

Perc Alternatives in Dry Cleaning

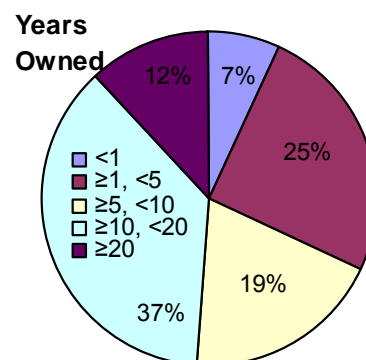
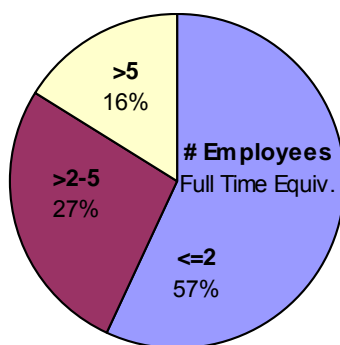
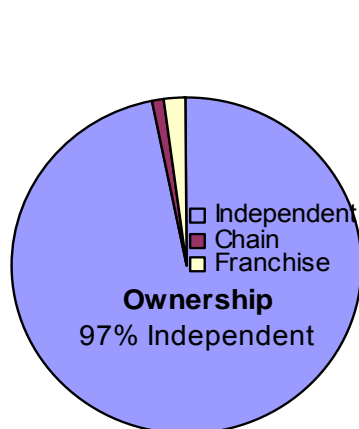
WHAT?

Industry Profile

The majority of commercial dry cleaning facilities are family-owned businesses (often first-generation immigrants) located in or near densely populated areas. Industrial dry cleaners operate larger facilities usually as part of a business renting uniforms, or other garments.

Dry cleaning is a highly competitive low-margin service industry. There are two types of customers: (a) most shop based on price, and will forgo dry cleaning during economic hardship, (b) 10% of customers are most concerned with consistent quality, do not shop by price, and are regular consumers.

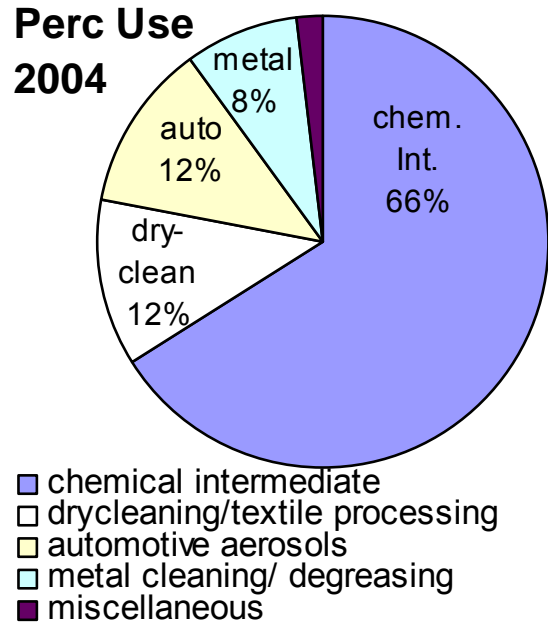
Industry Size (US NIAC Census)	USA		Massachusetts		California	
	1994	2004	1994	2004	1994	2004
# of Establishments	41,804	39,242	1,135	1,164	4,945	4,420
Industry Employment	384,376	354,073	9,954	9,032	38,885	39,117
% Total Employment	0.34%	0.27%	0.35%	0.29%	0.31%	0.26%
% of Total Wages	0.19%	0.15%	0.18%	0.13%	0.16%	0.14%



WHY?

Needs and Driver

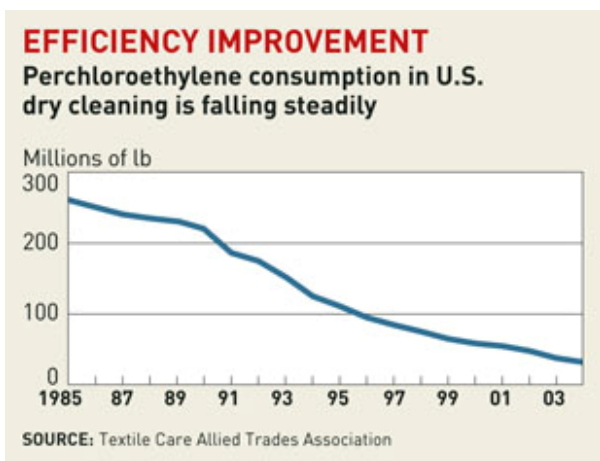
Exposure to Perchloroethylene (Perc) may result in both cancer and non-cancerous effects. In 1991 Perc was identified as a toxic air contaminant and in 1993 a national emission standard was adopted for its use in dry cleaning under 1990 revisions of the Clean Air Act. The EPA also set a maximum contaminant level for Perc under the Safe Drinking Water Act, occupational exposure is limited by OSHA, and Perc waste is considered hazardous under RCRA and many state laws. California (CA) was the most active in regulating Perc at a state level, adopting a law in 1993 setting requirements for operations, maintenance, record-keeping & reporting by dry cleaning facilities. A southern CA law requires new equipment to be non-Perc.



HOW?

Technology History

Perc was introduced as a drycleaning solvent in the late 1930s. It first replaced other synthetic solvents, and then gradually replaced petroleum derived solvents until it became the dominant solvent in the early 1960s. Perc was effective, reusable, noncorrosive, inexpensive, nonflammable and less toxic than existing alternatives.



After regulation in 1993, a number of alternatives began to be developed (petroleum or hydrocarbon, carbon dioxide, silicone based, and “wet” cleaning). However, adoption of these alternatives is slow. Perc is still used by over 70 % of drycleaners nationally.ⁱ With better practices and equipment, the amount of Perc the industry consumes has declined dramatically.

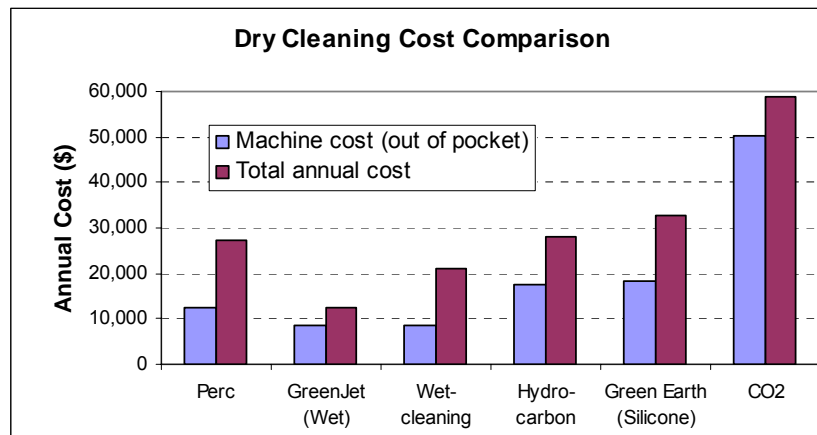
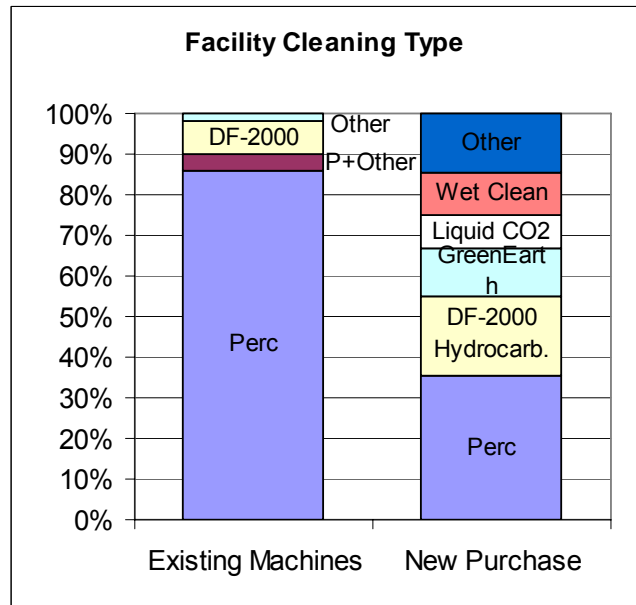
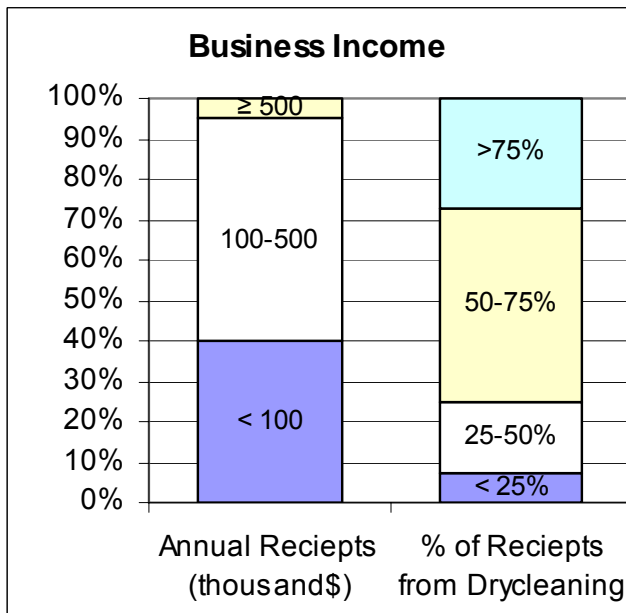
Trends Going Forward

- **Shift from small to large businesses** *"The whole impact of this thing is you are going to see big dry cleaners get bigger. You're going to see mom-and-pop operations fall by the wayside because it's too expensive"* ⁱⁱ
- **Shift to innovative businesses.** Job losses and gains are neutral overall with significant transitional hardship (old companies go out of business and new companies start up.)
- **Slow, but increasing change-over to lower-emission perc machines and alternatives.** Innovation is not inherent to the industry. Change over is sped up with clear demonstrations of successful alternatives, educational support, or financial incentives. *"At the risk of beating up my industry, we tend not to be that sophisticated...Rather than try something new, we tend to go along with what we know."* ⁱⁱⁱ
- **Niche markets for green-cleaning,** develop with consumer-education efforts

Strategies

- **Tried but True:** Valleybrook Cleaners had used Perc for 35 years, and it was time to buy a new machine. *"I hemmed and hawed, but in the end, I stuck with Perc,"* ^{iv} **Giarde of California Cleaners Association:** *"When your machine is on its last legs, you have to look at all the factors. How many are off the table because I can't afford to buy the machine?"* ^v
- **Target Niche Market:** Shaghafi left the industry after a Perc burn accident 15 years ago. He came back to start "Blue Sky Cleaners", using wet cleaning and CO₂, and taking advantage of state grants (There are 47 CO₂ cleaners in the world, with 31 in the United States). ^{vi} **Shaw:** Hangers Cleaners is the 8th fastest growing private company in San Diego County. Customers expect to pay 15-25% premium for the classy look, location, and CO₂ cleaning.
- **Mix & Match:** Patel uses perc and wet cleaning at one store, hydrocarbon and wet cleaning at another store. He uses wet-cleaning for 80% of clothes. Patel says using a combination of the alternatives is the future of the industry and *"Spending money on wet cleaning is the best investment I ever made."* ^{vii}
- **Early Adopter:** The Villafane family owns 3 drycleaners in CA that switched to wet cleaning. They say business has tripled, Perc fees and chemical reactions are gone. *"We took a risk. I wasn't sure if it would really work,"* ^{viii} **Tom Roof Cleaners** switched to GreenEarth (silicone). *"I just believe in having the best technologies you can get, and customers appreciated the odorless clothes."* ^{ix}
- **Technical Assistance:** A consortium of publicly owned CA utilities hired a wet cleaning specialist to educate dry cleaners throughout the state.
- **Rebates:** CA municipalities have offered rebates and grants for firms to switch to non-Perc machines.

INDUSTRY INFORMATION *(From 2003 CA Survey for CA dry cleaning industry)*



ⁱ Wade Elam, president and CEO of White Way Cleaners in Nashville, Tennessee. HSIA Perchloroethylene White Paper (2005)

ⁱⁱ Quoted in Bill Hobbs, "Dry Cleaning Industry Braces for Clean Air Act," Nashville Business Journal, November 4, 1991.

ⁱⁱⁱ Maxwell, quoted in McCoy, M. (2005) "Dry Cleaning Dreams" Chemical and Engineering News Vol. 83, No. 46, pp 19-22, Nov. 14

^{iv} Maxwell, quoted in McCoy, M. (2005) "Dry Cleaning Dreams" Chemical and Engineering News Vol. 83, No. 46, pp 19-22, Nov. 14

^v Broderick, P. (2005) "Dry-Cleaning Discord" San Diego Business Journal, Vol. 26, Issue 6, February 7

^{vi} Brevetti, F. (2006) Non-toxic dry cleaning technology gives business owner second chance" The Oakland Tribune, January 5

^{vii} Jang, M. (2006) "Cleaners make a splash" The Orange County Register Knight Ridder/Tribune Business News January 20.

^{viii} Ibid.

^{ix} Wichner, D. (2005) "Aerospace exec explores new dry-cleaning frontier" Arizona Daily Star December 2005