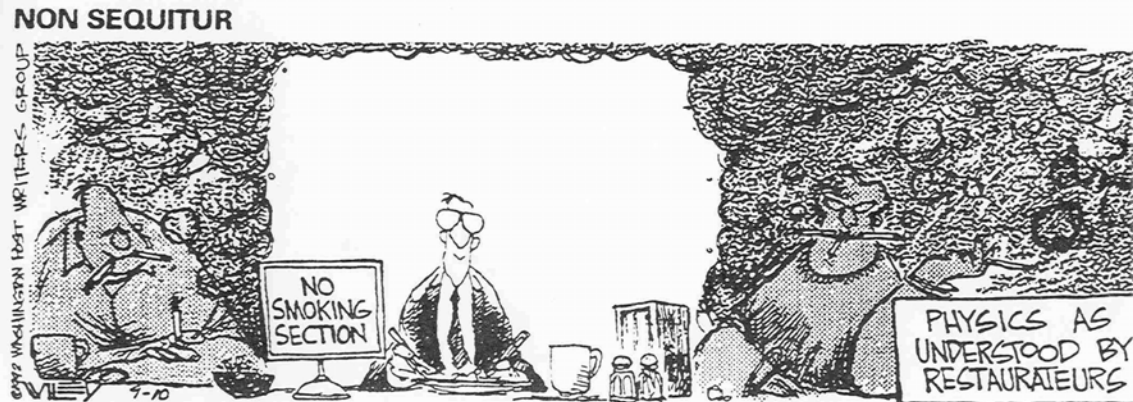




VENTILATION TECHNOLOGY DOES NOT PROTECT PEOPLE FROM SECONDHAND TOBACCO SMOKE



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“At present, the only means of effectively eliminating health risks associated with indoor exposure is to ban smoking activity.”¹

– American Society of Heating, Refrigerating & Air-Conditioning Engineers (ASHRAE), June 2005

As this quote from ASHRAE, the national and international standard setting body for indoor air quality, confirms, there are no means short of prohibiting smoking in indoor environments that protect everyone from the harms from exposure to secondhand smoke. Despite this clear and unequivocal conclusion from the ventilation experts at ASHRAE, the opponents of smokefree workplace laws still try to push ventilation as a viable option. But the truth is that ventilation is a false “solution” that doesn’t work, doesn’t protect anyone, and is a waste of money to businesses who often can ill afford it.

For years, the cigarette companies and opponents of smoke-free laws have tried to push ventilation as a smoker-accommodation alternative to comprehensive smoke-free proposals. More recently, some of the cigarette companies have redoubled these pro-ventilation efforts, claiming that there are “new and emerging technologies” that make it unnecessary to create smoke-free environments.² But scientific research clearly shows that even the newest ventilation technologies under ideal conditions are incapable of adequately removing secondhand smoke and its toxic constituents from the air.³ The scientific evidence is clear: ventilation technology does not serve as an alternative to eliminating exposure to secondhand smoke as the best strategy to protect people’s health.

While ventilation technology might reduce levels of exposure to secondhand smoke somewhat in certain situations, there remains no scientific evidence or consensus to conclude that any such lower levels obtained through ventilation would actually be safe.⁴ And no credible scientific, medical, or engineering authority has claimed that ventilation is capable of protecting people’s health from the toxins in secondhand smoke. In fact, the 2006 U.S. Surgeon General’s Report, “The Health Consequences of Involuntary Exposure to Secondhand Smoke,” concluded that eliminating smoking in indoor places fully protects nonsmokers from exposure to secondhand smoke. But the report noted that “separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot eliminate exposures of nonsmokers to secondhand smoke.” The Surgeon General further concluded that exposures of nonsmokers to secondhand smoke cannot be controlled by air cleaning or mechanical air exchange.⁵

In addition, the World Health Organization recommends 100 percent smoke-free environments to protect workers and the public from secondhand smoke exposure. Their policy recommendations find that “Ventilation and smoking areas, whether separately ventilated from non-smoking areas or not, do not reduce exposure to a safe level of risk and are not recommended.”⁶

What Have The Cigarette Companies Admitted About Ventilation & Health?

Philip Morris U.S.A. When it was aggressively pushing ventilation as a “solution” to the problems of secondhand smoke and urging restaurants and bars to spend tens of thousands of dollars on complex new systems, Philip Morris's pro-ventilation "Options" website (no longer on-line), admitted, in the fine print, that these systems do not protect health, stating: “*Options* . . . does not purport to address health effects attributed to environmental tobacco smoke.”⁷

What Do The Experts Say About Ventilation?

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has concluded that:

- "It is the consensus of the medical community and its cognizant authorities that ETS is a health risk, causing lung cancer and heart disease in adults, and exacerbation of asthma, lower respiratory illnesses, and other adverse effects on the respiratory health of children.
- At present, the only means of effectively eliminating health risk associated with indoor exposure is to ban smoking activity.
- Although complete separation and isolation of smoking rooms can control ETS exposure in non-smoking spaces in the same building, adverse health effects for the occupants of the smoking room cannot be controlled by ventilation.
- No other engineering approaches, including current and advanced dilution ventilation or air cleaning technologies, have been demonstrated or should be relied upon to control health risks from ETS exposure in spaces where smoking occurs. Some engineering measures may reduce that exposure and the corresponding risk to some degree while also addressing to some extent the comfort issues of odor and some forms of irritation.
- Because of ASHRAE's mission to act for the benefit of the public, it encourages elimination of smoking in the indoor environment as the optimal way to minimize ETS exposure.”⁸

Occupational Safety and Health Administration (OSHA). “[F]rom the industrial hygiene perspective, general ventilation as delivered by heating, ventilation and air condition (HVAC) systems, is not an acceptable engineering control measure for controlling occupational exposures to [environmental tobacco smoke] ETS.”⁹

Repace Associates, Inc. (SHS consultants). “[I]t is clear that dilution ventilation, air cleaning, or displacement ventilation technology even under moderate smoking conditions cannot control ETS risk to *de minimis* levels for workers or patrons in hospitality venues without massively impractical increases in ventilation . . . Smoking bans remain the only viable control measure to ensure that workers and patrons of the hospitality industry are protected from exposure to the toxic wastes from tobacco combustion.”¹⁰

What Do The Makers of Ventilation Equipment Say About Ventilation & Health?

Honeywell, Inc. (leading industry manufacturer of ventilation products). “We stand by the efficiency and quality of our air cleaners as comfort and convenience products, but we are not making claims that these are health products.”¹¹

“Q: Will filtering eliminate all health hazards known to occur with exposure to ETS?

A: Honeywell has not in the past and does not make health hazard claims.”¹²

“Q: If filtering does not eliminate all health hazards, to what degrees are those hazards reduced?

A: Honeywell has no data to support health hazard claims.”¹³

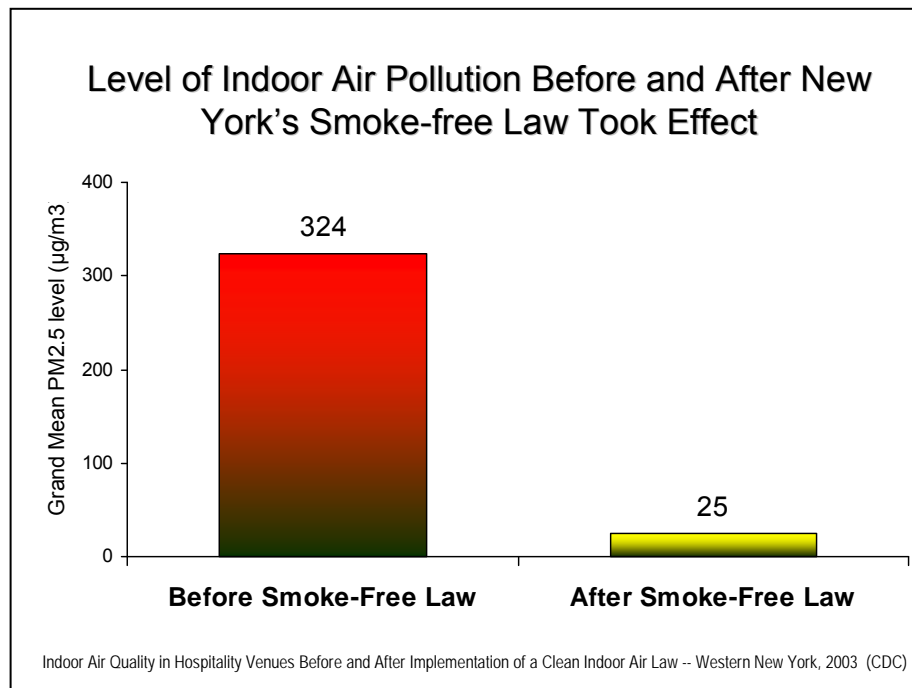
For an extensive listing of similar statements from major ventilation equipment manufacturers, see Americans for Nonsmokers Rights' document, *Ventilation and Air Filtration: What Air Filtration Companies and the Tobacco Industry Are Saying* (see <http://www.no-smoke.org/document.php?id=267>).

Smoke-Free Laws Reduce Indoor Air Pollution

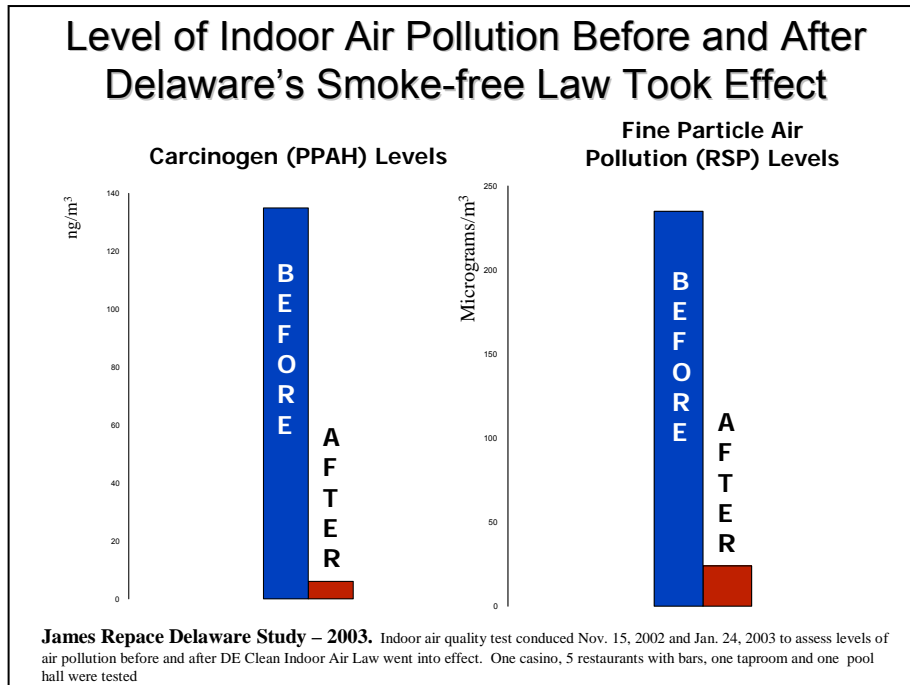
While ventilation systems are not effective in removing secondhand smoke and its toxic constituents from the air, numerous studies have found that laws prohibiting smoking in workplaces and public places can dramatically reduce exposure to secondhand smoke.

A technical article published in the 2006 issue of *IAQ Applications*, a peer-screened journal of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, showed that high-tech ventilation systems that attempt to filter cigarette smoke from the air in restaurants and bars are not as effective as eliminating smoking in those areas. The study's author concluded that, "Smoking bans remain the only viable option that protects the health of non-smokers and hospitality workers."¹⁴

A U.S. Centers for Disease Control and Prevention (CDC) study found that "comprehensive clean indoor air policies can rapidly and effectively reduce SHS [secondhand smoke] exposure in hospitality venues."¹⁵ The study assessed the indoor air quality of 20 hospitality venues in western New York before and after a strong smoke-free law went into effect. On average, the levels of respirable suspended particles (RSPs) in the tested locations fell by 84% after the comprehensive clean indoor air law took effect.



Similarly, a study in the *Journal of Occupational and Environmental Medicine* measured respirable particle (RSP) air pollution and particulate polycyclic aromatic hydrocarbons (PPAH) in eight venues before and after implementation of Delaware's smoke-free law.¹⁶ The study found that secondhand smoke contributed 90% to 95% of the RSP air pollution and 85% to 95% of the carcinogenic PPAH present when smoking was allowed. The study also concluded that "smoke-free workplace laws eliminate [the] hazard [of tobacco smoke] and provide health protection impossible to achieve through ventilation or air cleaning."



Conclusion

States and local governments should not waste taxpayer dollars to fund new reviews of ventilation technology that will simply prove what we already know: Existing ventilation technology cannot protect people from the dangers posed by secondhand tobacco smoke. The simplest and cheapest way to protect people from secondhand smoke is to create smoke-free environments.

Campaign for Tobacco-Free Kids, October 14, 2009

Related Campaign Fact Sheets

- *Health Harms from Secondhand Smoke*, <http://tobaccofreekids.org/research/factsheets/pdf/0103.pdf>
- *Clean Indoor Air Laws Encourage Smokers To Quit And Discourage Youth From Starting*, <http://tobaccofreekids.org/research/factsheets>
- *Smoke-free Restaurant & Bar Laws Do Not Harm Business*, <http://tobaccofreekids.org/research/factsheets/pdf/0144.pdf>
- *What is in Secondhand Smoke?*, <http://www.tobaccofreekids.org/research/factsheets/pdf/0253.pdf>

¹ ASHRAE's Environmental Tobacco Smoke Position Document Committee, "ASHRAE Position Document on Environmental Tobacco Smoke", June 30, 2005, see http://www.no-smoke.org/pdf/ASHRAE_ETS_Position_Paper.pdf.

² See Philip Morris website, "Options, Philip Morris USA" that discusses ventilation technology as a reasonable accommodation of smokers and non-smokers. <http://www.pmoptions.com/home/home.asp>.

³ American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., "ASHRAE 62-1999: Ventilation for Acceptable Indoor Air Quality", see Addendum 62e, www.ashrae.org.

⁴ "ASHRAE 62-1999: Ventilation for Acceptable Indoor Air Quality", Addendum 62e, www.ashrae.org.

⁵ U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.

⁶ World Health Organization, *Protection from Exposure to Second-hand Tobacco Smoke: Policy Recommendations*, WHO Press, 2007. Available from:

http://www.who.int/tobacco/resources/publications/wntd/2007/who_protection_exposure_final_25June2007.pdf.

⁷ See Philip Morris website, "Options, Philip Morris USA" that discusses ventilation technology as a reasonable accommodation of smokers and non-smokers. <http://www.pmoptions.com/und/und.asp>.

⁸ ASHRAE's Environmental Tobacco Smoke Position Document Committee, "ASHRAE Position Document on Environmental Tobacco Smoke", June 30, 2005, see http://www.no-smoke.org/pdf/ASHRAE_ETS_Position_Paper.pdf.

Ventilation Technology Does Not Protect People From Secondhand Smoke / 5

⁹ Department of Labor, Occupational Safety and Health Administration, Federal Register notice of proposed rulemaking, "Indoor Air Quality", FR 59:15968-16039, April 5, 1994 (www.osha-slc.gov/FedReg_osh_data/FED19940405.html).

¹⁰ Repace, James, Report for the California Department of Health Services, "Can Ventilation Control Secondhand Smoke in the Hospitality Industry? An Analysis of the Document "Proceedings of the Workshop on Ventilation Engineering Controls for Environmental Tobacco Smoke in the Hospitality Industry", sponsored by the Federal Occupational Safety and Health Administration and the American Conference of Governmental Industrial Hygienists," Repace Associates, Inc., June 2000 (www.repace.com).

¹¹ Communication from Janell Siegfried, Honeywell, Inc. to Dr. Clark dated June 12, 2000 in relation to debate over ventilation provision in the Duluth, MN City Council.

¹² Communication from Janell Siegfried, Honeywell, Inc. to Dr. Clark dated June 12, 2000 in relation to debate over ventilation provision in the Duluth, MN City Council.

¹³ Communication from Janell Siegfried, Honeywell, Inc. to Dr. Clark dated June 12, 2000 in relation to debate over ventilation provision in the Duluth, MN City Council.

¹⁴ Repace, James and Johnson, Kenneth, "Can Displacement Ventilation Control Secondhand ETS?," *IAQ Applications*, Vol.7, No.4, Fall 2006.

¹⁵ U.S. Centers for Disease Control & Prevention (CDC), "Indoor Air Quality in Hospitality Venues Before and After Implementation of a Clean Indoor Air Law -- Western New York, 2003," *Morbidity and Mortality Weekly Report (MMWR)* 53(44): 1038-1041, November 12, 2004, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5344a3.htm>

¹⁶ Repace, J., "Respirable particles and carcinogens in the air of Delaware hospitality venues before and after a smoking ban," *Journal of Occupational and Environmental Medicine*, 46(9): 887-905, September 2004, <http://www.ioem.org/pt/re/joem/abstract.00043764-200409000-00001.htm>