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SCIENCE AND SOLUTIONS FOR THE ENVIRONMENT AND SUSTAINABLE COMMUNITIES

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Testimony

Of

CLEAN WATER ACTION

For the

Subcommittee on Tax, Finance, and Exports
Of the Small Business Committee
U.S. House of Representatives

Hearing on

H.R. 1303 THE DRY CLEANING ENVIRONMENTAL TAX CREDIT ACT

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Presented by

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INTRODUCTION. My name is Henry S. Cole. I am the president of Henry S. Cole & Associates, an environmental consulting firm that promotes environmentally safe communities and sustainable technologies including Liquid CO2 cleaning technology.

I am the former Science Director for Clean Water Action and appear today representing Clean Water Action and its 700,000 members across the U.S.

Clean Water Action urges Congress to enact H.R.1303. We believe that the bill's financial incentive will allow many dry cleaners around the nation to switch from highly toxic perchloroethylene to safe and sustainable alternatives including wetcleaning and liquid CO2.

For the last two decades Clean Water Action and the environmental movement as a whole has organized extensive efforts aimed at:

- Reducing the public's exposure to toxic chemicals
- Protecting the aquatic environment
- Protecting the public's drinking water resources including groundwater
- Promoting pollution prevention and toxic use reduction
- Promoting environmentally sound technologies and businesses

Phasing-out the use of chlorinated solvents including perchloroethylene use has been a critical objective of a wide variety environmental, consumer and health advocacy organizations.

H.R. 1303 will help to meet all of these objectives by accelerating the shift from toxic perchloroethylene to sustainable wetcleaning and liquid CO2. Empowering dry cleaners to make this shift to 21st Century technologies will provide substantial environmental, health and economic benefits for the nation.

THE HAZARDS OF PERCLOROETHYLENE. Perchloroethylene is one of the most dangerous chemicals to which workers and members of the public are routinely exposed. Consider the following points.

Perchloroethylene is highly toxic. First, perchloroethylene is a highly toxic chemical. The more that we know, the worse this chemical looks.

- **Cancer and Birth Defects.** The International Agency for Research on Cancer in 1995 upgraded perchloroethylene from a "possible" to a "probable" human carcinogen. According to EPA, several studies suggest that workers exposed to perchloroethylene in the drycleaning industry for many years may result in increased rates of esophageal cancer. EPA also reports evidence suggesting that perchloroethylene may cause altered growth and birth defects. Due to the risk of cancer, the drinking water standard (MCL) for perchloroethylene is a very low 5 ug/L. Moreover, perchloroethylene inhaled by nursing mothers can be passed through the milk to infants.

- **Neurotoxic effects**. People who breathe air-containing perchloroethylene for short periods may experience short-term effects on the nervous system. At moderate levels of exposure, the effects can include dizziness, drowsiness, headaches, faintness, and reduced coordination. Higher exposures, such as those associated with accidental spills, can cause collapse, seizures, coma and death.[1] (See Box 1 for example)

[1] U.S. EPA, Design for the Environment, Cleaner Technologies Substitutes Assessment for Professional Fabricare Processes, EPA 744-B-98-001, June 1998, p. 3-7.

- **Kidney and Liver.** EPA also reports that people who breathe air that contains perchloroethylene may experience liver and kidney dysfunction.[2]

Perchloroethylene is highly volatile. Although perchloroethylene is liquid solvent, it readily evaporates into the air. This happens as perchloroethylene is loaded, poured, mixed, heated in machines and drained in drycleaning facilities. Perchloroethylene also off-gases from drycleaned garments. This high volatility makes perchloroethylene very difficult to contain and increases exposure. This volatility coupled with the chemical's toxicity spells trouble for the nation's several hundred thousand dry cleaning workers and for those who live in close proximity to dry cleaners.

To protect public health NY State Department of Health (DOH) has established a residential air guideline for perchloroethylene of **0.1 mg/m^3**. In addition NYS DOH recommends immediate actions to reduce perchloroethylene levels when the concentration exceeds **1 mg/m^3**. A number of studies reported in EPA's 1998 assessment of fabric cleaning technologies have shown that perchloroethylene levels in dry cleaning establishments are routinely measured in **hundreds or even thousands of mg/m^3**.
Moreover:

- Concentrations in the **tens to hundreds of mg/m^3 have been measured in dry cleaning facilities using advanced dry-to-dry equipment** (e.g. using refrigerated condensers).[3] The same findings are supported by data collected the International Fabricare Institute.[4]

- **Levels tens to hundreds of times the NYS DOH health levels in apartments located in the same buildings have been measured in numerous studies in many cities.[5]**

- Even measured concentrations in residences above non-vented dry-to-dry machines exceeded the NYS DOH 0.1 mg/m^3 health guideline with levels in residences above vented dry-to-dry machines were generally higher than the immediate action level of 1 mg/m^3.[6]

- Perchloroethylene is also retained on drycleaned clothes and brought into homes. A person wearing a freshly drycleaned sweater or jacket will inhale perchloroethylene off-gassed from the garment.[7]

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[2] U.S. EPA, 1998, p. 3-7.

[3] U.S. EPA, 1998, (Chapter 4) and Earnest, G.S., 1996. "Evaluation and Control of Perchloroethylene Exposure During Dry Cleaning." U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Appl. Occup. Environ. Hyg. 11(2) 125-131. As reported in Phillips, D., May 1998, Reducing Occupational Cancer Risk From Tetrachloroethylene in New Jersey Dry Cleaners, Masters Dissertation, Environmental and Occupational Health Sciences Institute, University of Medicine and Dentistry – New Jersey.

[4] U.S. EPA, 1998, See Exhibit 4-6.

[5] U.S. EPA, 1998, Chapter 4 contains a survey of studies from U.S. and European cities that demonstrate this finding.

[6] U.S. EPA, 1998, See Exhibit 4-8.

[7] Consumers Report, 1994.

[8] Brownfield Report, February 1998.

Perchloroethylene threatens drinking water. The evidence indicates that a large percentage of dry cleaners have released perchloroethylene to soil the ground below or near the facility.[8] These releases readily infiltrate to the groundwater where they cause a serious problem. Perchloroethylene is an especially nasty chemical because it frequently forms pools or blobs of product known as Dense Non-Aqueous Phase Liquids or DNAPLs. The DNAPLs tend to sink deep into groundwater (for example into bedrock aquifers) and can serve as a source of aquifer contamination for many decades. Because perchloroethylene's drinking water standard (MCL) is so low (5 ug/L), a small release can contaminate a large volume of groundwater.

As a result, perchloroethylene contamination from dry cleaners represents a very difficult and expensive cleanup proposition and can take many years or decades.

My firm has done extensive consulting for a real estate company that owns and operates about 10 shopping centers in New England. Dry cleaners have caused significant releases of perchloroethylene in 6 of these shopping centers. All of these releases required extensive multi-year field investigations to define the extent of contamination. Unfortunately, the largest releases occurred in two shopping centers located in groundwater aquifers that feed large municipal well fields. In each case, the cleanup cost will far exceed the $1 million level. Even with these enormous efforts, there is no guarantee that municipal well fields will be protected from the perchloroethylene.

Such cases are all too frequent. Ninety percent of dry cleaners are very small businesses that cannot cover such costs. The result is that cost of cleanup is often borne by landlords or by the public.

From the perspective of landlords, dry cleaners are wonderful assets that help bring people to a shopping center. However, landlords are beginning to grapple with the enormous potential liabilities of perchloroethylene -based cleaning. My New England real estate client now prohibits dry cleaning tenants from using perchloroethylene at its shopping centers. It also prohibits the use of hydrocarbon solvent cleaning due to its flammability. This company is working to encourage tenants to use wetcleaning and liquid CO2. The financial incentive such as the tax credit contained in H.R. 1303 clearly would help dry cleaners make the switch.

SAFE AND SUSTAINABLE ALTERNATIVES. Both Liquid CO2 and Wetcleaning are environmentally sound commercially available alternatives to perchloroethylene -based dry cleaning. The cleaner of the future is likely to use both of these technologies – which collectively can clean nearly every type of fabric and stain imaginable. The goal of H.R. 1303 is to help cleaners make the transition in the near term future.

The goal is not to perpetuate technologies that rely on hazardous chemicals.

An additional alternative to perchloroethylene based on hydrocarbon solvents is also available. However, these solvents are flammable, based on non-renewable resources, and cannot considered to be non-hazardous or sustainable and should, therefore, not be eligible for a tax credit under H.R. 1303.

Some of those who support continued use of perchloroethylene have proposed that dry cleaners installing advanced machines or vapor barriers should be eligible for tax credits as well. We strongly oppose this proposal for the following reasons:

- Improved technologies, e.g. dry-to-dry machines with refrigerated condensers have not been able demonstrate effective control of perchloroethylene vapors to health protective levels.

- Even the best closed-loop (fifth generation) perchloroethylene machine will not prevent accidental spills and environmental releases.

- Perchloroethylene is a chlorinated solvent that requires chlorination. Chlorine use introduces additional environmental and health hazards. For example, chlorine is an acutely hazardous gas that causes more serious chemical accidents (e.g. those involving deaths and injuries) than any other chemical.[9]

- Regulating perchloroethylene for 35,000 small businesses through a complicated patchwork of state, federal and local regulations is expensive and burdensome without being effective.[10] The burden is borne by governments, the tax-paying public and by the families who operate cleaning businesses.[11, 12]

The truly preventive approach is not containment but is to phase-out perchloroethylene -based dry cleaning and to replace it with wetcleaning and Liquid CO2 – technologies that are non-toxic, non-flammable, and sustainable. This transition will remove multiple waste streams, multiple pathways of exposure, and the virtually eliminate the need for environmental regulation!

Economic Benefits. Passage of H.R. 1303 is critical in order to help America's garment cleaning industry become safe and sustainable. This bill clearly addresses the financial limitations that cleaners face. Many dry cleaners recognize the liabilities inherent in the use of perchloroethylene and would like to shift to non-hazardous technologies. However, dry cleaners are very small businesses that on the average employ less than 10 people and gross less than $250,000 in sales. H.R. 1303's 20 percent tax credit for Liquid CO2 and wetcleaning equipment will help these small businesses make the transition without the burdensome regulations that will be required to upgrade and control continued use of perchloroethylene.

We believe that the tax credit will increase demand for wetcleaning and Liquid CO2 equipment. This stimulus will in turn boost production and lower costs. In short, this bill will help to:

- Eliminate huge cleanup costs and liabilities
- Reduce damage to health and associated costs
- Eliminate perchloroethylene's costly regulatory burden to business and government
- Empower small businesses
- Encourage sustainable business development

We congratulate the bill's authors and co-sponsors for introducing this important legislation and urge Congress to make it law.

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[9] U.S. EPA, Acute Hazardous Events Data Base, Final Report, 1989.

[10] Perchloroethylene use in drycleaning involves multiple waste streams, media, and pathways of exposure. There are occupational exposures, air emissions, hazardous wastes, discharges to sewage plants, accidental spills, and cleanups. Thus, OSHA, the Clean Air Act, RCRA, the Clean Water Act, and Superfund have a piece of the action.

[11] Dry cleaners in different states and cities are subject to drastically differing regulations and enforcement programs.

[12] State and local governments are often the first line of enforcement, however regulations and level of enforcement vary widely from state to state and city to city. For example, New York City's more than 1600 dry cleaning facilities (more than half in residential buildings) are virtually exempt from New York States requirements. In New York City. The City's Bureau of Environmental Inspections told my office that authorities may act to abate a problem, but only on the basis of public complaints.

Box 1. Accidental Releases at Dry Cleaners - Example

Four injured from perchloroethylene spill. Four people including the owner, a customer and two rescue workers were injured as a result of a perchloroethylene release that occurred in a Titusville, Florida dry cleaning establishment in March 2000. According to police, the owner "had been heating perchloroethylene to mix into a dry cleaning solution when a container valve blew."

A police commander, first to arrive at the scene discovered the owner was immobilized on the floor of the shop's bathroom where he had gone to wash the chemical out his eyes. The commander decided not to wait for firefighters but pulled the owner out of store. He was able to take this action because he happened to have a high quality gas mask in the trunk of his car. The police commander was treated for minor chemical burns.

A second firefighter was treated for dizziness, a common symptom of exposure to perchloroethylene. This occurred despite his wearing of a self-contained breathing apparatus, indicating that some of the chemical may have been absorbed through the skin.

Firefighters cordoned off the store, which is located in a strip mall and contained the spill. A private emergency response company cleaned up the spill some three hours later.

The victims were treated at a local hospital for exposure to perchloroethylene.

Source: Marilyn Meyer, in Florida Today, March 15, 2000. Page 1-B.