

TOBACCO: ADVICE FOR EMPLOYERS ON CREATING A SMOKE-FREE WORKING ENVIRONMENT

1. What is environmental tobacco smoke (ETS) exposure?

Environmental tobacco smoke exposure – also known as second-hand smoke exposure – is a significant cause of mortality, morbidity and disability in the EU [1]. Occupational ETS exposure refers to exposure at the workplace to tobacco smoke produced by others. The smoke can be produced by customers as well as by colleagues. However in Europe it is rare for workers to be exposed to ETS produced by colleagues, as the majority of EU Member States have implemented a smoking ban at workplaces. The hotel and catering sector is, however, an exception as many Member States do not yet have a complete smoking ban in restaurants, bars, etc.

ETS has been classified as a known human carcinogen by the World Health Organisation (WHO) International Agency for Research on Cancer and is widely listed as a carcinogen. Scientific and medical academies and government agencies worldwide agree on the serious health hazards posed by ETS [2]. Accordingly, everyone has the right to be protected from such exposure. Pregnant women in particular should be protected to safeguard their unborn babies.

2. Health aspects of ETS exposure

Environmental tobacco smoke contains a multitude of dangerous substances ranging from particulate matter (fine dust) to toxic gases and vapours. The many chemicals in tobacco smoke include nicotine, polycyclic aromatic hydrocarbons, benzene, xylene, styrene, acrolein, nitrogen dioxide, carbon monoxide and hundreds of other organic materials. The final concentrations in the air depend on the number of smokers, the smoking style, the type of tobacco, and the ventilation of the room [3]. Tobacco smoke is a major source of indoor particulate matter pollution, which is known to harm the respiratory system and the cardiovascular system [4]. Smoking yields up to ten times more fine dust than is emitted from an idling ecodiesel engine [5].



2.1. Respiratory system

The role of ETS in producing acute irritative symptoms of the eyes, nose, throat and lower airways is well established [6]. Second-hand tobacco smoke may cause odour annoyance and nasal irritation, shortness of breath and coughing [7, 8]. It can worsen the symptoms of bronchitis and provoke asthma attacks in people already affected by asthma [6].

It is not only smokers who suffer increased absenteeism because of the toxic effects of tobacco smoke: passive smokers have one day plus sickness absence a year due to chest colds [9].

2.2. Cardiovascular diseases

There is clear evidence on the causal relationship between exposure to ETS and increased risks of coronary heart disease and cardiac deaths among both men and women [7, 8]. Involuntary smoking increases the risk of an acute coronary heart disease event by 25–35% [10, 11]. The cardiovascular effects of even brief (minutes to hours) passive smoking may be nearly as large (80%-90%) as the

effects of chronic active smoking [11]. This is because even low levels of tobacco smoke can produce the changes in the human body that lead to these heart and circulatory diseases. There are growing data on the probable effect of ETS on diseases of blood vessels in the brain: exposure may increase the risk of stroke by as much as 82% [12].

2.3. Cancer

There are several substances in tobacco smoke that can cause cancer [13]. As the dose of these substances is lower for passive smokers than for the active smoker, the risk is smaller but not irrelevant, because there is no safe level for carcinogenic exposure. The strongest evidence is for lung cancer: there is a 20-30% increase in the risk of developing lung cancer in passive smokers [7, 10]. The causal relationship is suggestive but weaker for breast cancer and cancers of nasal sinuses and upper pharynx [7, 10, 14, 15]. For other cancers, current data are conflicting and sparse. However, this should not lead to underestimation of the danger: ETS is undoubtedly a human carcinogen [10, 13].

2.4. Effects on pregnancy

Environmental tobacco smoke is known to have various adverse effects on unborn babies. Reduced birthweight [16] and a higher risk of preterm birth are only two of the many serious effects that ETS can have [17]. Decreased foetal growth as well as increased foetal mortality have also been observed [18]. In children, prenatal exposure to ETS is associated with impaired lung function and an increased risk of developing asthma [19].

3. Carcinogens in sidestream smoke

There is growing evidence that ETS is almost as dangerous as mainstream smoke. Environmental tobacco smoke builds up from the exhaled mainstream smoke and the sidestream smoke from the smouldering end of the tobacco product. Although cigarette sidestream smoke is similar to mainstream smoke, there are differences in the proportions of the substances it contains [20]. Sidestream smoke is also full of known human carcinogens: benzene (known to cause leukaemia [21]), cadmium, 2-naphthalenamine (known to cause bladder cancer [22]), nickel, chromium, arsenic and 4-aminobiphenyl (known to cause bladder cancer [23]) and other tar chemicals. These and other carcinogenic substances such as tobacco-specific nitrosamines and polycyclic aromatic hydrocarbons are produced during the incomplete burning of the organic materials of the tobacco (including flavouring substances, remnants of pesticides and the cigarette paper). The carcinogen yields in the sidestream smoke may be many times higher than in the mainstream, irrespective of the type of cigarette [10]. Due to the nature of cancer development, there is no safe value for carcinogenic substances: even the smallest amount may initiate cancer disease. It is impossible to predict in whom it will cause cancer, but the risk increases the more the person is exposed.

4. ETS in the hotel, restaurant and catering sector

4.1. Is there a safe ventilation system to create a designated smokers' area inside of a building?

Engineers agree that no ventilation system would be able to eliminate smoke completely [24]. This means that indoor smoking areas leak smoke into the non-smoking rooms, polluting the air there. Note that locating smoking areas around the doorways, windows or air intakes of buildings also leads to ETS exposure within the premises, caused by the draught effect [25]. Furthermore, separated smoking rooms do not prevent the exposure of workers. Staff needs to work in or enter in these premises during working hours and they would have to breathe polluted air.

4.2. What effects does ETS have on my employees?

Passive smoking is estimated to kill a hospitality industry worker a day in the EU [24]. ETS poses avoidable additional extra risk even to smokers. (See the section above on the health effects of ETS exposure.)

4.3. What effect would a smoking ban have on my employees?

The air quality of the premises improves after a smoking ban. There is a substantial reduction in the level of fine dust and also in toxic pollutants such as the carcinogen benzene [25, 26, 27, 28]. In a non-smoking workplace workers experience better health and wellbeing. There is a sustained reduction in red eye, irritative nose and sore throat symptoms. Other respiratory symptoms (such as wheezing, shortness of breath, cough and phlegm production) decline. Lung capacity may even increase [29, 30, 31, 32, 33].

Job satisfaction changes only moderately. While non-smokers favour the ban, smokers tend not to [34]. However, after the introduction of a smoke-free policy even those who continue to smoke benefit from risk reduction.

4.4. What effect will a smoking ban have on my business?

There is strong evidence that smoke-free legislation does not adversely affect the catering industry. Several studies comparing before and after figures in the EU and in the USA found that sales may even increase. There was no significant change in employment attributable to the bans [24, 35, 36, 37].

Operating premises where smoking is allowed has several risks. This results not only in higher costs for fire insurance and more frequent maintenance (e.g. painting) [38], but workers may also file a claim if they suffered health impairment from exposure to ETS at the workplace. There was a positive court decision in the EU attributing a significant proportion of a cancer disease to the ETS exposure of the employee, even though the worker was a smoker [24, 39, 40]. Such liability claims could be prevented in the future by the introduction of a smoke-free workplace policy.

5. Situation in European workplaces

In the EU exposure to ETS at the workplace is not uncommon. In 2008, one-fifth of European employees stated that they are exposed to ETS on a daily basis and 5% declared that they spend more than five hours a day working under ETS exposure [41]. Fourteen percent of non-smokers in the EU are exposed to second-hand smoke on a daily basis.

There are, however, great differences between European countries when it comes to exposure to ETS at the workplace (excluding working at home). In Greece 60% of the respondents in a survey reported that they are exposed to ETS at the workplace. Cyprus, Bulgaria and Romania rank next with more than one-third of the respondents reporting ETS exposure. By contrast the lowest numbers of working people exposed to ETS are found in the UK, Finland and Sweden with around 10% of people reporting exposure to ETS at work [41].

Correlations can be detected between second-hand smoke at work and second-hand smoke at home. In countries where exposure to ETS at work is higher people are also more likely to report exposure to ETS at home and vice versa [41].

It is estimated that 25% of all cancer deaths and 15% of all deaths in the EU might be attributable to smoking [42]. According to European Agency for Safety and Health at Work (EU-OSHA) estimates based on the International Labour Organisation (ILO) data, over 11,000 workers died in EU27 in 2008 because of lung cancer caused by ETS at work [43].

Despite these alarming figures, it can be positively highlighted that the introduction of smoke-free policies in Europe has had an impact on the improvement of working conditions, a decline in exposure to ETS and a decline in related morbidities [1]. Nevertheless it is important to emphasise that there is no safe level of exposure to ETS and the protection of the health of the EU workforce

demands a comprehensive ban on smoking in all workplaces. This is supported by the majority of EU citizens: 84% of the EU population are in favour of restrictions on smoking at workplaces, 79% support restrictions in restaurants and 65% also support smoking restrictions in bars and clubs [41]. Smoking restrictions receive more support from non-smokers than from smokers, but no fewer than eight out of ten smokers are in favour of smoking restrictions in offices and other indoor workplaces [44].

6. Economic aspects of smoking at work

Smoking is expensive – not only for those who smoke and risk their own health. Figures show that smokers tend to take more long-term and short-term sick leave than non-smokers and ex-smokers. In addition, smokers are less productive at work when they take cigarette breaks. Fire damage caused by smoking materials as well as additional cleaning and maintenance costs also add to the costs of smoking at work [44]. Calculations for Scotland estimate that about 0.64% of the Scottish Gross Domestic Product (GDP) in 1997 was accounted for by the costs of smoking at work. In Ireland the estimate exceeded 1.0% of GDP in 2000 [45]. These figures do not cover the adverse effects of ETS exposure on the health and productivity of non-smoking employees.

Accordingly, employers are well advised to keep their workplaces smoke-free. This way they not only improve the environment for their employees but also promote good health. There are also financial benefits in encouraging employees to quit smoking and in implementing complete smoking bans.

The benefits of banning smoking from workplaces far outweigh the costs. Cessation programmes are relatively cheap compared to the damage that is done by smoking and ETS exposure. In the long run, cessation programmes lead to a positive return on investments [2].

7. What can be done?

Empirical studies and indoor air quality and ventilation standards have determined that ventilation does not fully remove the toxic substances in tobacco smoke from the air in enclosed workplaces [2]. Hence, ventilation solutions do not provide adequate protection from ETS. It must also be emphasised that certain categories of employees, for example cleaners, will in any event have to enter enclosed smoking areas and therefore will be exposed to ETS.

However, the best way for employers to support and protect their employees is by establishing a holistic smoke-free policy including:

- a smoking cessation programme as well as;
- a total smoking ban on the company premises.

Example of smoke-free policy: Smoking cessation and a total smoking ban at Niederegger

Niederegger is Germany's famous marzipan producer: a traditional family-run company with about 500 employees.

The total smoking ban was planned by the company for a year before it actually came into force. The first step the human resources (HR) manager took in dealing with this sensitive issue was to consult the workers' representatives and get their approval for a cigarette-free factory.

After the decision had been taken, all employees were involved and also invited to give their opinions about the proposed smoking ban. A discussion was started about the newly planned regulations. The HR department offered a compromise. If the majority of employees wanted extended breaks at work to give them time to leave the company premises to smoke, the management would agree. However, employees voted for a total smoking ban while keeping their old working schedule without extended breaks.

The HR department contacted the health insurance institutions and persuaded them to support the plan by offering free smoking cessation programmes. These programmes were offered long before the smoking ban came into force at Niederegger and employees were allowed to take part during working hours.

In the last two days before the smoking ban actually came into force, the HR manager held several open consultations. During these consultations the manager himself sat in the company canteen answering queries from the workers. The offer was greatly appreciated as about 80 employees spoke to the HR manager. As a result of this consultation, the HR manager decided to offer special options to employees who were anxious about giving up cigarettes.

For example, for a certain period employees were allowed to go to the canteen for a drink or a snack, if they felt the overpowering need to smoke.



Niederegger smoke-free announcement

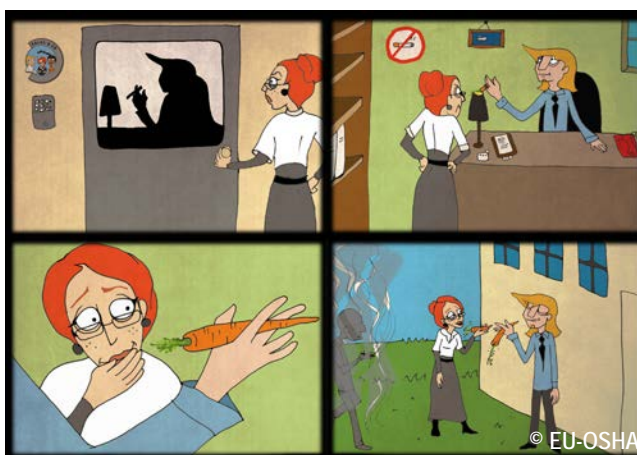
An employee satisfaction survey conducted shortly after the implementation of the smoking ban revealed surprising results. Compared to other companies taking part in the survey Niederegger scored relatively high on the satisfaction scale despite its recent implementation of the total smoking ban. Employees were satisfied with the new regulations.

The company also noticed further benefits of the ban. In the first autumn after the programme had been implemented and in all following autumns there was a decline in sick leave compared to the years before the total smoking ban. The assumption behind this notable decrease is that many employees might have caught a cold when leaving the company buildings to have a cigarette. Now that employees no longer smoke during working time this risk has been eliminated.

7.1. First step: Encourage and support smokers to quit

Encouraging smokers to stop smoking is a sensitive issue. It is important not to blame smokers for smoking. A better way to approach the issue is to focus on the damage smoke can do and to motivate them positively to stop, by highlighting the advantages of a life without smoking.

Of course most smokers already know about the harm that smoking can do and the advantages of a healthy and smoke-free life. It is important to adopt a sensitive approach while getting these messages across and to offer extra help for those who really want to stop smoking. There are a range of different smoking cessation programmes, many of



which are funded by insurance companies or state health services. It is, however, helpful to ask smokers to contribute a small amount of the fee in order to increase their commitment and the value they place on the courses offered. To encourage attendance workers could be allowed to take part in smoking cessation courses during working time.

7.2. Second step: Implementing a total smoking ban

Despite the reservations of many employers, if certain recommendations are followed, compliance with smoking bans is usually high and all non-smokers as well as many smokers normally support such policies [42].

Many companies have successfully implemented non-smoking policies during the past few years. Some of the lessons they have learned in doing so are listed below [45, 46].

- It is helpful to establish a committee to supervise all measures and ensure the smooth introduction of the smoking ban:
 - it is crucial to involve employees in the implementation process as much as possible and to gain the full commitment and support of the workers' representatives;
 - as in all workplace health measures, full commitment and support from the management is essential and should be demonstrated by the participation of senior management on the committee;
 - Long-term planning and advance information on the intention to implement a smoking ban is necessary in order to allow all employees to prepare for the new conditions and adapt to the new rules; several months of preparation should be scheduled
- In view of the health damage caused by ETS exposure, the individual's right to work in an environment free from tobacco smoke should be emphasised; distributing information to all staff on the health damage that can be caused by smoking and exposure to ETS is an essential precursor for enforcing the non-smoking policy
- Formulation and distribution of a written policy helps to affirm the new rules. The policy should include clear indications regarding:
 - the purpose of the policy;
 - a time frame indicating the different steps that are to be taken to achieve a smoke-free company;
 - consequences of non-compliance with the smoking ban;
 - contact persons to answer questions related to the policy;
- It is essential to support all smokers by offering free smoking cessation programmes and giving them the opportunity for recurrent consultation
- Provision of training and background information for managers and supervisors as well as for workers' representatives helps them to be supportive to employees when problems arise
- Once the ban has been implemented, it is important not to allow any exceptions within company premises. Non-smoking policies should apply to all staff!
- Possible consequences of a smoking ban should be taken into consideration; for example, attempts to smoke secretly might cause increased risks of fire.

8. Conclusions

The bad health effects of smoking are well known. However it is crucial to emphasise the effects that ETS can also have on employees: smokers as well as non-smokers. Employers are in a key position both to protect their employees of ETS exposure and to encourage them to live healthier lives and stop smoking.

A comprehensive non-smoking policy is the best way to do this. Encouraging employees to quit smoking and offering support by providing smoking cessation courses should be the first step in this

policy. The second step is the careful implementation of a total smoking ban on all company premises. Examples from companies that have banned smoking show that the experience was entirely positive and that employees in general welcome and support such an approach.

9. More information

European Agency for Safety and Health at Work, Preventing a negative impact of tobacco smoke in the workplace

<http://osha.europa.eu/en/topics/whp>

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