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Proposal for a COUNCIL RECOMMENDATION on smoke-free environments

IMPACT ASSESSMENT

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IMPACT ASSESSMENT¹ ON A COMMISSION PROPOSAL FOR A COUNCIL RECOMMENDATION ON SMOKE-FREE ENVIRONMENTS

1. EXECUTIVE SUMMARY

This Impact Assessment considers the need for and potential impact of an EU initiative on smoke-free environments. The initiative would aim to assist Member States in implementing comprehensive smoke-free policies and thus help to comply with and go beyond Member States' and EC obligations under the WHO Framework Convention on Tobacco Control (FCTC).

Exposure to environmental tobacco smoke (ETS) is a source of widespread excess morbidity, mortality and disability in the EU. According to this report's conservative estimates, 6 000 adults, including 2 500 non-smokers, died as a result of ETS exposure at their workplace in the EU in 2008. This translates into a significant cost on the economy, including over 1.3 billion euro of medical costs and over 1.1 billion euro of non-medical costs linked to productivity losses. These estimates do not include exposure to tobacco smoke in non-staff members (such as customers) or exposure at home.

Great progress towards smoke-free environments has been made in the recent years in some Member States. So far, comprehensive smoke-free laws in indoor workplaces and public places have been adopted in slightly over a third of EU Member States. However, in countries with no comprehensive restrictions the exposure to second-hand tobacco smoke remains high, particularly in the hospitality and leisure sector, and is a source of significant health inequity.

At EU level, the issue of smoke-free environments has so far been addressed in non-binding resolutions and recommendations, but they not provide detailed guidance on how to achieve fully smoke-free environments. In addition, a number of occupational health and safety directives address the issue, in some cases indirectly only while in others the level of protection is not comprehensive.

At international level, the WHO Framework Convention on Tobacco Control (FCTC) – ratified so far by 26 Member States and the Community - creates a legal obligation for all Parties to ensure comprehensive protection from exposure to tobacco smoke. The guidelines adopted by the Parties in July 2007 formulate a "gold standard" that every Party should aim to achieve within five years of the Convention's entry into force for that Party (i.e. by 2010 for the European Community and the majority of its Member States). Under the current trends, it is unlikely that all Member States will be able to meet this deadline.

The Commission's Green Paper consultation on smoke-free environments demonstrated a broad support for further EU action. Based on the outcome of the consultation, five policy options have been considered in the Impact Assessment: status quo, open method of coordination, a Commission or Council Recommendation and binding EU legislation.

The assessment of the possible impacts of the different options has been supported by an external study and informed inter alia by the outcome of the Green Paper consultation, the results of a targeted stakeholder consultation and the experience with existing EU instruments.

Binding legislation based on Art. 137 could potentially bring the biggest reductions to ETS prevalence and related health and economic burden. However the implementation would take longer and the scope would be narrower than would be the case with a Recommendation. A Council recommendation with elements of Open Method of Coordination has been identified as the preferred option in the short term because it appears to be the fastest and most comprehensive means of helping Member States to implement binding smoke-free legislation at national level in line with their international commitments under the FCTC while providing a proportionate response to the problem. This option would also enhance the sense of ownership and commitment to smoke-free objectives among Member States. According to the report's estimates, such instrument would have the potential to prevent up to 1 550 premature deaths among office and hospitality workers and reduce the direct and indirect costs by up to 630 million euro each year. Substantial additional benefits could be expected in non-staff members such as the visitors of pubs and bars as well as from changes in smoking behaviour.

To facilitate and speed up the introduction of comprehensive smoke-free laws in line with the FCTC requirements, the Recommendation should include a uniform EU deadline for implementation as well as reporting and monitoring mechanisms. On top of the provisions of the FCTC guidelines, it should call for measures to tackle children's exposure to tobacco smoke (including in private settings and certain outdoor venues), flanking measures such as cessation support and pictorial health warnings with quit information on tobacco packs as well as setting up of an implementation body to develop common benchmarks and indicators. Further measures could be considered in the longer run, depending on the progress made.

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

2.1. Organisation and timing

- (1) In its Environment and Health Action Plan (2004-2010)², the Commission committed itself to "develop work on improving indoor air quality, in particular by encouraging the restriction of smoking in all workplaces by exploring both legal mechanisms and health promotion initiatives at both European and Member State level".
- (2) In 2005 and 2006, the Commission carried out Eurobarometer surveys on attitudes towards tobacco in the EU³. The surveys showed large discrepancies in protection from tobacco smoke between Member States.
- (3) The renewed EU Sustainable Development Strategy adopted by the European Council in June 2006 lists public health as one of the seven key challenges.

Curbing the increase in lifestyle-related and chronic diseases, particularly among socio-economically disadvantaged groups and areas and reducing health inequalities within and between Member States are among the operational objectives identified by the Strategy. Concrete actions for the Commission and Member States include tackling tobacco use and improving indoor air quality.

- (4) The consultation launched by the Commission's Green Paper "Towards a Europe free from tobacco smoke: policy options at EU level" (COM(2007) 27 final) (30 January – 1 June 2007) showed a significant support for comprehensive smoke-free policies in all enclosed workplaces and public places and for further EU action to promote smoke-free environments throughout the Member States. The summary of the consultation is enclosed in Annex II. All the replies to the Green Paper and the report on its outcomes are published on the Commission's website.⁴
- (5) The Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) held a public debate on smoke-free environments in May 2007. The majority of Member States were of the opinion that the EU's role in promoting smoke-free environments should be mainly to support and coordinate national efforts, e.g. through a Council Recommendation.
- (6) The Parliament's resolution on the Green Paper of October 2007 urged the Member States to introduce comprehensive bans on smoking within two years and invited the Commission to table a legislative proposal by 2011 in case of unsatisfactory progress. It also called on the Commission to propose an amendment to the current chemicals and health and safety at work legislation in order to classify tobacco smoke as a carcinogen and ensure that the workplace is smoke-free. The Community strategy on health and safety at work (2007-2012) proposed greater efforts to improve health and safety protection for workers, by i.a. taking into account the results of the Green Paper consultation on smoke-free environments.
- (7) At international level, the Commission contributed to the development of guidelines on the protection from exposure to tobacco smoke under the WHO Framework Convention on Tobacco Control (FCTC). The document, adopted by the second Conference of the Parties to the Convention in July 2007, formulates a "golden standard" that every Party should aim to achieve within five years of the Convention's entry into force for that Party, i.e. by 2010 for the EC and the majority of Member States.⁵
- (8) A Commission proposal for a Council Recommendation on smoke-free environments has been included in the Commission's Agenda Planning for 2008 (reference n° 2008/SANCO/005).
- (9) An Inter-service Steering Group (ISSG) to support the work on the Impact Assessment was set up in December 2007. The Group was led by the Directorate General for Health and Consumer Protection (DG SANCO). The

following DGs were involved in the exercise: DG EMPL, DG ESTAT, DG INFSO, DG RELEX, DG RTD, DG TAXUD and SG. The Group held three meetings and a final written consultation. The mandate of the Group is set out in Annex I.

- (10) In addition, DG SANCO commissioned a study from a consultant (RAND Europe) to assess the health, social and economic impacts of exposure to tobacco smoke in the EU-27 and examine the likely impacts of five alternative policy options.
- (11) The Impact Assessment was also informed by the results of targeted stakeholder consultation with civil society, social partners and business organisations carried out by DG SANCO in March 2008.
- (12) In parallel, on 19 December 2008, DG EMPL has launched the first stage consultation with the social partners on the need for additional measures to protect workers from risks to their health arising from exposure to environmental tobacco smoke at the workplace.
- (13) The draft Impact Assessment was submitted to the Impact Assessment Board on 6 August 2008 and examined by the Board on 3 September 2008.
- (14) The final Impact Assessment takes into account the comments made by the Board in its opinion of 16 September 2008. The context of the problem is made clearer by comparing the burden of ETS exposure with other health hazards and explaining the significant burden in smokers compared to non-smokers. The problem definition is enhanced by a more comprehensive description of the current situation across all Member States, the reasons behind the differences in protection between Member States and the role of regulation in reducing ETS exposure in indoor workplaces and public places. The problem of children's exposure to tobacco smoke in other settings such as homes and certain outdoor places is also explained. More explicit information is provided on the content of different policy options and their value added in comparison with the FCTC obligation, and two additional policy options are included in the analysis. The reasons for discarding one of the options from further assessment are also elaborated upon. The estimated impacts are presented in a more cautious way, by highlighting their dependence on the assumptions about the options' effectiveness in reducing ETS prevalence.

2.2. Consultation of experts and stakeholders

As part of the Impact Assessment exercise, DG SANCO organised stakeholder consultation meetings with business organisations, civil society and social partners on 19 March 2008. Targeted consultation was chosen as a more appropriate tool, allowing for a more in-depth and focused discussion in particular on the impacts of various policy options. In addition, the open written consultation performed through the Green Paper in January-June 2007 already provided an opportunity for all

interested parties to express their views on the problem definition, the possible policy options and to submit any further evidence and data.

As regards the problem definition, health stakeholders asked for data on workplace exposure, highlighting the paramount importance of workers' protection. They also stressed the link between active and passive smoking and socio-demographic factors, and the impact that smoke-free policies can have on social equity. It was emphasised that smoking has not displaced from work to home after the introduction of smoking bans, but that on the contrary a ban helped also to reduce ETS prevalence at home. Pharmaceutical industry highlighted the importance of cessation policies as a flanking measure.

Tobacco industry insisted that the IA should take into account only the non-smokers' exposure in order not to inflate the ETS-related burden. Two organisations questioned the health risk of second-hand smoke and the statistical relevance of the data used. It was also argued that, in the longer run, smoke-free policies would have no impact on reducing tobacco consumption.

Manufacturers of technological equipment and tobacco industry argued that technology-based solutions could achieve the same level of protection from ETS exposure as banning smoking, and requested that these are looked into. It was also suggested that the IA report include an overview of national smoke-free policies and differentiate between policies based on a total ban and policies leaving room for technological solutions.

Regarding the policy options and their impacts, health stakeholders thought that binding legislation would be the most effective tool to reduce ETS exposure and related health and economic burden, followed by a Council Recommendation. Employer organisations expressed preference for a status quo on the grounds that the issue is best addressed at national level. Tobacco industry stressed that the analysis of policy options should include the considerations related to their content and scope, and argued that smoking bans with exemptions would be most appropriate.

The IA report takes into account, to the extent possible, the stakeholders' views relating to the problem definition and the analysis of impacts. It does not re-open the discussion on the scope of smoke-free measures (comprehensive policies vs policies with exemptions) as the outcome of the Green Paper consultation demonstrated a clear support for comprehensive smoke-free policies. A more detailed information on the consultation and its outcomes is presented in Annex III.

3. CONTEXT AND PROBLEM DEFINITION

3.1. Context

3.1.1. Health burden of ETS exposure

Environmental Tobacco Smoke (ETS), also referred to as second-hand smoke or passive smoke, is a diluted mixture of side-stream smoke, which is released from a burning cigarette between puffs, and mainstream smoke, exhaled by the smoker. ETS contains over 4 000 gaseous and particulate compounds, including 69 known carcinogens.⁶ The World Health Organisation (WHO), International Agency for Research on Cancer (IARC), the U.S. Surgeon General, the U.S. Environmental Protection Agency (EPA), and numerous expert scientific and medical bodies worldwide have documented the adverse effects of ETS on the respiratory and circulatory systems, its role as a carcinogen in adults, and its harmful impact on children's health and development.⁷

Relative risk estimates for ETS-associated diseases and conditions

ETS has been shown to have immediate adverse effects on the cardiovascular system and to be a cause of coronary heart disease and lung cancer in adults. There is also suggestive evidence that ETS may cause stroke, asthma and chronic obstructive pulmonary disease (COPD) in adults⁸ and worsen pre-existing conditions such as asthma and COPD.⁹ ETS has also been shown to be harmful to children, causing sudden infant death syndrome, acute respiratory infections, middle ear disease and more severe asthma.¹⁰ For most of these effects the level of individual risk from passive smoking is low when compared to active smoking, but the fact that large numbers of people are exposed results in a substantial burden of disease at the population level.

Table 1 presents the venue-specific relative risks for lung cancer, cerebrovascular diseases (stroke), ischaemic heart disease, and chronic lower respiratory diseases (including COPD and asthma) used in the two reports that attempted to estimate ETS-mortality in the UK¹¹ and in EU-25¹². They are based on median figures obtained through meta-review of existing literature and are consistent with the ranges reported in the literature and summarised in Annex V part A.

Table 1 Relative risk estimates associated with ETS and specific diseases

Disease	ICD-10 Classification	Relative Risk		
		Private home	Average workplace	Pub/bar/nightclub
Lung cancer	C33-C34	1.24	1.24	1.73
Stroke	I60-I69	1.45	1.45	2.52
Ischaemic heart disease	I20-I25	1.3	1.2	1.61
Chronic lower respiratory disease	J40-J47	1.25	1.25	1.76

ETS mortality in the EU

The report “Lifting the Smokescreen” published by the Smokefree Partnership in 2006¹³ provides the most recent estimate of the number of deaths attributable to passive smoking in the EU-25 from lung cancer, stroke, ischaemic heart disease and chronic neoplastic pulmonary disease. The report estimates that passive smoking accounted for a total of over 79 000 deaths across the EU in 2002, including 7 300 deaths due to workplace exposure and 72 000 deaths due to exposure at home. Among non-smokers, passive smoking at work accounted for about 2 800 deaths in the EU in 2002, while exposure at home caused a further 16 400 deaths of non smokers. Workplace exposure in the hospitality industry was estimated to cause over 300 deaths a year, including 90 deaths among non-smoking staff.

This IA revises the estimates of workers' mortality reported in Lifting the smokescreen by applying the updated estimates on the prevalence of ETS exposure in the workplace. Annex VII presents in more detail the methodology used. The total number of deaths attributable to passive smoking in offices and bars/restaurants is estimated at 6 007 in the EU-27 in 2008, including 2,500 deaths among non-smoking staff. Passive smoking among hospitality workers is estimated to cause 1 599 deaths, including 786 deaths in non-smokers. The annual number of deaths due to ETS among smoking staff is estimated at 3 507 based on the assumption that on top of the high health risks from smoking itself, smokers face an additional risk from inhaling other people's smoke (even though this risk is much smaller than the direct risk associated with smoking). It should be noted that these estimates are conservative as they only take into account ETS exposure of over 1 hour. In addition, they do not include workplaces other than offices and bars/restaurants where ETS exposure may occur, such as government, education, transport and healthcare facilities. However, in most Member States the ETS exposure can be expected to be relatively low in these settings because of already existing smoking bans.¹⁴

Table 2 Estimated EU-wide mortality due to ETS exposure among smoking and non-smoking staff in 2008

	Non-smokers			Smokers			Smokers and Non-Smokers
	Offices	Bars and restaurants	Total	Offices	Bars and restaurants	Total	Total
Lung cancer	387	156	542	600	161	761	1303
Stroke	378	160	538	601	197	798	1336
Heart disease	384	138	522	612	159	771	1293
Chronic lower respiratory disease	565	332	897	881	296	1,176	2073
Total	1,714	786	2,500	2,694	813	3,507	6,007

The significant estimated health burden in smokers compared to non-smokers stems from the higher (declared) exposure to ETS among smoking staff than non-smoking staff. That is in particular the case for offices and for exposure of over 1 hour which forms the basis for the mortality estimates. This could be explained by a behavioural effect. For instance, non-smoking staff may try to avoid ETS in the workplace (by e.g. changing offices), while smoking staff might not mind sharing an office with other smoking colleagues, thereby being exposed to each other's smoke. Interestingly, there is much less of a difference between smoking and non-smoking staff in bars/restaurants. One could assume that in these venues it might be more difficult for non-smoking staff to avoid ETS compared to indoor workplaces/office. It should be noted that "Lifting the smokescreen" also estimated greater number of deaths in smokers (4 500) than in non-smokers (2 800 deaths) across the EU-25 in 2002 due to ETS exposure at the workplace, which gives a ratio of 0.62 between non-smokers and smokers deaths. This ratio is close to this IA's ratio of 0.71 between estimated deaths among non-smoking staff (2 500 deaths) and smoking staff (3 507 deaths).

While workers' exposure to ETS is of particular concern given its involuntary and unavoidable nature, the exposure among non-staff members such as the customers of bars and restaurants could be expected to account for a substantial additional health burden. It is difficult to estimate the exact effect on customers because reliable data on ETS in this group are not currently available. However, it can be assumed that the population of non-staff members e.g. in bars, pubs and restaurants is substantially larger than the population of staff-members. At the same time, the duration of exposure is probably lower in non-staff compared to staff, making it difficult to compare the risk of exposure and resulting burden. Finally, a significant health burden can be associated with ETS exposure at home, which is an issue that cannot be addressed through legislative measures.

It is possible to compare the estimated number of deaths from ETS exposure to other health hazards, both in the workplace and in the general population. The estimated number of pre-mature deaths among smoking and non-smoking staff attributable to second-hand smoke (6 007) is only slightly lower than the number of fatal occupational accidents in the EU-27 (7 460) and equals almost a tenth of all deaths caused by exposure to hazardous substances at work such as asbestos, silica, diesel fumes, benzene etc. (73 989).¹⁵ An earlier estimate (2002) for deaths attributable to ETS exposure both at work and at home stood at 79 449. This exceeds the number of road accident fatalities in the EU-2007 (42 953)¹⁶ and equals around a quarter of deaths attributable to air pollution (over 300 000). These comparisons show the significant health burden of ETS exposure compared with other types of involuntary risks.

Table 3: Benchmarking of deaths attributable to ETS against other risks

Workplace		General population	
Exposure to ETS	6,007	Road traffic accidents (TREN)	42,953
Accidents at work (OSHA)	7,460	Exposure to ETS	79,449
Exposure to hazardous substances (OSHA)	73,989	Air pollution (RTD)	>300,000

			310,00
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3.1.2. Economic burden of ETS exposure

The overall economic burden of tobacco use has been estimated to be between 1-1.4% of the EU Gross Domestic Product in 2000.¹⁷ In addition to active smoking, also passive smoking imposes a significant cost on the economy.

The macroeconomic burden of ETS exposure includes the medical costs relating to increased expenditure on tobacco-related diseases, and the non-medical costs linked to productivity losses and lost income tax and social security contributions among smokers and second-hand smoke victims who would otherwise be in paid employment. The microeconomic burden includes lower workers' productivity, increased sickness absenteeism; fire damage caused by smoking materials as well as additional cleaning and redecoration costs related to smoking.

The most recent analysis that estimates the costs of ETS in a systematic and comprehensive way was done by the U.S. Society of Actuaries in 2005¹⁸. Overall, the analysis indicates that the impact of ETS is in the order of several billion US dollars, with an annual price tag of roughly \$10 billion (€8 billion). This corresponds to \$33 000 (€27 467) for each U.S. resident. More specifically, the direct medical cost of ETS-related morbidity is estimated at almost \$5 billion (€4.1 billion) per year for the U.S. population and the indirect productivity costs of ETS-related mortality and disability (including lost wages, fringe benefits and services) at \$4.7 billion (€3.9 billion) per year.

Table 4: Estimated direct medical costs of exposure to ETS and economic value of lost wages, fringe benefits and services per year in the U.S. population, based on present values (expressed in 2004 U.S. dollars and 2007 Euro's)

Category	Morbidity	Direct medical costs		Value of lost wages, fringe benefits and services	
		Cost (\$m)	Cost (€m)	Cost (\$m)	Cost (€m)
Cancer	Lung cancer	191	159	469	390
	Cervical cancer	14	12	110	92
Respiratory system	Asthma	773	643	161	134
	Otitis media	53	44	886	737
	Chronic pulmonary disease	1,215	1011	2752	2291
Cardiovascular system	Coronary heart disease	2,452	2040	174	145
Perinatal manifestations	Low birth weight	284	236	131	109
Total Cost		\$4982	€4147	\$4,683	€3,898

Source: Adjusted from Behan et al (2005)

While no studies have examined the economic burden of ETS in the EU, the regulatory impacts assessments in Northern Ireland, England, Scotland and Wales¹⁹ have estimated the expected health benefits and resource savings associated with reduced ETS exposure under comprehensive smoke-free legislation (see Annex VI C for details).

One could assume that these savings give an indication of the current economic burden of ETS at workplaces and public places. Based on this assumption the annual economic burden of ETS in England, Scotland, Wales and Northern Ireland is £944-1 354 million²⁰, £204 million²¹, £120 million²² and £57.4 million²³, respectively.

This IA has calculated the cost of workplace exposure to ETS across EU-27 using the methodology described in Annex VII. It is estimated that exposure to ETS at work costs EU economy 2.46 billion euro per year. The estimated annual medical costs total to 1.336 billion euro (including €566 million in non-smoking staff) and are highest for the treatment of stroke (€572 million) and heart disease (€352 million).

The non-medical costs due to ETS exposure at work, including productivity losses due to premature death and morbidity, are slightly less than the medical costs, totalling an estimated 1.124 billion euro in 2008 (including €477 million in non-smoking staff). These estimates exclude the cost of lung cancer for which no recent and reliable estimates were available.

Table 5: Estimated EU-wide medical and non-medical cost due to ETS exposure among smoking and non-smoking staff in EU-27 (in € millions) medical

	Medical costs			Non-medical costs			Medical and non-medical costs
	Non-smokers	Smokers	Total	Non-smokers	Smokers	Total	Total
Lung cancer	41	55	96	n/a	n/a	n/a	96
Stroke	242	330	572	208	284	492	1064
Heart disease	149	203	352	134	183	317	669
Chronic lower respiratory disease	134	181	315	135	180	315	630
Total	566	770	1336	477	647	1124	2460

3.2. Problem definition

3.2.1. Incomplete compliance with international obligations resulting from FCTC

Article 8 of the WHO Framework Convention on Tobacco Control (FCTC), which was adopted in June 2003 by all WHO members, creates a legal obligation for its Parties to adopt and implement in areas of their jurisdiction and actively promote at other jurisdictional levels effective measures to protect people from second-hand

smoke in all indoor workplaces, public transport and indoor public places. The second Conference of the Parties to the Convention in July 2007 adopted comprehensive guidelines to help governments meet this obligation. The guidelines emphasise that there is no safe level of ETS exposure and call for a total elimination of tobacco smoke in all indoor venues under public jurisdiction and possibly other (outdoor or quasi-outdoor) public places. Binding legislation, properly enforced and monitored, is recommended as the only appropriate means to deal with the problem of passive smoking. The FCTC has been ratified by the Community and 26 Member States but over half of them have not yet introduced comprehensive smoke-free legislation and only partial action to promote national smoke-free efforts has been taken at EU level.

Over half of Member States not yet compliant with Art. 8 of the FCTC

By now – over five years after the adoption of the FCTC - only slightly over a third of Member States are compliant with the Convention's requirement to provide for effective protection from tobacco smoke in indoor workplaces and public places.

Total bans on smoking in all enclosed public places and workplaces, including bars and restaurants, are so far in place in Ireland and the UK while Italy, Malta, Sweden, Latvia, Finland²⁴, Slovenia, France and the Netherlands have introduced smoke-free legislation in these venues allowing for special enclosed smoking rooms.

However, in more than half of the Member States, citizens and workers are still not fully protected from exposure to tobacco smoke in indoor workplaces and public places. Bars and restaurants proved to be a particularly difficult area of regulation. Partial exemptions for hospitality venues are in place in Portugal, Bulgaria, Denmark and most of German Länder (smaller establishments); Belgium and Luxembourg (non-food and snack establishments) and Lithuania (special cigars and pipe clubs) while in further eight Member States there are virtually no restrictions on smoking in bars and restaurants. On top of incomplete regulations, also the enforcement of the laws and consequent penalties may be lax or non-existent.

Figure 1: Implementation of smoke-free laws in the EU (November 2008)

Comprehensive protection		Partial protection		Weak protection	
Ireland	03.2004	Bulgaria	01.2005	Hungary	11.1999
Italy	01.2005	Spain	12.2005	Poland	01.2000
Malta	04.2005	Luxembourg	09.2006	Cyprus	2002
Sweden	06.2005	Belgium	01.2007	Romania	12.2002
Latvia	06.2006	Estonia	06.2007	Greece	09.2003
Finland	06.2007	Denmark	08.2007	Austria	01.2005
UK	03.2006-07.2007	Germany	08.2007 - onwards	Slovakia	2005
Slovenia	08.2007	Portugal	01.2008	Czech	01.2006
France	02.2008	Lithuania	07.2008	Rep.	
Netherlands	07.2008				

It could be expected that the trend towards smoke-free environments will continue in the coming years but at a slower pace. There was a big jump in policies after 2004 but the momentum seems to have faltered. Stricter smoking rules are due to come into force in January 2009 in Austria and Romania and in April 2010 in Latvia - however only the latter will provide for a comprehensive protection from tobacco smoke. There are policy initiatives to strengthen existing smoke-free regulations in six further Member States (Czech Republic, Poland, Slovakia, Hungary, Greece and Bulgaria) but most of them are at a very early stage of discussion and some would only provide partial protection.

Figure 2: Policy proposals in the EU

Country	Status
Advanced smoke-free proposals	
Austria	Proposal for a partial smoking ban in hospitality venues approved by the parliament. Expected to come into force in Jan. 2009
Latvia	Comprehensive smoking ban in hospitality sector adopted by the parliament. Expected to come into force in April 2010
Romania	Comprehensive smoking ban in indoor public places and workplaces and partial ban in hospitality sector adopted by the parliament. Expected to come into force in Jan. 2009
Fairly advanced smoke-free proposals	
Czech Republic	Proposal for a partial smoking ban in hospitality venues awaiting one more reading in the lower chamber and one in the upper chamber
Less advanced smoke-free proposals	
Bulgaria	Proposal for a comprehensive smoking ban in all indoor public places and workplaces incl. hospitality venues presented to the parliament
Greece	Proposal for a comprehensive smoking ban in all workplaces incl. hospitality venues presented to the parliament
Hungary	Proposal for a comprehensive smoking ban in all workplaces incl. hospitality venues drafted by the Health Ministry but not yet agreed by the Cabinet
Poland	Proposal for a comprehensive smoking ban in all indoor public places and workplaces incl. hospitality venues tabled in the parliamentary health committee
Slovakia	Proposal for a partial smoking ban in hospitality venues drafted by the Health Ministry but not yet agreed by the Cabinet

It should be noted that in a number of countries (Portugal, Czech Republic, Bulgaria, Slovakia) comprehensive smoke-free initiatives have failed or were weakened in the recent time while German Länder are currently reviewing their smoking regulations. At the moment, it seems unlikely that all Member States will be able to meet their FCTC obligation unless there is a political stimulus and a monitoring mechanism at EU level.

Drivers of the problem

There are numerous drivers of the problem impeding the implementation of comprehensive smoke-free policies at national level such as concerns about public opposition to smoke-free measures, their possible negative impacts (e.g. on the hospitality sector), and the modalities of implementation.

It is noteworthy that those countries which have introduced comprehensive smoke-free laws have been in general more concerned about the health damage done by tobacco. This concern has resulted in various actions including awareness-raising campaigns which allowed the population to better understand the health risks of active and passive smoking. This in turn resulted in lower smoking rates, increased support for smoking restrictions and smooth implementation.

A 2005 study quantified the implementation of various measures (tobacco taxation, consumer information, advertising bans, health warnings and cessation policy) in 30 European countries, including 27 Member States.²⁵ It is interesting to note that 9 out of the 10 best performing countries have by now implemented comprehensive smoke-free laws.

Figure 3: European countries ranked by total Tobacco Control Scale score

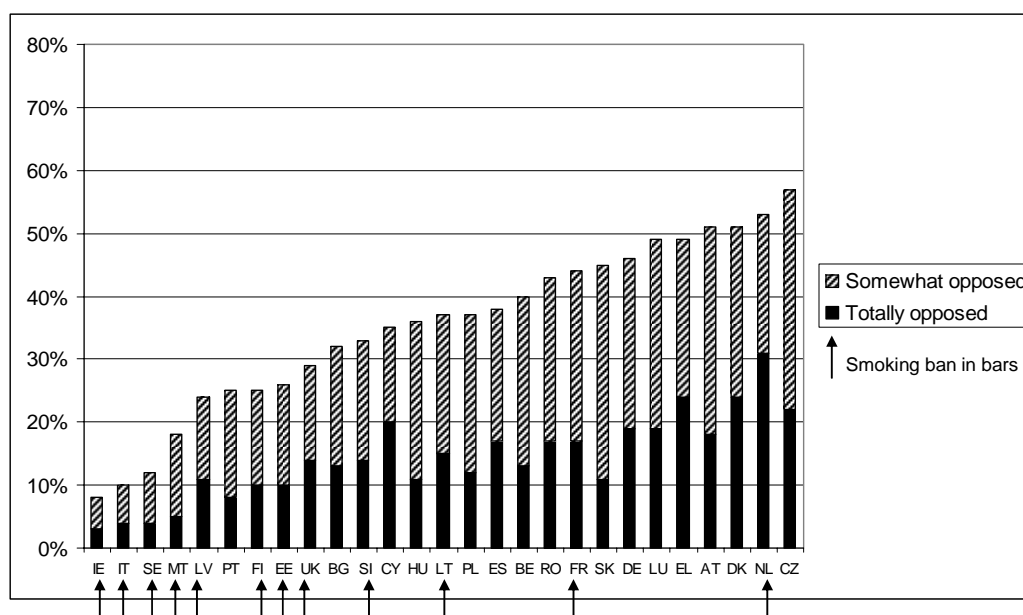
Country	Smoke-free law in 2008	Tobacco prices	Public inform. spending	Advertising bans	Health warnings	Treatment	Total
UK	+	30	15	11	6	10	72
Iceland *	+	25	13	13	6	2	59
NO*	+	26	5	13	6	4	54
IE	+	23	3	12	6	9	53
FR	+	23	4	11	6	6	50
FI	+	18	1	13	7	7	46
MT	+	19	3	9	7	7	45
SE	+	19	2	13	6	5	45
CY		21	1	12	6	5	45
NL	+	16	4	12	6	5	43
BE		16	2	12	7	5	42
SK		17	2	10	6	7	42
SK		18	0	11	6	6	41
HU		17	1	10	6	7	41
BG		19	0	9	6	6	40
IT	+	16	2	10	6	6	40
PL		16	0	12	6	6	40
EE		14	2	11	1	8	36
PT		17	-	10	6	1	34
DE		20	0	4	6	4	34
CZ		12	0	9	6	5	32
EL		17	0	4	6	4	31
SI	+	13	0	7	6	4	30
CH*		15	4	4	3	4	30
LT		11	1	9	6	1	28
ES		12	3	3	6	4	28
AT		14	0	4	6	3	27
LV	+	9	1	6	6	1	23
LU		7	0	5	7	3	22
RO		13	0	0	3	5	21

* Not an EU Member State

On the other hand, Member States that have not yet introduced comprehensive smoke-free policies tend to have higher smoking rates than those which have already taken action, for instance 42% in Greece and 36% in Bulgaria and Hungary compared to 18% in Sweden and 25% in Finland and Malta²⁶.

Tackling ETS exposure is also more difficult for them as they face greater opposition from their societies. Figure 4 demonstrates for example that support for smoke-free bars is much lower in countries with no comprehensive restrictions in hospitality venues.

Figure 4: Opposition towards smoke-free bars in the EU in 2006



Source: Adjusted from Eurobarometer 2007

In addition, the economic departments in the Member States may be concerned about the possible negative effects of smoke-free laws (e.g. on the hospitality sector or tobacco-related employment). An EU initiative could address these concerns by setting out the evidence from smoke-free jurisdictions and highlighting the economic burden of ETS-related diseases.

A detailed overview of Member States' regulations is presented in Annex IV part C. The assessment of various technological solutions to control ETS exposure and cost-effectiveness of various cessation therapies are discussed in Annexes IX and X, respectively.

Only partial action on ETS taken at EU level

The issue of passive smoking has so far not been addressed in a comprehensive way in the EU. The 1989 Council Resolution 89/C 189/01²⁷ on smoking in public places covered only certain categories of venues. The more recent Council Recommendation 2003/54/EC²⁸, while calling for a comprehensive protection from

tobacco smoke, did not provide Member States with a detailed guidance that would assist them in implementing smoke-free laws at national level. In addition to non-binding measures, a number of occupational health and safety directives address the issue of workers exposure to tobacco smoke, in some cases indirectly only²⁹ while in others the level of protection is not comprehensive. Specific requirements include protecting non-smokers against discomfort caused by tobacco smoke in rest areas and rest rooms³⁰, banning smoking in areas where carcinogens and mutagens are handled³¹, or protecting pregnant and breast-feeding staff. Annex IV part B presents an overview of existing Community provisions on second-hand smoke.

3.2.2. High and uneven ETS prevalence across EU-27

As a result of incomplete regulations or the lack of enforcement, large parts of the EU population are still exposed to passive smoking in enclosed workplaces and public places. There are huge differences in the prevalence of ETS exposure and related health and economic burden both between and within EU-27 countries.

The most recent estimates on ETS exposure across the EU-27 come from the 2007 Eurobarometer survey *Attitudes of Europeans Towards Tobacco* carried out in October and November 2006³². This survey forms the basis for the analysis contained in this report.

Lack of adequate protection from exposure to ETS in the majority of Member States

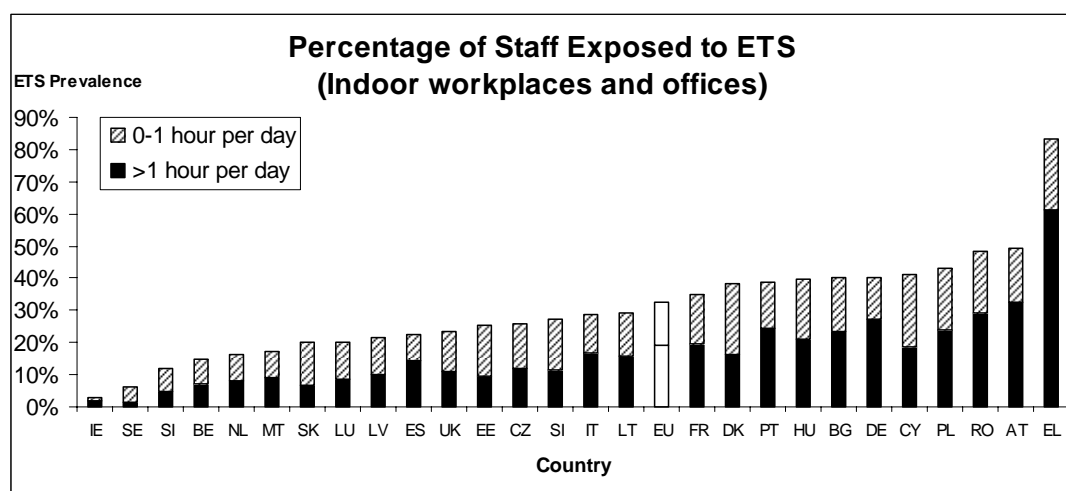
A study carried out in 10 Member States in September 2005-November 2006 found that tobacco smoke was present in a clear majority of public places in 8 out of 10 Member States included in the study. The places tested included restaurants, bars, transportation venues and other types of public places such as hotels, shopping malls, offices and schools. The mean particulate matter levels ranged from 366 $\mu\text{g}/\text{m}^3$ in Romania and 205 $\mu\text{g}/\text{m}^3$ in Greece compared to 22 $\mu\text{g}/\text{m}^3$ in Ireland where comprehensive smoke-free law had been in place.³³

Exposure to ETS in the workplace is of particular concern given that employees are under a contractual obligation to carry out their job.³⁴ In addition, workers can be at a particular risk of prolonged and high-level exposure to tobacco smoke since most of them spend around a third of their time at work.

Figure 5 shows the percentage of staff exposed to ETS on a daily basis in indoor workplaces and offices in 2006 across EU-27. On balance, 32% of respondents working in indoor workplaces or offices declared to be exposed to tobacco smoke at work on a daily basis. 19% reported to be exposed for over 1 hour and 10% were exposed to tobacco smoke for more than five hours a day while at work in EU-27. Eight countries had more than 20% of staff being exposed to ETS for more than 1 hour per day, and 10% of staff being exposed to ETS for more than 5 hours per day.³⁵ Greece had the highest percentage of staff (85%) being exposed to ETS, including 61% being exposed to ETS more than 1 hour per day and 33% being

exposed more than 5 hours per day. In comparison countries such as Ireland, Sweden, and Finland have relatively low or zero proportion of staff being exposed to ETS in the indoor workplaces and offices, which is not surprising given they had implemented smoke-free policies prior to the survey.

Figure 5: Percentage of staff exposure to ETS on a daily basis in indoor workplaces and offices – 2006



Source: Adjusted from Eurobarometer 2007

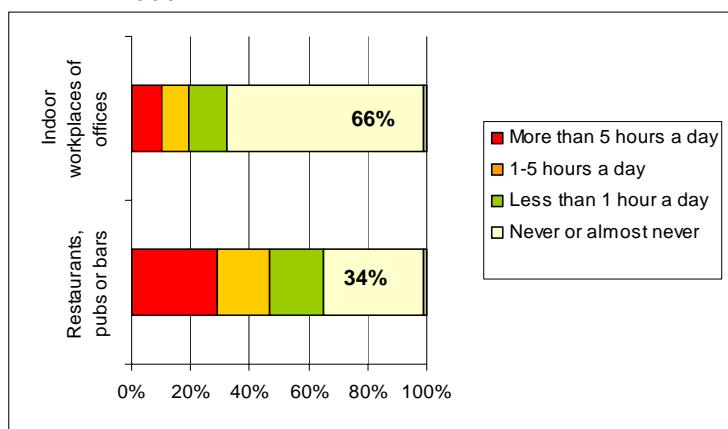
The Eurobarometer data has been updated taking into account that a number of Member States have implemented smoke-free laws in indoor workplaces since the end of 2006 (comprehensive bans in France and UK, partial in Denmark and Portugal). On balance, it is estimated that 28% of staff in offices is exposed to ETS on a daily basis as of end-2008, out of which 17% are exposed for more than one hour a day (see Annex VII for details).

Exceptionally high ETS exposure in hospitality venues

The levels of ETS exposure are exceptionally high in hospitality venues. One study showed that a four-hour exposure in a discotheque is similar to that from living with a smoker for a month.³⁶ The finding has been confirmed by other studies, which found the average exposure in bars to be three or more times higher than the exposure sustained from living in a smoking household.³⁷

Also according to the 2007 Eurobarometer, the largest percentage of employees (68%) was exposed to tobacco smoke on a daily basis in restaurants, pubs and bars in 2006. The duration of exposure in this group appeared to be significantly longer than in other workplaces too, with 47% of respondents declaring exposure of over one hour and 29% of over 5 hours per day.

Figure 6: Percentage of staff exposure to ETS on a daily basis in offices and bars/restaurants in 2006



Source: Adjusted from Eurobarometer 2007

The particularly high exposure in the hospitality sector has also been demonstrated in the 2005 Fourth European Working Conditions Survey, according to which 50% of hospitality employees were exposed to ETS around a quarter of their working time or more, followed by the construction sector (37.5%), and public administration and defence (22.7%) in 2005.

The Eurobarometer data has been updated taking into account that a number of Member States have implemented smoke-free legislation in the hospitality sector since the end of 2006 (comprehensive bans in Lithuania, Estonia, Finland, Slovenia, France, UK and the Netherlands; partial bans in Belgium, Denmark, Portugal and Germany). On balance, it is estimated that 39% of staff in bars and restaurants is exposed to ETS on a daily basis as of end-2008, out of which 27% are exposed for more than one hour a day (see Annex VII for details). Also the customers of drinking and eating venues are at risk of particularly high levels of exposure to ETS and the related health hazards.

Lower socio-economic groups are at higher risk of ETS exposure

Evidence suggests that the likelihood of being a smoker and being exposed to second-hand smoke is significantly higher for those who have a lower level of education, lower income and lower occupational class.

The 2005 Fourth Working Conditions Survey showed 10.6% of professionals report exposure to ETS at work around a quarter of the time or more compared to 31.4% of skilled workers and 24% of machine operators³⁸.

These findings are consistent with studies from the UK, Sweden and New Zealand carried out prior to the introduction of comprehensive smoke-free policies in those countries. In the UK, manual workers were found to experience greater severity of respiratory symptoms, independently of smoking³⁹ and to be 2.25 times more likely to be exposed to ETS than those in managerial and professional occupations⁴⁰. In Sweden, male skilled manual workers and female unskilled manual workers were 4

and 3.2 times more likely, respectively, to be exposed to ETS than non-manual high-level skilled employees.⁴¹ In New Zealand, ETS exposure was steeply and inversely associated with all three indicators of socioeconomic status (education level, occupational status and median neighbourhood household income).⁴²

Greater ETS exposure might contribute to the higher risks of disease and death among lower socio-economic groups, exacerbating the existing inequalities in health.

Legislation is a crucial factor in reducing ETS exposure in indoor workplaces and public places

The prevalence of ETS exposure in different Member States is to some extent influenced by factors other than legislation such as the rates of active smoking, social acceptability of smoking or public awareness of the risks of second-hand smoke. However, the scope and strength of national smoke-free laws is a crucial factor responsible for the differences in ETS exposure between countries.

In 2006, 100% of Irish hospitality workers declared to be never or almost never exposed to tobacco smoke at work compared to 8% of their Greek counterparts.⁴³ However, prior to the introduction of the smoking ban, the workplace exposure to ETS among Irish barmen had also been very heavy, averaging 40.5 hours a week.⁴⁴ Evidence from jurisdictions which have introduced strict smoke-free laws (summarised in Annex VI) demonstrates that indoor air quality improved dramatically and ETS exposure has practically disappeared in indoor workplaces and public places after the smoking bans went into effect. This is confirmed by numerous studies based on self-reported data, biomarkers as well as measurements of ETS components in indoor air.

This shows the huge impact that can be achieved through adequate regulation. It also allows to expect that the introduction by all Member States of strict smoke-free laws as a rule covering all indoor workplaces and public places and equipped with proper enforcement mechanisms as prescribed by the FCTC guidelines would virtually eliminate the problem of exposure to tobacco smoke in indoor workplaces and public places.

3.2.3. Inadequate protection of children and young people from tobacco smoke

Children's and young people's exposure to tobacco smoke is a particular health concern. Children have little or no control over their exposure to ETS from adult smokers in settings such as home and cars, not to mention exposure *in utero*. Infants and children are also particularly vulnerable to the health effects of ETS. Scientific reviews have concluded that exposure to ETS is a major risk to child health as is maternal smoking in pregnancy, and maternal exposure to ETS while pregnant (see Annex VB). In addition to the health risks of ETS, exposure to tobacco smoke makes children more likely to perceive smoking as common adult behaviour and thus take up smoking themselves in adolescence. Most adult smokers began to smoke in childhood or adolescence. Smokers who begin to smoke at younger ages have higher

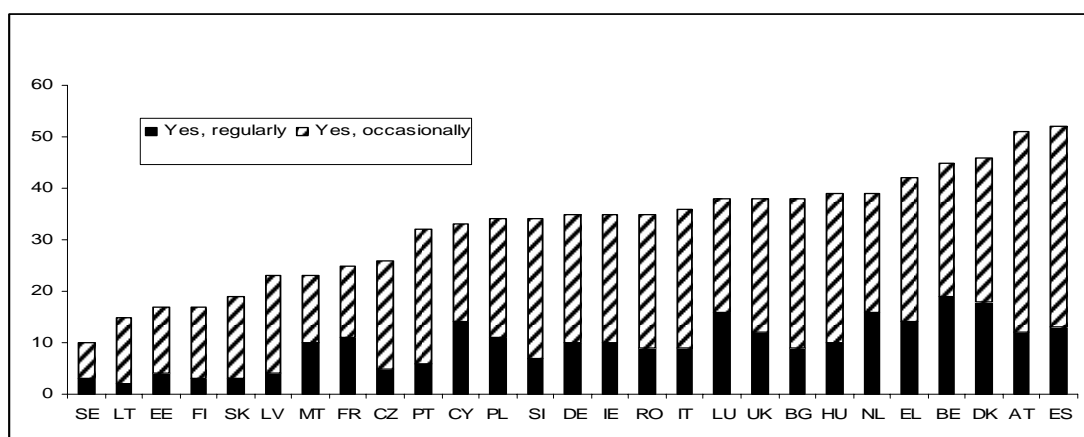
rates of tobacco-related mortality and morbidity, and suffer tobacco-related diseases earlier.⁴⁵ Preventing adolescent smoking is therefore of crucial importance.

Children's exposure to tobacco smoke in homes

While children are also exposed to ETS in public places such as cafes, restaurants and public transport, most of children's exposure to tobacco smoke comes from parents, and occurs in the home.

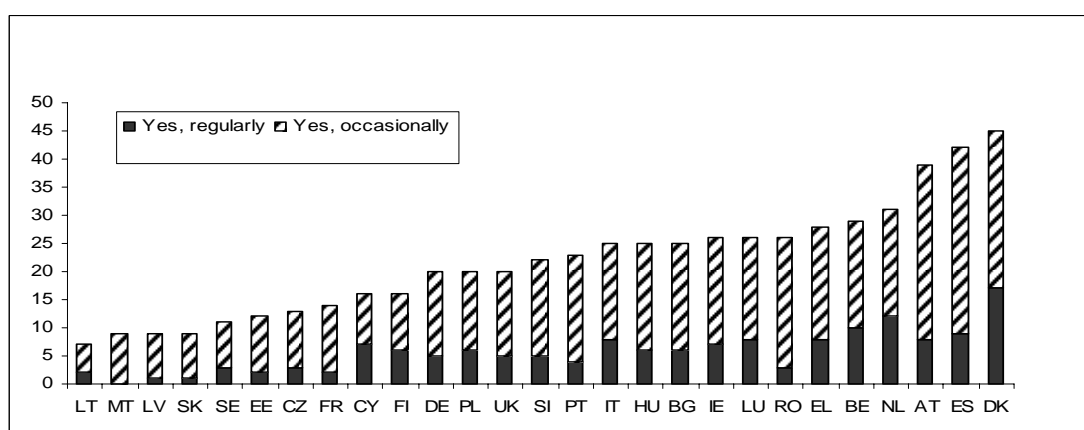
In the last Eurobarometer survey, over a third of smokers (36%) declared to smoke inside their home in the company of children. There was a considerable variation between the countries, ranging from 10% in Sweden to 51% in Austria and 52% in Spain.

Fig 7: Smoking at home in the company of children



In addition, almost a quarter (23%) of EU smokers declared to smoke at home in presence of pregnant women, ranging from 6% in Lithuania and 9% in Malta to 58% in Spain and 61% in Austria.

Fig 8. Smoking at home in the company of pregnant woman



The lower the level of education of smokers, the more likely they are to smoke at home in the company children and pregnant women. Moreover, the unemployed, house persons and manual workers are more likely to do so than managers and other white collar workers. This suggests that children from disadvantaged background are at greatest risk of exposure.

While there is currently no EU-wide data on the percentage of children exposed to ETS in their homes, the Global Youth Tobacco Study (GYTS)⁴⁶, a WHO survey of children aged between 13 and 15 in 76 countries, provides data for twelve EU Member States in Central and Eastern Europe.⁴⁷ Across these countries, the proportion of 13–15-year-olds exposed to ETS in their homes during the week preceding the survey ranged from 40% to 90%. In all the countries except for the Czech Republic and Lithuania, over 50% children were exposed to tobacco smoke at home while in Poland, Cyprus, Greece and Romania this was the case for roughly 9 out of 10 children.

Table 6: Proportion of children aged 13–15 exposed to tobacco smoke at home in the past week

Czech Rep., 2007	38.0%	Estonia, 2003	80.6%
Lithuania, 2005	43.1%	Hungary, 2003	84.0%
Latvia, 2007	55.2%	Poland, 2003	86.7%
Slovenia, 2003	65.9%	Cyprus, 2005	87.9%
Bulgaria, 2002	67.7%	Greece, 2005	89.8%
Slovakia, 2003	79.5%	Romania, 2004	90.4%

Studies in western Europe found that the proportion of children aged 6–12 years living with a current smoker in the household was around 50%: 46% in Germany, 58% in Italy and the Netherlands and 62% in Austria.⁴⁸ In the UK, around four out of every 10 children live in homes where at least one person regularly smokes inside.⁴⁹

The negative consequences of parental smoking include not only the direct effects of ETS on children's health but also the influence of parents' smoking on their children's likelihood to smoke. Evidence demonstrates that children and adolescents who live with smokers are more likely to become regular smokers themselves. Smoke-free homes may therefore have a protective effect for the risk of child smoking uptake.⁵⁰

In addition to homes, it is likely that parental smoking in cars is a significant source of exposure to ETS for children. In the Eurobarometer survey, almost one in ten (9%) smokers admitted to smoking in a car with children present. There are big variations between the countries, the Swedish and Estonian smokers being the least (1%) and the Danish (17%) the most likely to do so. As is the case with smoking at home, the likelihood of smoking in the car in the presence of children is higher among those with lower level of education and lower occupational status.

Studies have shown that smoking in confined spaces such as a car or truck, results in particularly high levels of particulate matter and other harmful substances, exceeding

those measured in smoky bars.⁵¹ Another concern about smoking in cars is road safety, studies suggesting that smokers have significantly higher risk of motor vehicle accidents than non-smokers.⁵² Passengers, including children, are thus at greater risk of being involved in an accident if driving with a smoker.⁵³

Laws banning smoking in cars carrying children have been so far adopted by Cyprus, Puerto Rico, South Africa, and a number of regional and local jurisdictions in the U.S, Australia and Canada (see Annex IVD). Similar initiatives are actively considered in a number of other jurisdictions.

Children's exposure to ETS in outdoor areas

Besides indoor public places and homes, children are also routinely exposed to tobacco smoke in outdoor places such as public playgrounds; outdoor areas of schools, hospitals and other institutions providing services to children as well as during outdoor sports or cultural events.

While there are at present no studies on the health effects of outdoor exposure to ETS, the main concern about adult role models such as parents, teachers or doctors smoking in areas frequented by children is its impact on children's perceptions about smoking as socially acceptable behaviour.⁵⁴

A number of jurisdictions, mainly outside the EU, have banned smoking in certain outdoor places visited by children and adolescents to protect them from seeing smoking as a common adult behaviour to be imitated.

A mix of interventions is needed to reduce children's exposure to tobacco smoke

Evidence suggests that the introduction of smoke-free public places and workplaces shifts public attitudes towards smoking and, as a consequence, reduces smoking in the home. To maximise its potential, smoke-free legislation should be complemented by comprehensive programmes aimed at informing parents and future parents about the risks of ETS exposure to children, promoting smoke-free homes and cars and supporting smoking cessation. Such programmes should be targeted in particular at the disadvantaged groups in the society. In addition, legal restrictions on smoking should be considered in areas frequented primarily by children.

3.3. Rationale for EU action

3.3.1. Legal basis and institutional setting

Legal basis

The initiative is intended to help implement Treaty requirements of a high level of health protection (Articles 3(1)(p) and 152) and protection of health and safety of workers (Article 137).

The Community has a long history of common policy-shaping debates on ETS (Council Resolution from 1989, Council Recommendation from 2002). This reflects

an obligation under **Article 152** of the Treaty to encourage cooperation between the Member States and lend support to their action in the area of improving public health, preventing human illness and diseases, and obviating sources of danger to human health.

In addition, **Article 137(1) (a)** of the Treaty obliges the Community to support and complement the activities of the Member States, particularly to improve the working environment to protect the health and safety of workers. For this purpose the Community may adopt, by means of directives, minimum requirements for gradual implementation. Such minimum requirements have been adopted for most occupational risks, including risks resulting from exposure to dangerous substances such as carcinogens and mutagens.

Furthermore, as a Party to the **WHO Framework Convention on Tobacco Control (FCTC)**, the Community is under a legal obligation to take action on smoke-free environments. Under Article 8 of the FCTC each Party has undertaken to “adopt and implement (...) effective legislative, executive, administrative and/or other measures, providing for protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places and, as appropriate, other public places.” As all but one Member States have also individually ratified the convention, they are bound to the same commitment as the EC.

Political momentum

The Commission Green Paper consultation demonstrated an overwhelming support for an EU initiative on smoke-free environments, a Recommendation and binding EU legislation being the two most popular policy options (see Annex II). Both the European Parliament and the Council recognised the need for further EU action, the former calling for a binding legislation and the latter for support and coordination of national efforts e.g. through an EU Recommendation.

In addition, the Council Conclusions on cancer adopted in June 2008 call for strengthened EU action on all aspects of cancer control, including the prevention of main risk factors.

The desirability of intervention at European level has been further highlighted in the conclusions from the international conference "Towards a smoke-free society" in September 2007.⁵⁵

3.3.2. Subsidiarity test

Coherent and timely implementation of FCTC guidelines

So far, less than half of the Member States have adopted policies to comply with their FCTC obligation while a number of others have encountered serious difficulties in introducing and/or enforcing comprehensive smoke-free legislation. In addition, the non-ratification of the FCTC by one Member State means that it is not legally bound by the provisions of the Treaty.

The intervention at EU level should help the timely and coherent implementation of the FCTC provisions in line with the Member States' and EU international commitments.

An EU initiative based on Art. 152 would be intended to assist Member States in developing comprehensive smoke-free policies in line and beyond the FCTC guidelines. It would strengthen the implementation of the FCTC provisions by adding a clear monitoring mechanism and a uniform EU deadline for implementation for all Member States. An EU initiative based on Art. 137 would ensure an enforceable basic level of protection from the risk of ETS exposure in the workplace throughout the EU. While potentially narrower in scope than the FCTC provisions, it would allow Member States to adopt more stringent measures.

Health inequities

Differing national laws result in huge differences in protection between Member States. In the latest Eurobarometer on Tobacco, 4% of Irish office staff declared to be ever exposed to tobacco smoke at work compared to 85% of Greek workers.

In addition, the lack of comprehensive smoke-free regulations in the majority of Member States (in particular in hospitality and leisure sector) results in inequalities between different occupational and socio-economic groups, hospitality workers being three times more likely to be exposed to tobacco smoke for over 5 hours a day than office workers.

Given the health risks of exposure to second-hand smoke, these differences result in avoidable health status disparities both between and within Member States exacerbating the existing significant differences in healthy life expectancy. An EU intervention can favour the development of a high level of protection in all Member States, according to Art 3(1)(b), 137 and 152 EU Treaty and in line with the Lisbon Agenda structural indicators for Healthy Life (HLY). By helping Member States to prevent tobacco-related deaths in productive age, it would also contribute to maintaining the healthy workforce and overall social cohesion and economic welfare.

Internal market distortions

Differing national laws may also have negative cross-border implications. A worker in a country with comprehensive smoke-free regulations who wants to take up a job in a country with less stringent approach would have to forgo the protection they enjoy in their country of origin to do so. This is likely to impinge on workers' mobility, in particular in the case of some categories of workers such as pregnant workers or those with pre-existing health problems. Patchy smoke-free rules can also create an uneven playing field for operators in different Member States. For instance, hospitality venues in border regions where strict smoking bans apply may lose clients due to "smoking tourism" to neighbouring countries with less stringent rules. By encouraging comprehensive smoke-free legislation across all Member States, an EU initiative would contribute to eliminating competitive distortion within

and between Member States and favour the free circulation of workers and services throughout the EU.

Added value of EU support

The added value of the Community action would consist in bringing the evidence base, facilitating the exchange of experience and best practice among Member States, providing Member States that have not yet implemented comprehensive smoke-free legislation with guidance for doing so (possibly accompanied by minimum EU standards for worker protection), translating the FCTC guidelines into EU institutional and legal context; and monitoring the progress towards reducing ETS exposure throughout the EU.

An EU initiative based on Art. 152 could be expected to put the issue on a high political agenda in the Member States, thus stirring the drive towards smoke-free environments and providing the health sector with political justification for action. Such impact has in the past been made on other health issues where the EU took coordinating and complementing powers, e.g. in the case of cancer screening or electromagnetic fields, where Council recommendations, even though non-binding, triggered important national action.⁵⁶ Even more so, the Framework Directive on health and safety at work and its individual directives (Art. 137) brought about a considerable improvement and modernisation of national standards for occupational health and safety.⁵⁷

Also the impact of earlier initiatives on ETS at EU and international level suggests that EU action could be instrumental in stimulating Member States' efforts. For instance the 1989 Council Resolution on smoking in public places – however weak in its actual recommendations by today's standards – resulted in some kind of smoke-free regulations being adopted by all then Member States.⁵⁸ The first push for 100% smoke-free policies seems to have come with the adoption of the WHO Framework Convention on Tobacco Control (WHO FCTC). Subsequent to the adoption of the Convention in May 2003, Ireland became the first country worldwide to adopt comprehensive smoke-free legislation in April 2004, followed by four other EU jurisdictions within the next two years. The policy process continued with the negotiations and adoption of the FCTC guidelines (July 2007) and the publication of the Commission's Green Paper on smoke-free environments in January 2007.

These supranational initiatives certainly helped stimulate the debate in the Member States about the harm of exposure to ETS and the benefits of smoke-free environments. For instance the Commission's Green Paper (translated into all EU languages) received a huge coverage in the national media, thus helping to move the discussion forward in different Member States.

4. OBJECTIVES

In response to the issues outlined in the previous section, the overall objective of the proposal is to contribute to a high level of public health and working conditions as stipulated in Articles 3(1)(1p), 152 and 137 of the EC Treaty by assisting Member States in reducing tobacco-related morbidity and mortality. It can be expected that the initiative will also help reduce healthcare and productivity costs linked to ETS exposure, thus contributing to Member States' reform efforts as part of the Lisbon Agenda.

The specific objective is to comply with EC and Member States' international obligations under the FCTC. This would consist in assisting Member States in the development of laws to eliminate exposure to second-hand tobacco smoke in workplaces and public places in line with the FCTC commitment and to promote smoke-free homes. Indirectly, the initiative could be expected to increase citizens' knowledge of the hazards of tobacco (smoke) and their support for tobacco-free policies and lifestyles; and – as a result – reduce the rates of active smoking.

It is intended that the main outputs of the initiative will include translating the FCTC provisions into the EU institutional and legal context and monitoring progress towards reducing ETS exposure throughout the EU.

The initiative is linked to a number of EU strategic policies, including the Health Strategy, the Strategy on health and safety at work, the Environment and Health Strategy as well as the Sustainable Development Strategy.

General objective

Improve the health of citizens and workers in line with Art. 152 and 137 EC Treaty through reductions in tobacco-related illness and mortality

Specific objectives

Comply with EU and MS obligations under FCTC

Assist MS to eliminate ETS exposure in workplaces/public places and to promote smoke-free homes

Specific objectives

Translate FCTC provisions into EU context

Monitor progress towards smoke-free environments

5. POLICY OPTIONS

5.1. Scope of EU initiative

The FCTC guidelines on protection from exposure to tobacco smoke, adopted unanimously by all the FCTC Parties, state that all indoor workplaces and public places should be free from tobacco smoke. As a Party to the FCTC, the EU and 26 Member States are bound by this commitment. Any change to the substance of the FCTC guidelines would make it necessary to re-open the international agreement.

The advantages and disadvantages of measures of different scope to tackle passive smoking, including a total ban on smoking in virtually all enclosed public places and workplaces and exemptions of different types (e.g. for restaurants and bars) have been analysed in the Commission's Green Paper on smoke-free environments. The analysis concluded that the policy of widest scope would bring the highest reductions in ETS exposure and related harm, on an equal basis to all European citizens, and would also be easier to implement than partial restrictions.

The contributions to the Green Paper consultation (summarised in Annex II and described in detail in a separate report on the consultation outcome⁵⁹) demonstrated clear support for comprehensive smoke-free policy. Over 60% of all institutional respondents (including 13 out of 17 Member States that replied to the consultation) believed that the best option is a comprehensive ban on smoking in all enclosed

workplaces and public places, with only minimum exemptions for places that are de facto somebody's homes, such as designated rooms in nursing homes or mental health settings. A quarter of respondents (including four Member States) favoured different types of exemptions, in particular for hospitality venues or separate smoking areas. 70% of organisations that opted for exemptions were tobacco-related.

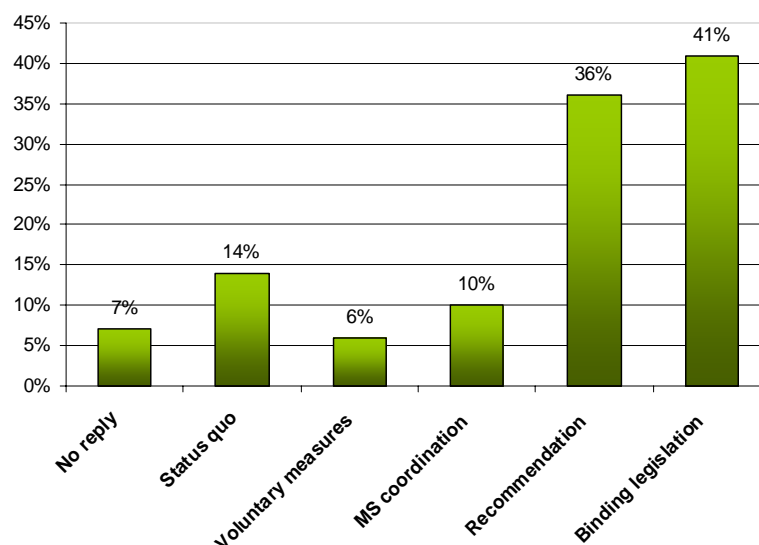
Based on the FCTC commitment and the outcome of the Green Paper consultation, it is intended that all policy options should strive for the widest possible scope of protection from ETS exposure and, where possible, include also supporting measures to maximise the effects of smoke-free policies. It should be noted that the exact content of the initiative would be to some extent dependant on the choice of the legal instrument. For instance initiatives based on Art. 152 of EC Treaty (public health) could be wider in scope than those based on Art. 137 (health and safety at work). The likely content of each policy is described below.

5.2. Available legal instruments

In its Green Paper consultation, the Commission presented five possible forms of intervention to promote smoke-free environments in the EU. The consultation showed a strong support for further EU action in this area.

- Overall, an **EU Recommendation** (from the Commission or the Council) and **binding EU legislation** were the two most popular policy options, supported by around 40% of institutional respondents each.
- **Open Method of Coordination** was supported by only 10% of respondents. However, it was the second most popular policy option among Member States' governments, either alone or in combination with other instruments.
- **Voluntary measures**, while supported by 6% of respondents, were strongly criticised as ineffective in the area of tobacco control by the health stakeholders and some Member States.
- One in eight contributors was of the opinion that the EU should not undertake any new activities on smoke-free environments, mainly on subsidiarity grounds.

Figure 9: Support for various forms of EU intervention in the Green Paper consultation



All instruments presented in the Green Paper – except voluntary measures - have been included for further analysis. In addition, the Commission and Council Recommendation are examined separately as they differ slightly in terms of ownership.

Voluntary measures **have not been retained** for further assessment as they have consistently proved ineffective in reducing exposure to tobacco smoke, in particular in hospitality and leisure venues.

Voluntary agreements (self-regulation) tend to work most efficiently in clearly defined markets with a rather small number of key stakeholders where in addition a certain degree of basic framing legislation already exists. In the case of smoke-free environments, the multitude of stakeholders, who also differ significantly in size and character, would mean that proper monitoring and enforcement would be either impossible or trigger non proportionally high administrative and transaction costs. In addition, where there is a serious risk to people's health and safety, binding measures is usually the most appropriate choice to provide protection. National experience from countries such as the UK, Germany, Spain or the Netherlands showed that voluntary measures failed to achieve significant reductions in ETS exposure. For instance, in the UK, after five years of a voluntary agreement between the Department of Health and the key hospitality associations, fewer than 1% of bars were found to be smoke-free.⁶⁰ In Spain, the legislation gave bars and restaurants below 100 m² the option to become smoke-free on a voluntary basis. After two and a half years only 10% of eligible bars and 15% of restaurants have decided to do so.⁶¹ Likewise, in Germany only 10% of establishments were compliant with the voluntary agreement with the Federal Ministry of Health two years after its entry into effect.⁶²

The FCTC guidelines adopted unanimously by all FCTC Parties clearly state that voluntary policies are ineffective in reducing exposure to tobacco smoke. They were

also considered of little value to solve the identified problem by the vast majority of contributors to the Green Paper consultation.

5.3. Policy options

1) No change from status quo

This option would mean no new activity on the part of the EU, while **continuing the current work** on second-hand smoke under the different Community programmes (Second Health Programme 2008-2013, Seventh Research Framework Programme 2007-2013, Life+ programme 2007-2010, Progress programme for employment and solidarity 2007-2013), information and education campaigns and networking initiatives.

2) Open method of coordination (OMC) in respect of Member States' smoke-free policies

Under this option, Member States' would be encouraged to cooperate on smoke-free environments with a view to:

- Exchanging experiences and best practices on how to develop, enforce and monitor effective smoke-free policies,
- Agreeing common targets based on successful experiences,
- Developing a common set of indicators to monitor and evaluate progress,
- Periodic peer review, for example in the form of regular reports from the Member States.

A co-ordinating body (working group, task force, network of competent authorities) bringing together the representatives of the Member States and the European Commission would need to be set up to facilitate the process by providing a forum for discussion, exchange of experience and peer review for the Member States. This needs to be seen in the context of the envisaged establishment of an implementation mechanism for the EU Health Strategy. Also existing structures, such as the Network of Competent Authorities on Health Information and Knowledge, the EU Working Party on Health Indicators and/or the informal group of Member States liaison officials on tobacco advertising could be used.

The content of this option would depend on agreements between Member States but theoretically could be comprehensive in scope. It could go beyond the FCTC guidelines (focused on protection from ETS in indoor public places and workplaces) to tackle additional settings such as homes and certain outdoor areas as well as flanking measures to encourage smoking cessation and raise awareness of the risks of active and passive smoking. Under this option, Member States would only agree on common policy objectives rather than prescribe the way to achieve them.

3) / 4) Commission or Council Recommendation on smoke-free environments

A Recommendation from the Commission or the Council based on Art. 152 of the EC Treaty would provide guidance and encouragement to Member States in introducing comprehensive smoke-free policies. Such recommendation would take

into account and help enforce the FCTC requirement by introducing a uniform EU deadline for its implementation by all Member States and a clear reporting and monitoring mechanism (Member States to report periodically on the basis of indicators listed in the FCTC guidelines, Commission to report on the progress achieved based on Member States' reporting). On top of the provisions of the FCTC guidelines, an EU Recommendation should include measures to tackle ETS exposure among children and adolescents (including in private settings and certain outdoor venues) as well as flanking measures such as awareness raising, smoking cessation support and the introduction of picture warnings with quit information on tobacco packs.

3+ / 4+ Combination of Commission or Council Recommendation and Open Method of Coordination

Options 2 and 3/4 are not mutually exclusive and could complement each other. In particular, a Commission or Council Recommendation could be an incentive for strengthened cooperation between Member States. In this scenario, the text of the Recommendation would serve as a basis and point of reference while Member States would exchange information and best practice on its implementation, adopt common targets and benchmarks for reaching and possibly going beyond its requirements (e.g. on reduction of ETS exposure at home) and develop common indicators to monitor progress.

5) Binding legislation on workers' protection from ETS

The adoption of binding legislative measures could consist in **revision of the existing directives** based on the Framework Directive on the introduction of measures to encourage improvements in the safety and health of workers at work 89/391/EEC. This could include, in particular, strengthening the requirements for the protection of workers from tobacco smoke in Directive 89/654/EEC on minimum health and safety requirements for workplaces and/or extending the scope of the Carcinogens and Mutagens Directive 2004/37 to cover tobacco (smoke). Tobacco (smoke) could be also automatically brought within the scope of the Carcinogens Directive by the **amendment of Dangerous Substances Directive** (67/548/EEC) to classify tobacco smoke or tobacco as a carcinogen. Another possibility would be to enact a separate directive on workplace smoking based on Art. 137 of TEC.

A policy initiative based on Art. 137 TEC would be restricted in scope to the workplace environment and would not cover either public places that are not workplaces or self-employed workers (e.g. family-owned shops or restaurants that employ family members) who constitute around 12% of EU workforce overall and 15% of hospitality workers.

6. ASSESSING THE OPTIONS

6.1. Advantages and disadvantages of different options

Table 5 provides a qualitative description of the identified policy options across a number of parameters which supports the subsequent quantitative assumptions about the options impact on ETS prevalence made in the next section. The quantification of this table is presented in Annex VII.

The parameters include:

- **EU contribution:** what does EU involvement bring compared to Member States action only.
- **Timing:** the expected speediness of adoption of the given policy instrument.
- **Scope:** the likely content of the policy option. For instance, an instrument based on Art. 137 of EC Treaty (health and safety at work) could not be as wide in scope as instruments based on Art. 152.
- **Degree of bindingness:** the level of political or legal obligation to comply on the part of the Member States.
- **Risks:** possible unintended consequences

Out of these, the level of bindingness is considered as most important, followed by scope and timing.

Table 7: Advantages and disadvantages of the five policy options

	Status quo	OMC	COM Recomm	Council Recomm.	COM Recomm. + OMC	Council Recomm + OMC	Binding legislation
EU contribution	<p>EU awareness raising campaigns can be effective in informing about the risks of passive smoking (positive experience with HELP campaign) and increase the effectiveness of regulatory measures at national level.</p> <p>Projects realised under various Community programmes (health, research, environment, employment) could provide further evidence base (e.g. on the prevalence of ETS exposure, impact of smoke-free policies) and support policy developments in the MS.</p>	<p>There is a wealth of good practice in the EU, over a third of Member States having adopted comprehensive smoke-free laws.</p> <p>Coordination of national efforts could bring about a process of mutual learning and sharing of best practices in particular on novel/sensitive policy issues such as tackling ETS exposure in semi-residential settings (e.g. prisons, long-term hospitals) or certain outdoor places. And EU monitoring mechanism could encourage policy development and enforcement.</p> <p>On the other hand, the utility of OMC is limited by the fact that what is "best practice" in the area of protection from ETS (at least in indoor workplaces and public places) has been already agreed upon and codified in the FCTC guidelines.</p>	<p>Would transpose the FCTC guidelines into the EU context, thus strengthening them and showing that the EU takes the FCTC process seriously and is committed to implementing international resolutions.</p> <p>Would assist Member States to comply and go beyond their international commitments under the FCTC.</p> <p>The requirement to report progress and make the results publicly available could further support Member States in policy development and enforcement.</p>		<p>Could bring about a process of mutual learning and sharing of best practices in particular on novel/sensitive policy issues such as tackling ETS exposure in semi-residential settings or certain outdoor places.</p> <p>The reporting and monitoring mechanism, common targets and harmonised set of indicators could further support Member States in policy development and enforcement.</p>		<p>Would impose enforceable minimum level of protection from workplace exposure to tobacco in all Member States.</p> <p>At the same time, Member States would be free to maintain or adopt measures going beyond EU "minimum requirements"</p>
Timing	+	++	+++		++++		++++
	<p>Current trend towards smoke-free environments would probably continue but at a slower pace. There was a big jump in policies since 2004 but the momentum seems to have faltered and some countries (e.g. Germany) are experiencing roll-backs.</p>	<p>The establishment of a coordinating body and developing common targets, indicators and implementation modalities would be relatively lengthy and resource-intensive</p>	<p>Likely to be adopted within a short time.</p> <p>Could be speedier and easier to adopt than Council Recommendation</p>	<p>Likely to be adopted within a relatively short time.</p> <p>Could be more difficult to adopt than Commission Recommendation given some MS' reluctance to comprehensive smoke-free policies and/or EU action in this area.</p>	<p>While developing common benchmarks and indicators would be rather lengthy, the background Commission Recommendation could be adopted within a short time.</p>	<p>While developing common benchmarks and indicators would be rather lengthy, the background Council Recommendation could be adopted within a relatively short time (though somewhat longer than would be the case with Commission Recommendation)</p>	<p>The time period for the realisation of the benefits stemming from a new legal instrument is likely to be relatively lengthy given the mandatory two-stage consultation of the European social partners, the duration of the co-decision procedure and the transition period before its entry into force.</p>

	Status quo	OMC	COM Recomm	Council Recomm.	COM Recomm. + OMC	Council Recomm + OMC	Binding legislation
	--	-	+++	++	++	+	-
Scope	The scope of national smoke-free measures would continue to differ. It could be expected that the hospitality sector would remain the most difficult area of regulation	Depending on agreements of Member States, but could be comprehensive in scope	<p>Could have wider scope than a legislative instrument based on Art. 137 TEC and cover all workplaces, public places and home environment as well as supporting measures such as cessation policies or awareness raising campaigns</p> <p>Could set a "golden standard" to guide countries in their smoke-free efforts instead of "minimum requirements"</p>				Legislation based on Art. 137 TEC would be focused on workers' health and safety and would not cover self-employed workers nor would it cover public places that are not workplaces or flanking measures.
	--	+/-	+++				++
Degree of "binding ness"	There would be no new commitments, neither binding nor non-binding, under this option.	Non-binding. While there would be no sanctions for non-compliance, Member States could be expected to experience some peer pressure.	<p>Would not have binding force. There would be no sanctions for non-compliance</p> <p>Member States would not be part of the process and might thus feel less bound by the recommended actions.</p> <p>MS would be involved in developing the Recommendation which would enhance their sense of ownership and the commitment to agreed objectives</p> <p>MS would not be involved in developing the Recommendation and might thus feel less bound by its provisions. However, the peer pressure from other MS would likely create some political commitment.</p> <p>Involvement in developing the Recommendation and the modalities for its implementation would create a strong sense of ownership and the commitment to agreed objectives among MS.</p>				Binding. Sanctions for non-compliance
	--	+	-	+	+	++	+++
Risks	Treaty requirement of high level of health protection and international obligations under the FCTC would not be met. Lost opportunity to build on the support received in the Green Paper consultation. Funds for tobacco awareness campaigns limited until 2010.	Would only set objectives rather than prescribe concrete way to achieve them. Could possibly only encourage already better-performing countries to improve the measures in place but would constitute limited incentive for less advanced countries to introduce smoke-free laws	Could be criticised for not providing sufficient response to tackle the problem.				<p>Could require adaptations of existing comprehensive national smoke-free laws /</p> <p>It might be difficult to demonstrate that smoke-free legislation cannot be achieved by MS alone without giving them the chance to do so via non-binding measures.</p>
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6.2. Impacts of different options

Based on the considerations in the previous section, this section attempts to predict the potential impacts of each of the policy options by also taking into account previous experience in similar policy areas and developments at national level. These scenarios constitute only a rough approximation of policy options as the impact of each policy option not only depends on the proposed policy measures but also on the approach to implementation by Member States, making it difficult to provide an exact quantification.

If all Member States adopted and enforced strict smoke-free laws, ETS prevalence rates could theoretically drop by up to 100% and the prevalence could go down to 0%. The level of implementation in all Member States equal to that in Ireland would result in an 89% reduction in ETS prevalence ratios in indoor workplaces/offices (from the current 28% to 3% among staff) and a 100% reduction in bars and restaurants (from the current 39% to 0% among staff). The implementation throughout the EU equal to the average of Ireland, Italy and Sweden would result in a 54% reduction in prevalence ratios in workplaces/offices and a 57% reduction in bars and restaurants, with staff exposure going down to 12.7% and 16.7%, respectively.

The following assumptions have been made about the potential reductions in ETS prevalence under each of the policy options by 2013 (i.e. the last year of the current Health Strategy):

- **Policy 1** (status quo) would bring the least (around **6%**) reduction in ETS prevalence ratios, decreasing the overall prevalence by around 2 percentage points. The existing trend towards smoke-free could be expected to continue, but at a slower pace. The 6% reduction would be largely consistent with a situation in which countries with advanced or fairly advanced smoke-free legislation proposals (Latvia, Romania, Austria and the Czech Republic) have implemented their proposed policies by 2013 (assuming the level of implementation equal to the average of Ireland, Italy and Sweden for comprehensive bans and half that effect for partial bans). Under this option, almost two thirds of Member States would not meet their FCTC obligation by 2013.
- The effects of the five non-regulatory options - Open Method of Coordination, Commission Recommendation (with OMC) and Council Recommendation (with OMC) - are likely to be somehow similar in the sense that they would offer support for policy development but could not oblige Member States to adopt and enforce smoke-free laws. They are expected to have the potential to bring about a two- (**13%**) to fourfold (**26%**) reduction in ETS prevalence ratios as compared to the status quo, which would translate to a reduction in prevalence ranging from around 4 to 8 percentage points.
 - **Policy 2** (OMC) and **Policy 3** (Commission Recommendation) can be expected to primarily improve the performance of already more advanced countries by encouraging them to strengthen their legislation and/or ensure better enforcement. The implementation of OMC would be relatively slow and it does not seem well suited to tackling a "mature" problem like ETS. The

impact of a Commission Recommendation would be limited by the fact that it would not create a sense of commitment among Member States. For the purpose of the analysis, it is thus assumed that the impact of these two options would be closer to the lower bound of 13% reduction in ETS prevalence ratios. This would be equivalent e.g. to smoke-free legislation proposals in Latvia, Romania, Austria, the Czech Republic and Poland being successful (assuming the level of implementation equal to the average of Ireland, Italy and Sweden for comprehensive bans and half that effect for partial bans).

- **Policy option 4** (Council Recommendation) is potentially more effective, primarily due to the ownership effect and could be expected to incite additional countries to adopt more stringent smoke-free measures and enhance the implementation of existing measures. Historical experience indicates that Council Recommendations often result in quick implementation of EU proposals by Member States. For instance following the adoption of the Council Recommendation on Cancer screening, eight, nine and eleven additional Member States were running and establishing population-based programmes in breast, cervical and colorectal cancer in 2007 compared to fifteen, fourteen and six in 2002-4, respectively. Similar effects could be assumed for option 3+ (a combination of OMC and a Commission Recommendation), which would likely be more effective than any of these two options in isolation. Commission Recommendation could be equal in its content as a Council Recommendation and the OMC could create a level of political commitment equal to that under a Council instrument. The combination of these two options could therefore achieve similar results as option 4, however the implementation of OMC would be more lengthy. For the purpose of the analysis, it has been assumed that options 4 and 3A would bring a reduction to ETS prevalence ratios in the range of 13% to 26%.
- **Policy option 4+** (Council Recommendation with OMC) could be expected to be most effective out of the non-regulatory options. It would create the strongest sense of ownership and commitment among Member States who would be involved both in adopting the text of the Recommendation and in developing benchmarks and indicators for its implementation. That is why it is assumed to be most likely to reach the upper range of 26% reduction in ETS prevalence ratios. This would be equivalent to all current smoke-free legislation proposals (Latvia, Romania, Austria, the Czech Republic, Bulgaria, Greece, Hungary, Poland and Slovakia) being successful in addition to Portugal, Denmark and the Czech Republic bringing down exposure in workplaces/offices and Portugal, Denmark and Belgium in bars/restaurants to the average of Ireland, Italy and Sweden.
- **Policy 5** (binding legislation) is likely to result in all Member States having strict and properly enforced smoke-free laws in place. In the best-case scenario, it could be expected to bring down the prevalence rates in all Member States to those in Ireland, corrected for the fact that it would be somewhat narrower in scope than the Irish ban since self-employed workers would not be covered by the legislation. As a result, after this correction, the ETS prevalence ratios in offices would be

reduced by **76-78%** and by **85%** in bars/restaurants. This would mean that the ETS prevalence would go down to 6.7% and 6%, respectively. The benefits, however, would only realise once the legislation is adopted and transposed.

These assumptions are largely consistent with those of the stakeholder organisations that provided their ratings in reply to targeted stakeholder consultation (see Annex II). However, the expected reductions in ETS prevalence are slightly larger for policies 1-3 and substantially more conservative for policy 4. It should also be noted that only health stakeholders chose to take part in the exercise.

6.2.1. Social impacts

Reduced morbidity and mortality from passive smoking

By reducing the prevalence of ETS exposure in workplaces and public places, an EU initiative could be expected to reduce illness and mortality from major ETS-associated diseases (lung cancer, stroke, heart disease and chronic lower respiratory diseases) and increase healthy life years. Although the full health benefits may take longer to be realised for some diseases (such as the lung cancer), they may occur relatively quickly for others (such as short term respiratory symptoms).

Various studies have shown substantial reductions in the incidence of heart attacks following the introduction of smoke-free policies, including a drop of 11% in Ireland and Italy, a 17% drop in Scotland and even greater reductions in the US jurisdictions.⁶³ Studies in Ireland, Scotland, Spain and the US have also shown substantial reductions in respiratory symptoms in hospitality workers as a result of smoke free workplaces ranging from 13 to 50%.⁶⁴

Annex VII calculates the expected annual reductions in premature mortality from lung cancer, stroke, heart disease and chronic lower respiratory disease under each of the policy options based on the assumptions about their potential to reduce the prevalence of ETS exposure. Policy option 5 (binding legislation) is expected to bring the largest reduction in annual deaths - up to 4,884 prevented deaths in office and hospitality staff, including 2,151 deaths among non-smoking employees. This means that around 80% of deaths due to ETS among employees would be prevented. The corresponding figures under option 4+ (Council Recommendation with OMC) would be 1,550 and 646, respectively, which would prevent a quarter of staff deaths. The impact would be somehow smaller under options 4/3+ (Commission Recommendation with OMC/ Council Recommendation) and 2/3 (OMC / Commission Recommendation) and significantly smaller under the status quo. The impact on mortality should be regarded as annual deaths prevented in the longer run as the full effects of reduced ETS exposure will not fully materialise until several years have passed.

These estimates only include staff members of offices and bars, pubs and restaurants. However, visitors of these places will be affected as well. It is difficult to estimate the effect on non-staff members because reliable data on ETS in this group are not currently available. As an example, the English Impact Assessment estimated the monetary value of averted deaths from ETS among customers (after implementation

of the full ban) to be over 15 times greater at £350 million than the value of averted deaths among employees at £21 million. Modest additional reductions in mortality could also be expected in workplaces other than offices and bars/restaurants where exposure to ETS may occur.

Reduced morbidity and mortality from active smoking

In addition to the direct effect on exposure to tobacco smoke, the initiative could also be expected to have an indirect effect on active smoking.

Smoke-free policies have been reported to reduce tobacco consumption and encourage quit attempts among smokers, thus contributing to a reduction in smoking prevalence. Estimates on reductions in cigarette consumption due to smoking bans range from 1.2 to 3 cigarettes per day at the individual level, and 4% to 29% at the population level. Various studies have reported people quitting smoking after the introduction of smoke-free policies. Eight studies and two reviews showed reductions in smoking prevalence, ranging from about two to six percentage points. Workplace smoking bans have also been shown to reduce smoking uptake in young people.⁶⁵ The four UK impact assessments estimated a 1.7% (England) to 2% (Scotland, Wales, Northern Ireland) fall in smoking prevalence as a result in comprehensive smoke-free legislation.

Increased quitting and reduced consumption could bring significant health benefits by contributing to the decrease of morbidity and mortality associated with smoking. The largest benefits could be associated with binding legislation and the smallest with status quo option.

Reduction in socio-economic inequalities

Given that both active and passive smoking are strongly correlated with socio-economic status, an EU smoke-free initiative might be expected to bring particular benefits to the most deprived groups in society.

The equitable potential of smoke-free legislation has been demonstrated in a number of studies which showed that smoking bans reduced ETS exposure as well as tobacco consumption particularly in disadvantaged communities and have not resulted in displacement of ETS into home.⁶⁶

While in New Zealand the higher level of ETS home exposure among Maori disappeared after the introduction of smoke-free legislation⁶⁷, in Ireland the disparities in smoking in the home persisted between socio-economic groups⁶⁸. This seems to suggest that smoke-free legislation should be supported by awareness-raising programmes targeted at disadvantaged groups in order to maximise the effects of smoking bans in venues not covered by the legislation such as private homes.

Impact on attitudes

Attitudes towards smoking bans are diverse and vary between Member States. An EU initiative could be expected to help create the awareness about the dangers of passive

smoking and increase support for smoke-free measures. Evidence from many countries suggests that public support for smoke-free laws increases after they are introduced, for instance in Ireland from 59% to 93%.⁶⁹

A possible unintended consequence for smokers could be a sense of stigma and alienation linked to decreasing social acceptability of smoking.⁷⁰

Reduction of ETS exposure at home

An indirect consequence of an EU smoke-free initiative could be a reduction in the prevalence of smoking at home. Studies from Scotland, Ireland, New Zealand and the US reported reductions in the prevalence of smoking at home after the introduction of smoking bans, ranging from 5 to 20 percentage points.⁷¹

It is anticipated that all of the social impacts described above will occur under each policy option, but policy option 5 (binding legislation) would bring about the strongest change, followed by option 4+ (Council Recommendation with OMC), 4/3+ (Commission Recommendation with OMC/Council Recommendation) and 2/3 (OMC/Commission Recommendation) while the status quo would bring only modest change.

6.2.2 Economic impacts

The health improvement resulting from an EU smoke-free initiative could have an important economic effect. Some gains (such as averted direct and indirect costs of respiratory and cardiovascular diseases) could be expected to materialise relatively quickly while others (e.g. related to the reduction in the incidence of lung cancer) would be longer-term.

The regulatory impact assessments carried out in the UK estimated the net benefits of comprehensive smoke-free legislation at £1,689-2,094 million in England (long-term annual benefits), £136.93 million in Wales (annual total net present value based on 30 years appraisal) and £82.68 million in Northern Ireland (annual benefits based on 30 years appraisal). In Scotland, the total net present value over a 30 year period was calculated at £4,387 million.

Macroeconomic impacts

By reducing the prevalence of ETS exposure, an EU initiative can also be expected to reduce medical and non-medical costs associated with major ETS-associated diseases (lung cancer, stroke, heart disease, and chronic lower respiratory disease) and result in substantial cost savings. As is the case with the previous health benefit estimates, the cost savings estimates under each of the options are linearly related to the assumptions these options' impact on ETS prevalence reductions.

Indirect impact on medical and non-medical costs

Medical costs include primary care, accident and emergency care, hospital inpatient care (including day cases and cardiac rehabilitation systems), outpatient care, and medications. Non-medical costs include informal care, productivity costs due to mortality and productivity costs due to morbidity (such as sickness absences). As shown in detail in Annex VII, policy option 5 (binding legislation) would have the largest expected reduction in both medical and non-medical costs, up to €1.073 billion and 893 million, respectively, among smoking and non-smoking staff in indoor workplaces/offices and bars/restaurants each year, followed by option 4+ (Council Recommendation with OMC with a potential of €344 million and €290 million reduction, respectively, options 3+/4 (Commission Recommendation with OMC/Council Recommendation) and options 2/3 OMC/Commission Recommendation. In contrast, reduction under the status quo would be only modest.

Similarly to the previous health benefit estimates, these figures are probably conservative since they exclude reduction of medical and non-medical costs associated with reduced ETS exposures among non-staff members and in settings other than offices and bars/restaurants.

Regulatory impacts assessments in the UK have also shown the medical and non-medical savings as a result of comprehensive smoke-free legislation to be substantial. The annual monetary health benefits due to reductions in active and passive smoking were estimated at £3211- £3621 million in England⁷² £155.9 million in Wales⁷³, £221.5 million (range: £44.4 million – £399.3 million) in Scotland⁷⁴ and £55.1 million in Northern Ireland⁷⁵

Table 8: Expected health benefits and resource savings from comprehensive smoke-free legislation in UK Impact Assessments

		England *	Northern** Ireland	Scotland *	Wales ***
Health benefits					
Economic value of lives saved	Reduced exposure to ETS	371 (21 – employees + 350 customers)	5.47	91.4 (range: 16.8 – 176.7)	86.9
	Reduced active smoking	1,780 (1,600 employees + 180 customers)	19.35	108.5 (range: 11.7 – 169.7)	46.8
	Reduced uptake of smoking	550	-	-	-
Morbidity savings (Human Cost of ill health)	Reduced exposure to ETS	-	14.42	12.8 (range: 10.8 – 36)	12.6
	Reduced active smoking	-	11.14	-	-
Resource savings					
NHS Treatment costs	Reduced exposure to ETS		4.10	5.3 (range: 4.5 – 11.5)	2.9
	Reduced active smoking	100		2.8 (range 1.2 – 4.2)	2.2
Reduced sickness absence	Reduced exposure to ETS	70-140	0.6	4.1 – 5.2	4
	Reduced active smoking			0.8 (0.34 – 1.2)	0.47
Production gains (from reduced exposure)		340-680	-	-	-

to ETS)				
Total (£million)	3,211 – 3,621	55.08	221.5 (range: 44.4 – 399.3)	155.87

* Annual benefits

** Annual benefits based on 30 years appraisal

*** Annual net present value based on 30 years appraisal

Direct impact on revenue from tobacco taxes

A reduction in the levels of active smoking as a result of an EU initiative could theoretically result in some decrease in revenue from taxes (excise duty and VAT) on tobacco products. It should be noted, however, that - although tobacco taxation generates significant revenues – in the majority of Member States it does not make up a major share of the state budget. Tobacco excise duties represented between 0.7% and 7.3% of the total tax revenues of the Member States in 2005 but exceeded 5% only in four countries (Greece, Romania, Bulgaria, Luxembourg). In addition to a reduction of the societal costs associated with smoking the disposable income of smoking households would increase if smoking bans were introduced, and the revenue from VAT accruing from alternative investments and expenditure by such households would to some extent off-set the revenue lost.

Moreover, tobacco taxation forms part of the overall strategy of prevention and dissuasion of tobacco consumption. In recent years tobacco taxes have significantly increased in the EU, resulting on the one hand in a decrease of tobacco consumption and, on the other hand, in almost all cases in an increase or at least a stabilisation of the revenue from tobacco taxation. This trend will probably continue. In this context a possible reduction in the levels of active smoking as a result of a smoke-free initiative is unlikely to have a noticeable impact on the budget of the Member States.

Table 9: Tobacco excise duties as a % of total tax receipts in 2005

Sweden	0,7%	United Kingdom	2,2%	Portugal	3,7%
Slovenia	0,8%	Italy	2,3%	Slovakia	4,0%
Denmark	0,9%	Latvia	2,3%	CZ Republic	4,0%
Finland	1,2%	Ireland	2,6%	Poland	4,8%
Netherlands	1,5%	Germany	2,8%	Malta	4,9%
Belgium	1,8%	Spain	2,9%	Greece	5,6%
Lithuania	1,8%	Hungary	3,2%	Romania	5,8%
Austria	2,0%	Estonia	3,4%	Bulgaria	6,8%
France	2,1%	Cyprus	3,6%	Luxembourg	7,3%

Micro-economic impacts

The economic impacts at the micro-level include reduced cleaning, maintenance and redecorating costs and reduced costs related to fire damage. The total savings to the cost of fires, cleaning and redecoration resulting from a smoking ban estimated in the four impact assessments for the UK added up to £197 million, or 0.015% of the UK GDP. Applying this fraction to the GDP of Member States that did not have a full smoking ban by 2008, the total annual savings from a smoking ban across the EU-27

(i.e. policy 5) are estimated at €965 million. The other policy options would also help reduce the costs but to a lesser degree.

Potential productivity gains could also be expected from a reduced number of smoking breaks. It is unclear, however, to what extent these savings could be fully realised in practice, as workers might choose to take smoking breaks outside buildings. It is interesting to note, that while the impact assessments carried out in Scotland and Northern Ireland predicted positive impact on workers' productivity as a result of reduced smoking breaks, in England and Wales production losses were expected from smokers who were previously allowed to smoke at work and would continue to smoke outside the building.

Distributional effects

The economic effects of smoking bans have been assessed for two different sectors: the tobacco industry and the hospitality industry. These estimates do not have the same degree of certainty as the results for health effects as the scientific evidence is not as well-established.

Impact on hospitality industry

The evidence reported in the literature on the magnitude and impact of smoking bans on the hospitality sector appears mixed, ranging from reductions (a 4.4% decline in bar and pub sales in Ireland and 10% decline in pub sales in Scotland), to increases (a 6% increase in sales in restaurants/licensed cafes in Norway and 9% increase in New Zealand). These estimates however, need to take into account the context within which these changes occur and the methodology of the studies. For example, the effect of a 4.4% reduction in retail sales in bars and clubs in Ireland was in line with pre-existing trends while the Scottish study was based on self-reported data.

It is noteworthy that a 2008 update of the 2003 international review by Scollo of the quality of the studies on the economic effects of smoke-free policies on the hospitality industry found that 47 of the 49 studies that are best designed report no negative impact on measures such as taxable sales.⁷⁶ A summary of results of the 2008 update is provided in the box below.

Box 1: Summary of studies assessing the economic impact of smoke-free policies in the hospitality industry

- No negative economic impact from the introduction of smoke-free policies in restaurants and bars is indicated by 47 of the 49 studies which meet all four of Siegel's criteria on methodological quality, i.e. where findings are based on an objective measure such as taxable sales receipts, where data points several years before and after the introduction of smoke-free policies were examined, where changes in economic conditions are appropriately controlled for, and where appropriate statistical tests are used to control for underlying trends and fluctuations in data.
- One of the two studies meeting all four of Siegel's criteria (that did find a negative impact (Evans 2005), was not peer-reviewed and was based on assessments from a highly selective sample of proprietors. The other (Lal and Siahpush 2008) assessed the impact of smoke-free policies in gaming venues, a measure intended to reduce problem gambling in Victoria and introduced in parallel with a number of other measures aimed at reducing worrying levels of spending among low-income earners living in neighbourhoods with high numbers of poker machines in accessible venues such as corner pubs.
- Apart from the notable exception of Lal and Siahpush (2008), studies concluding a negative economic impact have predominantly based findings on outcomes predicted before introduction of policies, or on proprietors' subjective impressions or estimates of changes rather than actual, objective, verified or audited data. These studies were funded predominantly by the tobacco industry or organisations allied with the tobacco industry.
- Almost none of the studies finding a negative impact are published in peer-reviewed journals.

Source: Adapted from: Scollo and Lal (2008)

Based on the comprehensive Scollo and Lal (2008) review it is expected that an EU initiative would have no major impact on the hospitality industry. However, it is still informative to extrapolate the range of effects reported in the literature to an EU-wide estimate.

The revenue for bars and restaurants for EU countries with no smoking bans stands at €14 billion, and the number of staff employed in this sector is approximately 3.6 million. According to the literature, the effect of a smoking ban on hospitality revenues ranges from a reduction of 10%⁷⁷ to an increase by 9%⁷⁸. As a result, the estimated change in revenues due to an EU-wide smoking ban (policy 5) varies between -€1 and +€0 billion annually. The estimated changes in employment in restaurants/pubs/bars also vary. Following the range of effect estimates reported in the literature (from an 8.82% reduction⁷⁹ to 9% increase⁸⁰), it is estimated that an EU-wide smoking ban (i.e. policy 5) would result in one-off changes in the range of 265 000 jobs lost to 271 000 jobs gained. The magnitude of impacts would be somehow smaller under options 4+, 3+/4 and 2/3 and significantly smaller under option 1.

Previous regulatory impact assessments which have estimated the economic impacts for the hospitality sector have also reported a range of estimates. Overall, there appears to be a largely neutral effect. In Northern Ireland and Wales, the effect of a full ban on the hospitality sector, based on 30 year appraisal, was estimated at -£46 million and +£160 million, respectively.

Impact on tobacco industry

As smoke-free policies are reported to reduce the sales of cigarettes, there may be a loss of profit to the tobacco industry and, consequently, reductions in tobacco-related employment. However, these impacts are expected to be relatively small.

The revenue from tobacco sales across the EU-27 in 2007 is estimated at €67 089 million. According to the literature, the effect of a smoking ban on tobacco revenue ranges from a reduction of 5.5%⁸¹ to 14%⁸². One could expect to see about half of this effect if an EU-wide smoking ban would be implemented, because various countries already have smoking bans in place. For the entire EU-27, the expected loss in revenue under Policy 5 is within a range from €1 844 million to €4 696 million. It is interesting to note that the regulatory impact assessment for England estimated the annual loss of profit to the tobacco industry and tobacco retailers to be slightly over two times greater at £97 million with a full ban, compared with voluntary action (equivalent to “no change from status quo”) at £43 million.

The number of staff employed in the tobacco industry across the entire EU in 2007 is estimated at 53 500. Assuming the ratio of employment/revenue to be constant in the longer run, an EU-wide smoking ban (Policy option 5) would lead to a loss within a range from 1 472 to 3 746 jobs) in the tobacco industry in the longer run. As is the case with hospitality impacts, this is not an annual loss, but rather an overall shrinkage of the tobacco industry workforce. Considering that the current EU-27 labour force contains 218 million workers, even the upper bound estimate on jobs lost would represent less than 0.002% of the entire EU-27 labour force. The magnitude of impacts would be somehow smaller under options 4+, 3+/4 and 2/3 and significantly smaller under option 1.

Table 10 Estimated lost revenues in tobacco sales and jobs due to EU-wide smoking ban

	2007 estimate	Lost revenues and jobs due to smoking ban	
		Lower bound	Upper bound
EU-27 revenues	€67,089 M	2.75% €1,844 M	7% €4,696 M
EU-27 jobs	53,521	1,472	3,746

Impact on other industries

There is little evidence available on the impact of smoke-free legislation on revenues and employment in other industry sectors.

Given that the sales of pharmacological cessation aids increase with the introduction of smoking bans, it could be expected that the initiative will have a positive impact on the pharmaceutical industry in the short run. On the other hand, this could be offset by decreased sales of prescription drugs as a result of reduced morbidity due to ETS. At the same time, smoke-free policies save many people from dying prematurely, and these people will likely consume many prescription drugs, leading to increased revenues for pharmaceutical industry in the longer run.

In the event that some Member States allow for the possibilities of technological solutions for controlling ETS (such as separately ventilated smoking rooms), there would be benefits to the indoor air treatment industry.

It could be also expected that money not spent on tobacco products would be spent on other goods and services, generating revenue and employment in other sectors of the economy.

Implementation and enforcement costs

There are various implementation and enforcement costs which may arise with an EU initiative. These affect both public authorities (adoption, enforcement, monitoring and evaluation of legislation, smoking cessation support, public awareness measures) and private actors (signage, possible technological investments). However, these costs are likely to be rather small compared to the costs saving achieved through lives saved and morbidity savings.

The annual costs of compliance checks, monitoring and evaluation to public administration have been estimated at 2.7 million pounds (3.3 million euro) in the Northern Irish IA and 30 million pounds (36 million Euro) the English IA. This represents 1/26 and 1/1000 of the expected benefits in the respective countries. The implementation and enforcement costs could be expected to be highest for binding legislation (which would impose binding minimum requirements throughout the EU) and the continuous multi-tier cooperation under the open method of coordination (options 2, 3+ and 4+). The cost of setting up a coordination body under the OMC could be offset by making use of one of the existing structures such as the informal network on tobacco advertising.

Private actors' implementation costs are higher in the presence of partial bans or laws with exemptions than in full bans given the need for increased signage and investment costs when e.g. smoking rooms are allowed. The UK IA estimated implementation costs to be 5 million pounds with a full ban annually, but pointed to international evidence suggesting that as compliance for smoke free legislation builds quickly once implemented, costs decrease significantly in subsequent years.

6.2.3 Environmental impacts

The main environmental impact would be a significant improvement in indoor air quality thus contributing to the objectives set out in the European Environment and Health Strategy. It expected the largest improvements in air quality will arise with a binding legislation. However the other four policy options will also bring about improvements in air quality, but to a lesser degree. For the eight studies that reported on the effects of smoking bans on air quality, all showed large reductions in particulate matter (PM) pollution, ranging from 83% (Irish bars) to 93% (U.S. bars).⁸³

The potential negative impacts could include an increase in the use of patio heaters outside bars and restaurants as well as the increase in litter from cigarette butts in the streets. However, these impacts are likely to be relatively small.

6.3. Comparing the options

Table 11: Expected impacts of different options

	Baseline	Policy 1	Policy 2/ Policy 3	Policy 3+ /Policy 4	Policy 4+	Policy 5
Social impacts__						
Reduction in annual mortality due to ETS exposure among staff	6,007	-386	-774	-774 to -1,550	-1,550	-4,884
Reduction in morbidity due to ETS exposure		+	++	+++	++++	+++++
Reduction in mortality from reduced active smoking		+	++	+++	++++	+++++
Reduction in morbidity from reduced active smoking		+	++	+++	++++	+++++
Reduction of ETS at home		+	++	++	++	+++
Reduction in socio-economic inequalities		+	++	++	++	++++
Increased support for smoke-free policies		+	++	++	++	++++
Economic impacts						
Reduction in annual medical costs due to reduced ETS exposure among staff	€1336 mn	-€85 mn	-€172 mn	-€172 mn to -€344 mn	-€344 mn	-€1073 mn
Reduction in annual non-medical costs due to reduced ETS exposure among staff	€1124 mn	-73 mn	-144 mn	-144 mn to -290 mn	-290 mn	-893 mn
Reduced revenues from tobacco taxes		-	--	---	----	-----
Workers' productivity related to smoking breaks		+/-	++/--	+++/--	++++/----	+++++/-----
Reduced costs of fires, cleaning and redecoration		+	++	+++	++++	+++++ €965 mn
Annual change in revenues in hospitality sector	€114 bn	+/-	++/--	+++/--	++++/----	+++++/----- -€11bn to +€10 bn
Change in employment in hospitality sector	6,887,912	+/-	++/--	+++/--	++++/----	+++++/----- -265,000 to +271,000
Annual lost revenues in tobacco industry	€67 bn	-	--	---	----	----- -€3.3 bn
Lost jobs in tobacco industry	53,521	-	--	---	----	----- -2,609
Implementation and enforcement costs		-	---	--	---	---
Environmental impacts						
Reduction in indoor air pollution		+	++	++	+++	++++
Increased street litter and use of air heaters		-	-	-	--	---
Policy 1 = No change from status quo; Policy 2 = OMC; Policy 3 = Commission recommendation; Policy 3+ = Commission recommendation with OMC; Policy 4 = Council recommendation; Policy 4+ = Council recommendation with OMC; Policy 5 = Binding legislation						

6.4. The preferred option

The analysis has shown that status quo, Open Method of Coordination and Commission Recommendation would bring only modest reductions to ETS prevalence and the related health and economic burden. Commission Recommendation with OMC/Council Recommendation and Commission Recommendation with OMC are likely to have more impact primarily due to the ownership effect. The impact could also be expected to materialise relatively quickly. Binding legislation would bring the maximum possible reduction in ETS exposure and virtually eliminate exposure in indoor workplaces and the related deaths among staff members and visitors. However, the implementation would take longer and the scope would be narrower than would be the case with a Recommendation.

While binding legislation could potentially bring the biggest health and economic benefits, a Council Recommendation complemented by strengthened cooperation between Member States has been identified as the preferred option in the short term since binding legislation would either not be wide enough in scope or raise subsidiarity issues.

Such a Recommendation would enhance the sense of ownership and commitment to smoke-free objectives among Member States and assist them in meeting their international obligations under the FCTC, while providing a proportionate approach to the problem. In order to increase the effectiveness of the measure, it should include reporting and monitoring requirements and the establishment of an implementation body to develop common benchmarks and indicators.

In case Member States do not adopt or enforce clear smoke-free policies within a certain time period, a Recommendation could be complemented in the longer term by binding EU legislation aimed at workplace protection from tobacco smoke.

6.5. Conclusions

The adverse health effects of exposure to second-hand smoke have been well researched and established during the past 20 years. The analysis has shown that the current burden of ETS is substantial. It is estimated that 6 000 adults, including 2 500 non-smokers, died to ETS exposure at their workplace in 2008. This translates into over 1.3 billion euro of medical costs and over 1.1 billion euro of non-medical costs, including productivity losses. Additional preventable deaths and costs occur among customers (non-staff members), in particular of bars and restaurants.

On average, it is estimated that 28% of EU employees are exposed to ETS in indoor workplaces and offices and 39% are exposed in bars, cafes and restaurants, as of end-2008. There are huge disparities in protection both between and within Member States, resulting in avoidable health inequities.

At this moment, an EU initiative on smoke-free environments would undoubtedly bring an added value to Member States' efforts to tackle the problem of passive smoking, thus contributing to reducing the health, social and economic burden of ETS exposure.

According to the report's estimates, a Council Recommendation with strengthened Member States' cooperation would have the potential to prevent at least 1 550 premature deaths among office and hospitality workers and reduce the related costs by over 630 million euros each year. Additional benefits could be expected in non-staff members such as the visitors.

The Commission proposes a gradual approach to address the problem at hand and achieve the policy objectives, i.e. first a Council Recommendations, possibly followed by further measures.

Such a gradual approach should provide the necessary encouragement for Member States' action while respecting the principles of subsidiarity and proportionality.

In addition, current work on second-hand smoke under the different Community programmes will continue. The Commission will also continue its media prevention campaign beyond 2010 provided that adequate resources are made available.

7. MONITORING AND EVALUATION

The indicators used to monitor the effects of the chosen policy option need to cover the following data:

1. Prevalence and quality of national smoke-free policies
2. Exposure to tobacco smoke in different settings, including:
 - workplaces,
 - public places,
 - private homes.
3. Tobacco use, including:
 - prevalence,
 - consumption,
 - quit attempts
4. Knowledge and attitudes related to tobacco (smoke)
5. Incidence of and mortality from tobacco-related diseases

There are a number of sources of information in place or under development that can provide information on tobacco-control indicators.

European Health Interview Survey (EHIS) is currently being implemented in most Member States (data will be available in 2010 at the earliest) and will then be carried out every 5 years (second round in 2013). The questionnaire contains eight tobacco-related questions (see Annex VIII) including smoking status and quantity of

consumption as well as exposure to tobacco smoke at home, at work and in public places and transport.

In addition, it is planned that the European Household Survey (EHS) will be piloted in 2008 and fully implemented from 2010 onwards on an annual basis in all Member States, will contain some questions on health coming from the EHIS questionnaire, including on smoking and exposure to tobacco smoke at work and in public places and transport.

These two surveys will constitute a fully harmonised source of data for all Member States, based on the same questions and concept and using surveys with a strong statistical sampling methodology.

Information on workplace exposure to tobacco smoke can also be obtained from the European Working Conditions Surveys (EWCS) carried out every five years by the European Foundation on Working and Living Conditions (next survey in 2010).

In addition Eurobarometer surveys - while based on smaller samples than EHIS and EHS- will provide useful data on an almost yearly basis on various issues such as attitudes towards smoke-free policies, quit attempts or smoking in the presence of non-smokers.

As for the evaluation, a wider review of all EU policies and legal instruments in the area of tobacco control policy (Communication on tobacco control strategy) is expected in 2010 or 2011. Among other things, the impact of the smoke-free initiative will be assessed and, if necessary, further steps will be proposed.

Objective	Indicator	Data source
Assist Member States in implementing smoke-free laws and monitor progress	Proportion of Member States that have laws requiring smoke-free workplaces and public places, and robust enforcement mechanisms	National legislation and Member States' reporting
Reduce exposure to tobacco smoke	Proportion of workers reporting exposure to ETS in the workplace	EHIS EHS EWCS EB
	Proportion of population reporting exposure to ETS in public places	EHIS EHS EB
	Proportion of population reporting exposure to ETS at home	EHIS EB
Increase knowledge and attitudes towards smoke-free policies	Proportion of the population that thinks second-hand smoke is harmful	EB
	Attitudes about the acceptability of exposing others to second-hand smoke	EB
	Level of support for smoke-free policies in public places and workplaces	EB
Reduce rates of active smoking	Per capita sales of tobacco products	Tax records from the sales of tobacco products - ESTAT
	Number of cigarettes smoked per smokers	EHIS

	Proportion of the population who are smokers	EHIS EHS
	Rate of quit attempts	EB
	Intentions to quit smoking	EB
<i>Reduce tobacco-related mortality and morbidity</i>	Changes in incidence and mortality from tobacco-related diseases	Hospital admissions and mortality data

8. LIST OF ABBREVIATIONS

COPD	Chronic obstructive pulmonary disease
DG SANCO	Directorate General Health and Consumer Protection
ETS	Environmental tobacco smoke
EU	European Union
FCTC	Framework Convention on Tobacco Control
GBP	Great British Pound
GDP	Gross Domestic Product
IA	Impact assessment
IARC	International Agency for Research on Cancer
M	Million
MS	Member State
NICE	National Institute for Health and Clinical Excellence
NRT	Nicotine Replacement Therapy
OMC	Open Method of Coordination
PM	Particulate Matter
QALY	Quality Adjusted Life Year
R&D	Research and development
SHS	Second-hand smoke
UK	United Kingdom
U.S.	United States of America
U.S. EPA	U.S. Environmental Protection Agency
VAT	Value added tax
VOC	Volatile organic compounds
WHO	World Health Organisation

9. GLOSSARY OF TERMS

Secondhand smoke

Second-hand smoke (SHS) is smoke that is breathed in from other people's tobacco smoke. This smoke is also referred to as environmental tobacco smoke (ETS). SHS is made up of 'sidestream' and 'mainstream' smoke. Sidestream smoke comes from the burning tip of the cigarette and is the major component of SHS. Mainstream smoke is the smoke that is exhaled by the smoker. Because it is inhaled by people that are not actively smoking, it is also commonly referred to as involuntary or passive smoking.

Odds ratio

A comparison of the presence of a risk factor for disease in a sample of diseased subjects and non diseased controls. The number of people with disease who were exposed to a risk factor (I_e) over those with disease who were not exposed (I_o) divided by those without disease who were exposed (N_e) over those who were not exposed (N_o). Thus $OR = (I_e/I_o)/(N_e/N_o) = I_e N_o / I_o N_e$.

Relative Risk

The proportion of diseased people amongst those exposed to the relevant risk factor divided by the proportion amongst those not exposed to the risk factor.

Prevalence

The total number of cases of the disease in the population at a given time, or the total number of cases in the population, divided by the number of individuals in the population.

Incidence

The rate at which new cases of infection arise in a population

Mortality

Death in population

Morbidity

Illness in a population

10. LITERATURE

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- ²³ This figure was calculated as follows: economic value of lives saved due to reduced exposure to ETS (£5.47M) + human cost of ill health (morbidity saving) from reduced exposure to ETS (£14.42M) + NHS treatment cost savings (£4.10M) + reduced sickness absences (£0.6M) + productivity gains from reduced smoking breaks (£28.2M) + reduced fire hazards and reduced cleaning and decoration costs (£4.6 M).
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⁵⁶ http://ec.europa.eu/health/ph_determinants/genetics/documents/cancer_screening.pdf

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- ⁷³ This figure was calculated as follows: economic value of lives saved: reduced exposure to ETS (£974.50mill) and reduced active smoking (£524.81mill) + human cost of ill health (morbidity saving): reduced exposure to ETS (£141.30mill) + NHS treatment cost savings reduced exposure to ETS (£32.50mill) and reduced active smoking (£24.67mill) + reduced sickness absences: reduced exposure to ETS (£44.86mill) and reduced active smoking (£5.27mill).
- ⁷⁴ This figure includes value of deaths avoided: reduced exposure to ETS (£91.4 mill) and reduced active smoking (£108.5 mill) + human cost of ill health (morbidity saving): reduced exposure to ETS (£12.8 mill) + saving on NHS costs: reduced exposure to ETS (£5.3 mill) and reduced active smoking (£2.8 mill) + saving on sickness absence: reduced exposure to ETS (£4.1mill) and reduced active smoking (£0.8 mill)
- ⁷⁵ This figure was calculated as follows: economic value of lives saved: reduced exposure to ETS (£5.47mill) and reduced active smoking (£19.35mill) + human cost of ill health (morbidity saving): reduced exposure to ETS (£14.42mill) and reduced active smoking (£11.14mill) + NHS treatment cost savings: reduced exposure to ETS (£4.10mill) + reduced sickness absences (£0.6mill).
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