

**A**s a small country, Denmark has good reason to be receptive to new, innovative solutions for the old problem of waste management. Indeed, Denmark's extensive and longstanding environmental programs have given its local industries an edge in environmental expertise and technology, and have contributed to Denmark's reputation as one of the world's most environmentally friendly countries.

*Small country, big plans*

## Environmental sector in Denmark

### Overview

Since the early 1980s, Denmark's Social Democratic governments have used legislation and taxation to enforce a strong environmental agenda. But, with the election last November of a new Liberal-Conservative coalition, some of Denmark's environmental policies may change.

The new government is expected to reduce the "green tax" on industry and agriculture and will transfer control of energy-related issues from the Ministry of Environment and Energy to the Ministry of Industry and Finance. The government will now receive input for its environmental policies from the newly formed Institute for Environmental Assessment. The government has also repealed the ban on disposable packaging that has, up to now, kept canned soft drinks and beer off the Danish market.

### Opportunities

Ongoing environmental investments in Denmark are contributing to a substantive market worth some \$5 billion (1999). Since Denmark regards itself as a world leader in environmental solutions, Canadian vendors must offer innovative, cost-effective solutions that are compatible with Danish environmental models.

**Solid waste management** — The Danish Waste Management model was devised to deal with the 13 million tonnes of waste produced each year

in Denmark. Top priority is assigned to recycling waste followed by waste incineration. Land-filling is viewed as a last resort. A Canadian company is currently engaged in carcass disposal — a new problem since the global BSE scare — using incineration and gasification. Denmark is also working on other action plans, for example, in the building and construction sector.

## EUROPE

**Recycling solutions** — The June 1 introduction of canned beer and soft drinks will create a demand for collection and recycling systems.

**Clean technology** — Processes, manufacturing systems and raw materials that produce less waste, fewer residues and consume less energy are in high demand. A Danish firm and two of Denmark's largest research institutes are exploring ways to replace methyl tertiary butyl ether (MTBE) in gasoline with bioethanol produced from straw.

**Monitoring systems** — The demand will continue for air- and land-based early-warning systems for environmental hazards such as oil spills and radiation leaks. Canadian-made aircraft are already engaged in environmental monitoring functions in Denmark.

### Competition

Most environmental products are imported from France, Germany and Italy. The Danish environmental manufacturing industry is represented by Danish Haldor Topsoe (catalysts), Desmi (oil skimmers), Roulunds Fabrikker (oil booms) and Krüger (waste water) and Volund (incineration), two Danish firms that were acquired by French and Italian companies. Denmark's real strength in the environmental industry lies in its world-class consulting and engineering services companies such as COWI, Carl Bro and Ramboll.

Denmark also channels funding into Eastern Europe where it has a strong environmental presence.

### Useful Web sites

- The Danish Environmental Protection Agency posts environmental reports, including the Danish Waste Plan, that provide clues to market potential: [www.mst.dk/homepage/](http://www.mst.dk/homepage/)
  - Green City showcases the Danish environmental industry: [www.greencity.dk](http://www.greencity.dk)
  - The Danish Industrial Symbiosis Project examines sustainable waste re-use in a local community: [www.symbiosis.dk/](http://www.symbiosis.dk/)
  - The Danish Ministry of Environment and Energy posts English versions of Danish environmental policies: [www.mem.dk/ukindex.htm](http://www.mem.dk/ukindex.htm)
- For more information, contact David Gillett, Commercial Counsellor, Canadian Embassy, Copenhagen, tel.: (011-45) 33 48 32 50, fax: (011-45) 33 48 32 21, e-mail: [david.gillett@dfait-maeci.gc.ca](mailto:david.gillett@dfait-maeci.gc.ca) Web site: [www.canada.dk](http://www.canada.dk) \*



**T**he environmental protection policies adopted and implemented in the Czech Republic since 1995 have brought tangible results. These policies, combined with effective regulatory instruments, incentives and considerable investment, have reduced emission levels and improved the quality of the country's air and water.

### Market overview

The Czech Republic applies a system of Environmental Impact Assessment (EIA) to a broad range of projects. Emissions and discharges from polluting installations must now satisfy national standards, and a strong environmental inspection mechanism enforces compliance with national laws. The quality of public information has also improved: economic and environmental data are now easily accessible, environmental reports are published regularly, and international environmental norms and standards are increasingly being used.

Although the passage of the 1998 Waste Management Act, which was based on EU principles, led to considerable improvements in air and water quality, more effort is needed. Carbon dioxide emissions and noise levels remain high, many larger cities still have "slightly polluted air" (according to the International Air Quality Index), and almost 5,000 municipalities still lack proper plans for sewage and wastewater treatment. Approximately one third of all water ways, especially smaller streams, remain "highly" or "very highly" polluted, and 25% of homes are still not connected to sewers. Land-filling remains the most common means of waste disposal.

Large environmental investments (3% of GDP) by the private sector in noise abatement, water-pollution reduction and contaminated soil remediation should continue given the on-going requirement for the Czech Republic to conform to EU environmental legislation.

**Air** — Converting industrial operations from the use of brown coal and heavy fuel oil to natural gas, combined with massive investments into retrofitting large coal/lignite-fired power

plants with de-sulfurization equipment, caused emission levels of sulphur dioxide and nitrous oxide (NOx) to fall 68% and 50%, respectively, between 1987 and 1997.

As well, levies on industrial emissions have helped finance the

*Legislation produces results*

## Environmental sector in the Czech Republic

reduction in emissions from smaller sources, helping the Czech Republic achieve its overall commitment to reduce emissions from conventional pollutants. A comprehensive monitoring system has been established for the most polluted parts of the country

**Water** — Between 1990 and 1997, discharges of effluent, particularly from larger municipal and industrial sources, has been reduced markedly, 54% for suspended solids, 77% for oil substances and 87% for acidity. Despite recent improvements, many measuring stations still use inadequate groundwater quality standards and so levels of microbial and nutrient contamination remain high in reservoirs, small rivers and creeks.

**Waste** — Mining, manufacturing, industry and utility operations produce large quantities of waste and

land-filling remains the most commonly used method of disposal. Although standards have improved, many land-fill sites are still contaminated by previous industrial and military activities and continue to be used for hazardous waste.

Landfill fees are too low to encourage more environmentally sound waste-management techniques such as incineration or recycling of secondary raw materials.

### Opportunities

The following areas offer opportunities: energy efficiency, disposal of hazardous waste, waste management, alternative energy sources, reduction of carbon dioxide emissions and renewal of ecological systems. German, Austrian, Scandinavian and French environmental companies are major competitors. For more information, visit the Ministry of Environment's Web site: [www.env.cz](http://www.env.cz)

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### Greece's environment — Continued from page 1

disposal, which is based on EU regulations, is often poorly enforced so most of this waste material ends up, untreated, in government-owned and operated landfills. The government offers few incentives to recycle.

Rapid urban development has resulted in residential construction outpacing infrastructure, which has created waste disposal problems in

populated areas as well as marine and atmospheric pollution.

The densely populated Attica basin suffers the most, but other areas are also showing signs of stress. In Athens, where almost half of the population lives (over 40%), the problems of waste management and atmospheric pollution are particularly acute. Prime

Continued on page 12 — Greece's