

Trainer Guide – Air Quality Toolbox Talk

Purpose of the Video

The purpose of the Air Quality toolbox talk is to provide your staff and colleagues with a short, easy to understand resource for people working in the construction sector on air quality. It serves two main purposes:

- **To introduce the issue of air quality to a construction audience; and**
- **To get site workers thinking about how they might be able to improve air quality on site.**

Introducing the Video

The video has been designed as a stand-alone resource which can be either viewed by operatives during a break, or in a more formalised classroom setting if desired. It should take around 20 minutes to view the module and then have a group discussion around the key points it raises.

If you are using the toolbox talk in a classroom setting, then it may be beneficial to get the group to consider the following questions:

- **What are the key air quality hotspots in their work/on their site;**
- **What can they do now to improve site air quality; and**
- **What are some of the barriers to making further improvements, and how might these be overcome?**

Key Messages

Once the video has been viewed use discussion and response to take the group through the following key messages:

Key Message 1: *what are the most significant air quality pollutants on construction sites.* The film initially looks at three of the most significant pollutants on construction sites. It explains what they are and some of the key health impacts they can have.

The video has been designed as a beginner level resource and subsequently needs to introduce what the main air pollutants are. A common misconception here is that the air quality relates to climate change (ice caps, polar bears etc.). However, the focus of the video, and the discussion needs to be the **impacts to human health** (respiratory disease etc.) which can arise from poor air quality.

Key Message 2: *what can you do to improve site air quality.* The module then introduces a series of actions that viewers might be able to take to improve air quality on site **today**.

These actions have been primarily aimed at the issue of human health – both from the perspective of the site workers and the communities surrounding construction sites. However, there is also the issue that improving efficiency will also reduce consumption of resources (such as diesel) and subsequently result in financial savings.

Next Steps...

Once the toolbox talk has been completed the viewers should understand how the key pollutants associated with poor site air quality are created, and the potential impacts that to their health that can arise from these pollutants. They should also be aware of some of the (often simple) things they might be able to do to improve site air quality and have some ideas on how they might be able to improve air quality in their day to day work.

Frequently Asked Questions

During the discussions you might expect questions such as the following

- **Q:** *What are the main culprits of poor air quality on site?*

A: *Plant left running and idling, such as generators when everyone's gone home, or plant left on over lunch time.*

- **Q:** *Purchasing new machinery is expensive.*

A: *Buying new machinery is only one thing you can do to improve air quality on site. The important thing to remember is to use what you have as efficiently as possible to reduce emissions. When the time comes, make sure you make air emissions a key consideration (or even deciding factor) when purchasing new machinery.*

For existing machinery, you might be able to use retrofit technologies such as diesel particulate filters to reduce air emissions from the plant and machinery you already have.

- **Q:** *What air quality pollutants are worst for my health as a construction worker?*

A: *On a construction site you are likely to encounter the microscopic soot particles (known as PM₁₀ and PM_{2.5}) and nitrogen dioxide. The most significant source of these pollutants is diesel engines, but they are also produced to a lesser extent by petrol engines. Both pollutants have been linked to long term health issues such as respiratory disease and even cancer, and this is why it is important for us all to take action to improve air quality on construction sites!*

And for those smokers out there; a study in 2004 found that cigarette smoke contains 10 times the amount of soot particles as the gas produced from a modern diesel engine!

