



# Clean Air Vision



Dansk Industri

Danske Maritime



Danske Rederier

**DAPO**

Foreningen af Danske Leverandører  
af Pejse og Brændeovne

 Dansk Miljøteknologi



Miljø- og  
Fødevarerministeriet

# Challenge:

## The burning platform

Clean air is a source of pleasure and health. Unfortunately, however, filling our lungs with clean air can by no means be taken for granted. Air pollution is one of the major global environmental challenges of our time, and nine out of ten citizens in the world's cities lives in cities where air pollution exceeds WHO's recommendations. The most serious challenges are in the fastest-growing cities in Asia, Africa and Latin America. However, a number of EU Member States also have a long way to go before they can meet their own objectives and international obligations to reduce air pollution. The consequence of this is potential years of life lost and poor quality of life for far too many people.

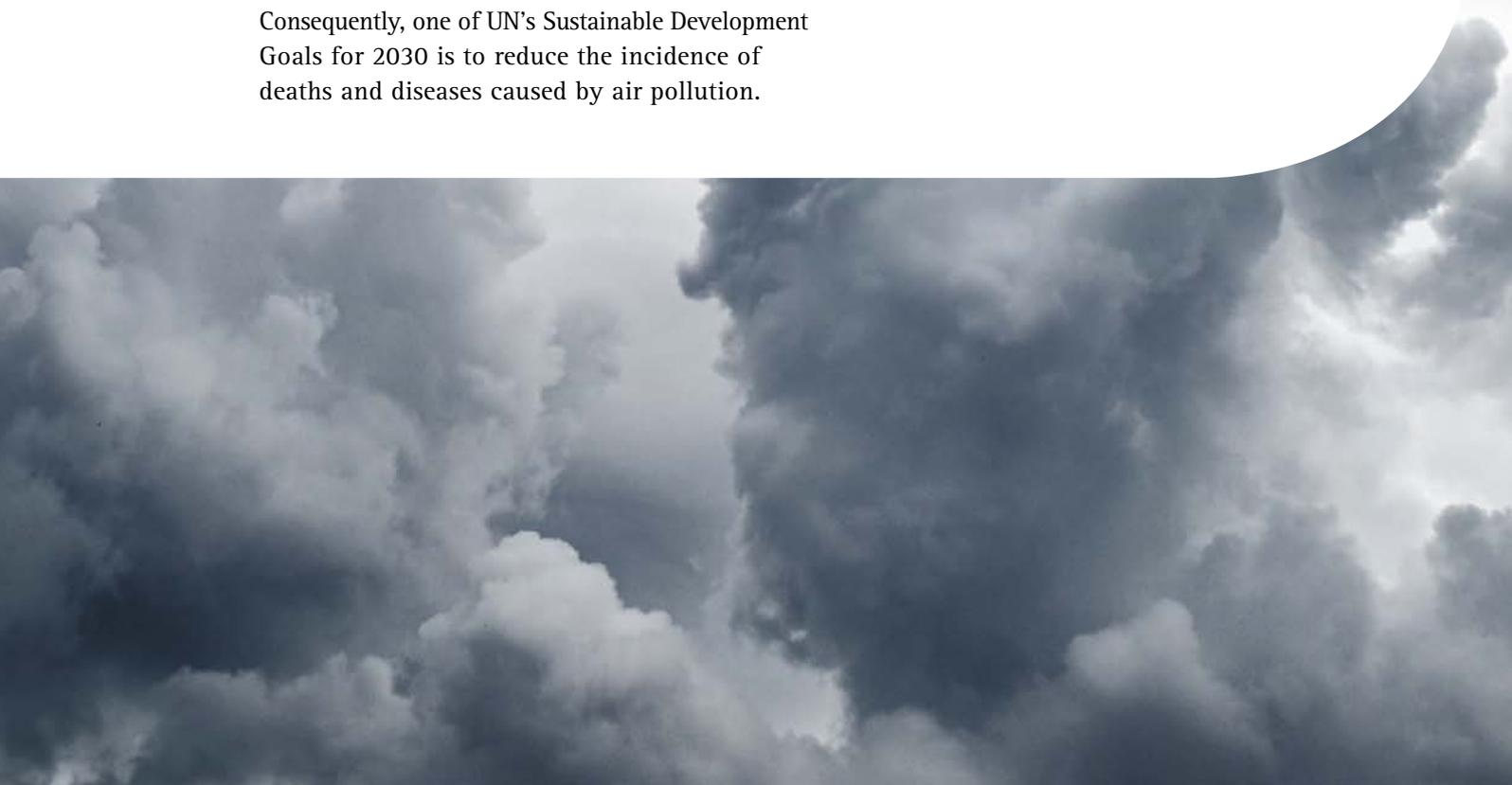
And the trend for ever more people moving to big cities shows no signs of abating. The modern urban way of life, with stable supplies of food and energy and innumerable transport and mobility opportunities, poses a risk of exacerbating even further the air pollution we have today. At the same time, citizens are calling for clean air as a natural part of life quality.

Consequently, one of UN's Sustainable Development Goals for 2030 is to reduce the incidence of deaths and diseases caused by air pollution.

A number of binding international agreements has the aim of reducing air pollution. Effective solutions are required if these agreements are to be implemented and have their intended effect. There is an urgent need to exploit all existing clean-air solutions if more people are to have a healthier life with less air pollution. Furthermore, new technologies and methods have to be developed.

Today, many Danish companies are leading the way in developing, supplying and utilising solutions to reduce air pollution. Due to the Danish tradition for solution-oriented cooperation between companies, researchers and authorities, Denmark has developed a stronghold in this area.

In 2015, Danish companies exported DKK 7.2 billion worth of clean-air solutions to global markets. But we can do even better if we enhance our joint efforts to profile Danish strongholds and make Denmark a global showcase of innovation in clean-air solutions.



# How:

## The vision

Our vision is for Denmark to become world leading in developing and supplying solutions aimed at providing cleaner air. Solutions that will benefit the environment, human health, growth and employment.

Our specific goal is to double Danish exports of clean-air solutions by 2030.

The vision is based on areas in which Denmark is already developing and exporting world-class clean-air solutions:

- › **Solutions that provide cleaner air to citizens in the world's fast-growing cities**
- › **Solutions that reduce air pollution from global shipping**
- › **Solutions that help companies and industrial plants in cities and rural areas across the world to reduce air pollution from their production.**

In order to realise this vision we will:

- › **Cooperate on Danish exports of clean-air solutions:**

Danish companies and research institutions have come a long way in developing clean-air solutions. However, boosting Danish exports requires a joint effort. Companies, researchers and authorities must cooperate on profiling and marketing Danish strongholds within clean shipping, clean cities and clean production. Companies' exports and global market shares must be monitored, and joint export promotion initiatives must be launched.

- › **Make Denmark a showcase of innovative clean-air solutions:**

Denmark has a strong tradition for developing and testing solutions in close cooperation between businesses, knowledge

institutions and authorities. Denmark has to be a place where good solutions are put to practical use in order to arouse interest in the global market. We will work to ensure that the best clean-air solutions are showcased in full-scale in Denmark.

- › **Work for efficient implementation and enforcement of international regulation of air pollution - in Denmark, in the EU and globally:**

Denmark must play an active role in international cooperation to regulate air pollution and in robust and consistent enforcement of these regulations. This will enable Denmark to contribute to reducing air pollution in more countries, while at the same time ensuring equal competition in the global market, promoting exports of Danish solutions, and reducing cross-border air pollution in Denmark from other countries. New effective tools and methods to reveal breaches and offences should be developed.

- › **Create better cohesion between research, development and innovation:**

There is strong international competition for the best brains and most innovative companies. Denmark must continue to be able to attract and retain companies specialised in developing and selling clean-air solutions. There should be ongoing cooperation between companies and researchers to develop, test and showcase the clean-air solutions of the future in close dialogue with users and authorities.

- › **Communicate about the things we excel in:**

We must spread the word about how Danish solutions provide cleaner air all over the world. Clean-air solutions should be a Danish "brand" that strengthens cohesiveness internally within the sector in Denmark and promotes the common goal. Forty years of joint efforts in Denmark to ensure cleaner air should provide a framework to market Danish businesses and their special stronghold as suppliers of clean-air technology.

# Facts:

## Air pollution

Combating air pollution is a complex challenge because the pollution comes from multiple sources, and because it affects health and the environment, both locally and globally. And air pollution knows no national borders. Therefore, strong international organisations are essential, and conventions must be adopted across national borders. Important organisations and conventions include:

### World Health Organization (WHO)

WHO, the UN agency concerned with public health, collects scientific knowledge about the health effects of air pollution, establishes health recommendations for pollution levels and calculates the global health effects of air pollution.

- ▶ 3,000 cities around the world report air pollution data to WHO. New Delhi and Cairo are among the most severely affected cities, and they exceed the WHO recommendations by up to 600 %.
- ▶ Globally, three million people die every year as a result of diseases caused by ambient air pollution. This corresponds to almost 5 % of all deaths.
- ▶ Air pollution in Europe is gradually declining, while global air pollution is increasing.

### Convention on Long-range Transboundary Air Pollution (CLRTAP)

The Convention was signed in 1979 in order to prevent death of forests and acid rain in Europe caused by sulphur pollution. Subsequently, particles, nitrogen oxide, hydrocarbons and ammonia have also been included in the Convention.

- ▶ Had it not been for the clean air efforts of the parties to the Convention, acidification of the environment would have been 30 times worse, and average life expectancy would be 12 months shorter.
- ▶ The most recently adopted protocol to the Convention aims to reduce pollution by particles and nitrogen oxide by 40-45 % up to 2020.
- ▶ Denmark was one of the contracting parties to the Convention which not only provides cleaner air in Denmark and globally, but which has also been

instrumental in strengthening the position of Danish businesses as suppliers of clean-air solutions.

### International Convention for the Prevention of Pollution from Ships (MARPOL)

In 1997, the first regulations on air pollution from ships were established by the UN International Maritime Organization (IMO) as an Annex to the MARPOL Convention. Since then, the regulations on sulphur and nitrogen oxide (NO<sub>x</sub>) have been tightened:

- ▶ As of 2015, fuel powering ships sailing in certain Sulphur Emission Control Areas (SECAs), including the North Sea and the Baltic Sea, may only contain 0.1% sulphur.
- ▶ From 2020, fuel powering ships sailing outside SECAs may only contain 0.5% sulphur, unless approved cleaning systems have been installed on the ships.
- ▶ In specific NO<sub>x</sub> Emission Control Areas (NECAs), NO<sub>x</sub> emissions from new ships must be reduced by an additional 75%. The North Sea and the Baltic Sea will become NECAs from 2021.
- ▶ Danish authorities and shipping companies cooperate to promote international regulation and enforcement in relation to air pollution from ships.

### EU regulation

The EU has implemented extensive regulation to reduce air pollution and improve air quality:

- ▶ In the National Emissions Ceilings (NEC) Directive, the EU imposes binding emission ceilings on Member States, inspired by the LRTAP Convention, and in the Air Quality Directive, the EU sets binding threshold values for the concentration of a number of harmful substances in ambient air.
- ▶ The Industrial Emissions Directive (IED), the Medium Combustion Plant (MCP) Directive and the Ecodesign Directive regulate air pollution from energy plants, engines, boilers and wood-burning stoves.
- ▶ Air pollution from lorries, cars, machinery etc. is also regulated through a number of EU Regulations. Regulation has been tightened regularly over the past 30 years as more effective environmental technologies have been developed. Denmark was a front runner in the EU when catalytic converters were to be fitted in motor vehicles. And the EU regulation of emission from new wood-burning stoves that is currently being introduced is partly based on Danish legislation.