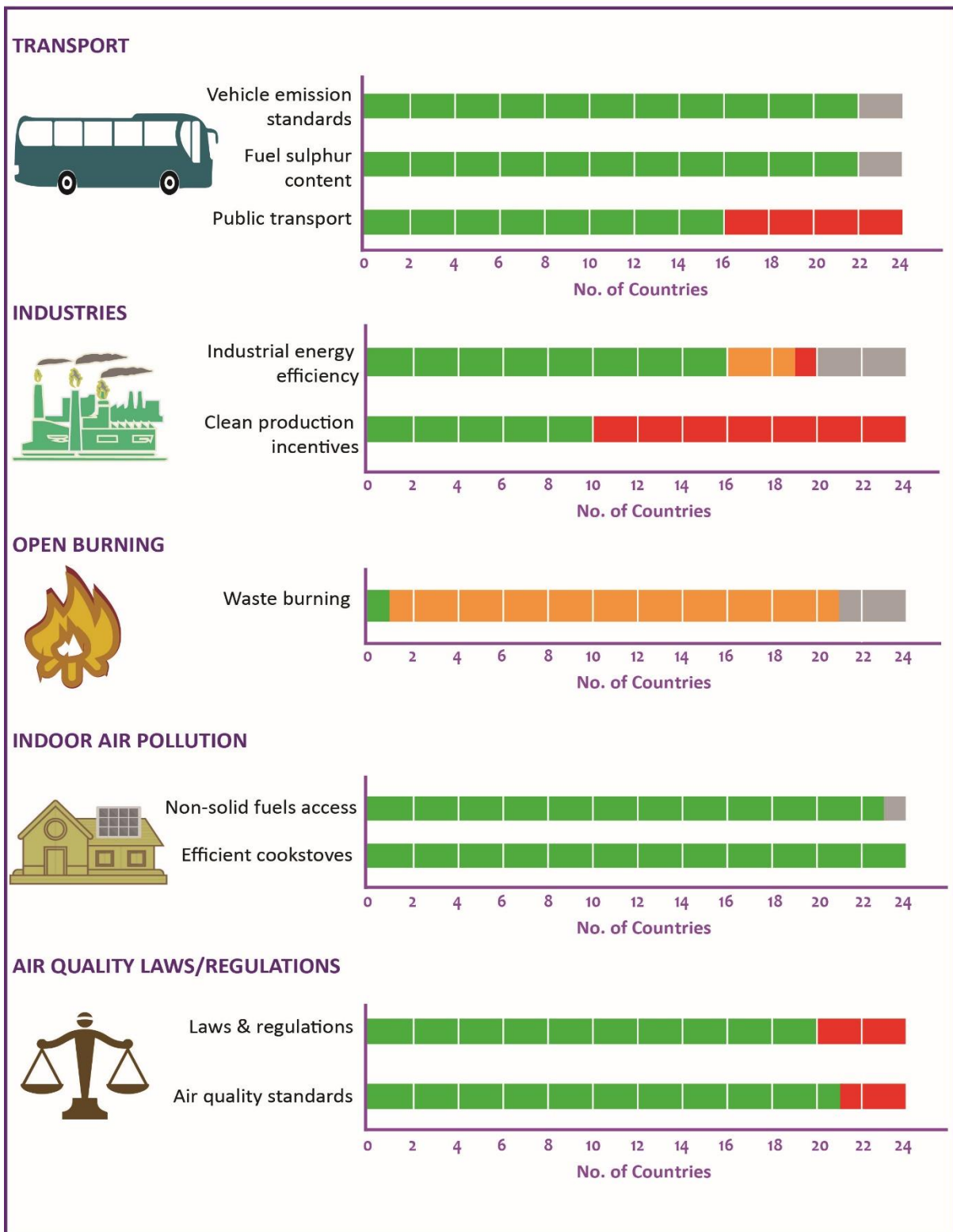
#### 1.0 Introduction

In June 2014 the United Nations Environment Assembly (UNEA) adopted resolution 1/7 *Strengthening the Role of the United Nations Environment Programme in Promoting Air Quality*. As requested in paragraph 4 and 7 of the resolution, which requested UNEP to develop a report detailing actions taken by governments to promote air quality, this report details some of the major actions being undertaken by governments in North, South and West Europe to improve air quality.

This report summarises ten actions being undertaken in the sub-region to improve air quality. In selecting these ten actions, consideration was given to their replicability, global appropriateness to address particular air pollution challenges and potential impact. For more details, please refer to the methodology document.

These actions are: *For Industrial activities:* 1) Establishing incentives that promote investments in renewable energy, pollution control technologies, energy efficiency and clean production mechanism; and 2) Increasing industrial energy efficiency. *For road transport:* 3) Reducing fuel sulphur content; 4) Tightening vehicle emission standards to at least Euro 4 or its equivalent; and 5) Increasing investments in public and non-motorized transport systems. *For open waste burning:* 6) Reducing open burning of both agricultural and municipal waste through provision of legislation, monitoring, enforcement and municipal waste management systems. *For Indoor air pollution:* 7) Improving access to clean cooking and heating fuels; and 8) Improving access to clean and efficient cook/space heating stoves. *For general legislative efforts:* 9) Establishing and continuously tightening ambient air quality standards to meet WHO recommendations; and 10) Establishing laws and regulations to support efforts to meet ambient air quality standards, and strengthen monitoring and enforcement. Figure 1 provides a summary of these actions for the sub-region.

## NORTH, SOUTH & WEST EUROPE POLICIES AND ACTIONS TO IMPROVE AIR QUALITY



**Figure 1:** A summary of actions, programmes, policies, laws and regulations undertaken by governments in the sub-region to improve air quality (green = progressing to best practice; red = action still required).

## **2.0 Regional Overview**

The sub-region covering North, South and West Europe includes: Andorra, Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland and the United Kingdom (UK). Information from air quality monitoring stations across the sub-region, but particularly in the EU countries, indicates that air quality has generally improved in recent years. However, it still remains an issue of concern, causing approximately 170,000 premature deaths annually. In addition, specific exceedances of legal or recommended values in certain places still occur. This is particularly so with respect to nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>, in summer) and PM (especially in winter). Concentrations of some air pollutants occasionally exceed the WHO Air Quality Guideline values.

The main sources of air pollution in the sub-region are vehicles, industries, and heating of homes with biomass (particularly wood burning stoves and boilers). Countries in North, South and West Europe have taken several steps towards improving air quality, in all these sectors. To limit emissions from vehicles, the sub-region has over the years invested heavily in public and non-motorised transport. It has also established some of the most stringent vehicle emissions standards and fuel quality standards. For the industrial sector, this sub-region has established industrial emission standards for various emission sources, and it requires all new facilities to employ best available technologies to limit air emissions. In the past the sub-region has also made efforts to improve the efficiency of space heating stoves. Although the efficiency of wood burning stoves and boilers has significantly improved over the years, wood burning is still among the highest polluting methods for space heating. A detailed description of what countries are doing to improve air quality in the sub-region is presented below.

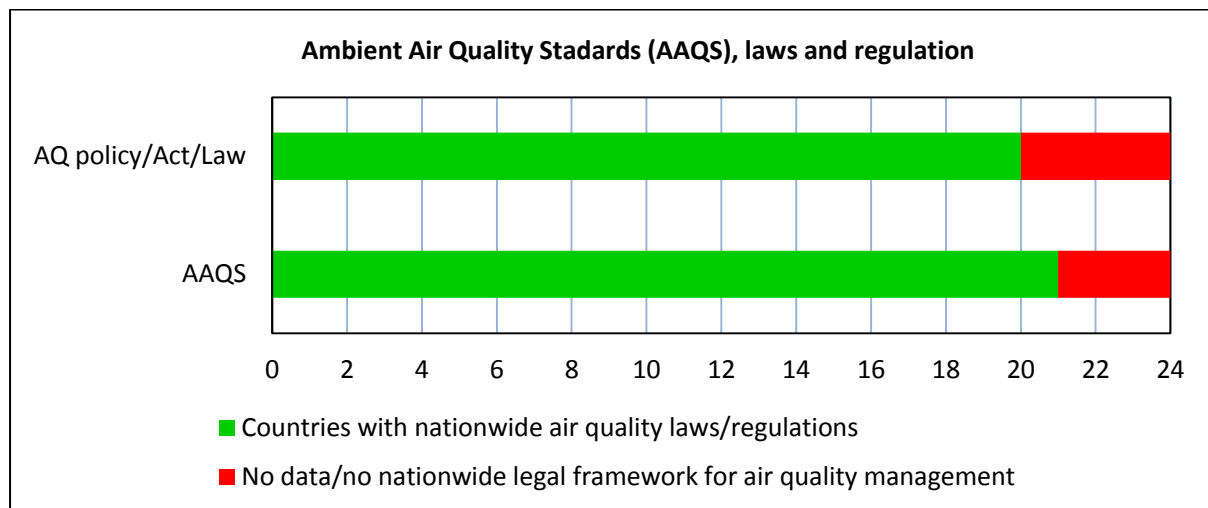
Progress has been made in different areas in different countries, and there are several positive case studies to be found across the sub-region. There are however specific areas in each country that can be improved, while standards need to be established and continuously tightened, public transport expanded, the use of best practice increased etc.

For policies and legislation to lower air pollution, countries must also improve implementation and enforcement, without which actions to improve air quality will not achieve their potential impact.

### 3.0 Actions Taken to Improve Air Quality

#### 3.1 National air quality standards & regulations

Based on the UNEP Air Quality Policy Catalogue, 21 out of 24 countries in this sub-region have ambient air quality standards. Twenty countries have some nationwide legislation, law, policy or act specifically for air quality. Figure 2 shows the number of countries in the sub-region that have established national laws and regulations on air quality management.



**Figure 2:** Number of countries in the sub-region that have enacted some form of air quality (AQ) laws and regulations, and also the number of countries that have enacted and promulgated ambient air quality standards (AAQS).

The EU member states in the sub-region (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Spain, Sweden and the UK) are all required to meet standards that are contained in the Clean Air for Europe (CAFE) Directive (EP & CEU, 2008) and the Fourth Daughter Directive (EP & CEU, 2004). These Directives also include rules on how Member States should monitor, assess and manage ambient air quality.

The CAFE Directive is the principal legal instrument at European Union level relating to air pollutants, and thus seeks to protect the environment and human health. It sets out

assessment and measurement standards, and reduction targets for the atmospheric concentration of particulate matter.

A review of the EU air quality policy was conducted in 2011-2013. This review led to the adoption of a Clean Air Policy Package in December 2013. The package consists of: a new Clean Air Programme for Europe with new air quality objectives for the period up to 2030; a revised National Emission Ceilings Directive with stricter national emission ceilings for the six main pollutants; and a proposal for a new Directive to reduce pollution from medium-sized combustion installations.

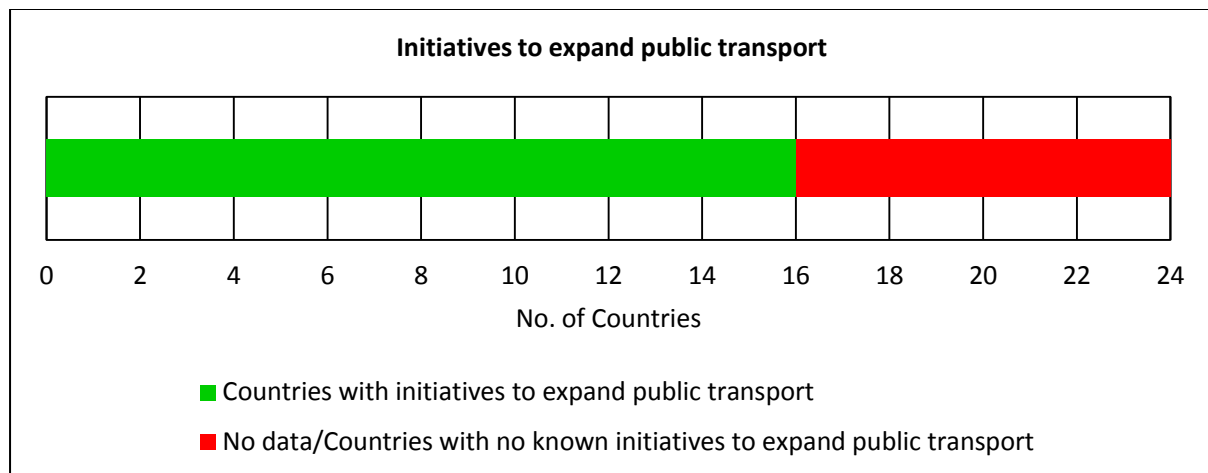
### **3.2 Transport**

Governments in the sub-region are taking several steps to minimise air pollution from this sector. Given the increased congestion experienced in many urban areas, maintaining and increasing the modal share of public transport is essential to increase mobility while decreasing transport emissions. Sixteen out of the twenty-four countries have ongoing initiatives to expand public transport.

For instance the public transportation system in Malta is being improved; recently more buses were added to the fleet, routes were extended and awareness campaigns were carried out. Several other countries in the sub-region have made investments in Bus Rapid Transit (BRT) Systems, as well in commuter trains and trams among others. Figure 3 below shows the number of countries in the sub-region that have made investments to expand public transport system. Most cities in the sub-region are also making investments to encourage walking and cycling, with several countries such as Germany and Netherlands developing national bicycle master plans.

Some of the governments that have embarked on programmes to improve non-motorised transport include the Austrian government which has developed a national master plan for walking and cycling. The government of Cyprus has also embarked on the construction of a bicycle network to connect all major universities in Nicosia with the city centre and also enhance the overall bicycle network. Other similar projects in Cyprus include the construction of bicycle paths in most new road projects proposed in all cities. In the 2016

state budget of Norway, the government proposes to increase budget allocations for bike/walkway with 50%.

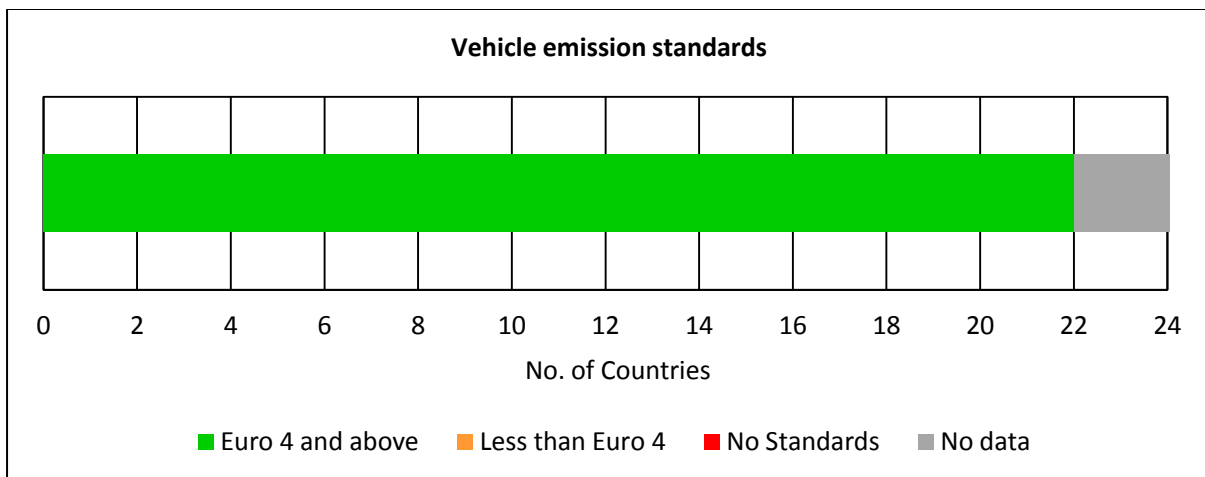


**Figure 3:** Number of countries in the sub-region that have initiated programmes and initiatives to expand public transport.

Other policies aimed at reducing emissions from the transport sector in the sub-region include the promotion of electric vehicles. In Norway for instance, electric vehicles are promoted through several incentives such as; tax exemption for VAT, tax exemption for purchase tax, free parking, and access to bus lanes among others. As a result of these incentives, Norway now has the world’s largest share of electric cars in the car fleet. The electric car fleet reached 50,000 units in April 2015. The government decided in May 2015 to prolong the tax benefits at the same level until 2018, and then gradually phase them out. The government also decided to let local authorities decide on other user benefits like free parking and access to bus lanes.

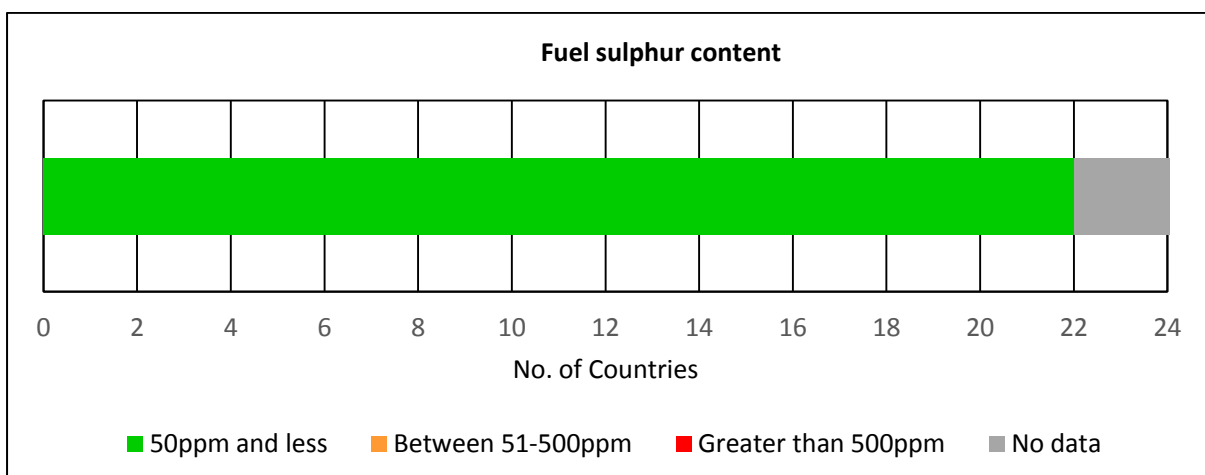
Fuel quality and vehicle emission standards are important for managing air pollution from transport. Twenty-one out of twenty-four countries in the sub-region have vehicle emission standards that are more stringent than Euro 4. Among these are the EU member states (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Spain, Sweden and the UK) which have vehicle emissions standards of Euro VI for both light duty and heavy duty vehicles. In addition, Malta has a scrappage scheme that allows for a 2000 euro grant on the scrapping of a 10-year old vehicle, which would go towards the purchase of a quadricycle. Malta has plans for

a car sharing system and a National Cycling Plan. Figure 4 shows the number of countries in the sub-region that have enacted regulations to limit vehicle emission.



**Figure 4:** Number of countries in the North, South and West Europe sub-region that regulate vehicle emission to Euro standards

Fuels and vehicles work as a system; in order to benefit from improved vehicle standards, low sulphur fuels are needed as these allow the advanced pollution control devices to work optimally. Since 2009, the maximum allowable sulphur level in the European Union has been 10ppm in petrol and diesel. The majority of countries in the sub-region followed this directive and have ultra-low sulphur fuels. Figure 5 below shows the number of countries within the sub-region that have endeavoured to improve their fuel quality.



*Figure 5: Number of countries in the sub-region that regulate fuel quality using Sulphur content as a proxy of fuel quality*

Despite the high standards for both fuel quality and vehicles, the sub-region still experiences considerable air pollution from the transport sector. This is partly attributable to the high number of vehicles. For example, although Austria has seen a decline in many of its ambient air pollutants, emission limits for NO<sub>x</sub> have been breached due to the increase in diesel vehicles in the country. Transport has often been cited by countries as one of the key sources of air pollution, especially in urban areas.

### **3.3 Open burning of waste**

Open burning of agricultural waste occurs to some degree in at least twenty of the twenty-four countries. Burning of agricultural waste, especially crop residues, is practiced as a quick and cost-effective method for land clearing. It is also considered as a means of controlling diseases and pest for some crops. Burning of agricultural waste in the European Union is for the most part banned by EU Legislation, although this regulation does not outlaw the burning of crop products or residues that are burnt after having been used on the farm, e.g. straw used to protect agricultural products during on-farm storage. In the sub-region most of the municipal waste is adequately collected and disposed of appropriately, and therefore none of the countries within the sub-region burns municipal waste in open fires. Figure 6 shows the number of countries in the sub-region where waste burning have been controlled.

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