

# Unilever Corporate Sustainability

CASE STUDY



## ABOUT UNILEVER

With 400 brands spanning 14 categories of home, personal care and foods products, no other company touches so many people's lives in so many different ways.

Unilever's brand portfolio has made them leaders in every field in which they work. It ranges from much-loved world favourites including Lipton, Knorr, Dove, BeceL and Hellmann's to trusted local brands such as Imperial and Suave.

From comforting soups to warm a winter's day, to sensuous soaps that make you feel fabulous, Unilever's products help people get more out of life.

Unilever is constantly enhancing our brands to deliver more intense, rewarding product experiences. They invest nearly €1 billion every year in cutting edge research and development, and have five laboratories around the world that explore new thinking and techniques to help develop our products.

## LOCATION

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**UNILEVER – REXDALE’S AWARD WINNING ECO-EFFICIENCY STRATEGIES**

Greening the bottom line is “right on target” at Unilever. In a world where a Unilever brand is purchased 160 million times per day; Unilever’s sustainability initiatives have found the sweet spot between business interests and society’s intergenerational wellbeing. Today through platinum brands such as Dove, Knorr and Ben & Jerry’s the company generates over \$48 billion USD in sales. Zeroing in on food, and home and personal care products; the company operates in more than 150 countries, in 284 manufacturing facilities with 174,000 employees.



Paolo de-Casto, Unilever Vice-President of Finance and Supply Chain receives the 2006 Geren Toronto Award for Energy Conservation from City of Toronto Deputy Mayor Joe Pantalone.

A founding member of the GTAA Partners in Project Green Eco-Business Zone Steering Committee, Unilever exemplifies the principles that economic and ecological goals can unite. Unilever’s Rexdale margarine plant is a home grown model in the eco-business zone. The plant is a 12 542 – square-metre (135 000-square-foot) facility that employs 170 people. Built in the 1960’s, it currently produces margarine and is currently undergoing construction to add three mayonnaise lines. The combined operation will produce 100,000 tonnes per year. In the last 9 years, management and employees drove more than \$5 million in costs from the bottom line through 128 energy efficiency projects. Along the way, they made huge environmental improvements and won scores of environmental awards. This is the story of their journey.

**Corporate Sustainability Goals at Unilever**

Global corporate leadership sets the tone for Unilever’s approach to sustainability. The company is actively involved in a number of initiatives that promote sustainable practices around the world. These initiatives include the Corporate Leaders Group on Climate Change, CEO Water Mandate, Carbon Disclosure Project’s Supply Chain Leadership Collaboration, Roundtable on Sustainable Palm Oil, and the Sustainable Packaging Coalition.

Unilever’s strategy recognizes the interconnection between social, environmental and economic sustainability within its business objectives. The company reports on a broad range of sustainability measures relating to people, the environment, nutrition, and economic development in an annual 275 page sustainability report.

Eco-efficiencies are a core component of Unilever’s approach to environmental sustainability. Seven environmental indicators are driven by annual targets for each plant. The 2007 targets include:

Parameter	Target Reduction	Measure
Chemical oxygen demand (COD)	16.3%	kg/tonne
Hazardous waste	-1.0%	kg/tonne
Non-hazardous waste	7.4%	kg/tonne
Water	4.7%	m3/tonne
Energy	3.7%	GJ/tonne
CO2 from energy	4.4%	kg/tonne
Boiler/Utilities sulphur oxides (SOx)	3.9%	kg/tonne

## Eco-Efficiencies at Rexdale – Bottom up and Top Down Drivers

The rising costs of energy, water, water treatment and other inputs; aggressive corporate greenhouse gas reduction targets and competitive pricing of margarine products have been key drivers of energy efficiency initiatives at Unilever - Rexdale according to Plant Manager, Stan Reid. “Unilever is committed to reducing CO<sub>2</sub> from energy by 25% by 2012, against a 2004 baseline; this goal in conjunction with rising energy prices between 2004 and 2007, really focused our efforts.” The plant was spending more than \$5 million/year on energy (electricity and natural gas), approximately 15% of the plant’s total operating costs. Natural gas made up more than half of this energy requirement.

The plant established an Energy Team to examine energy savings opportunities and to engage employees in meeting the corporate commitment to environmentally responsible practices. At the same time, the plant had been actively operating under a Total Productive Manufacturing process, a program whose core proposition is workforce participation, continuous improvement and loss reduction. These combined efforts resulted in millions of dollars in savings in the Rexdale plant. Similar programs across the company have culminated in Unilever’s leading position in the food industry category of the Dow Jones Sustainability World Index (DJSI World) for nine years running. “At this point,” says Reid, “our commitment to energy reduction and reducing our carbon footprint is part of our DNA at Unilever. It comes naturally through the culture.”

## Project Selection and Implementation - 128 and Counting

According to Stan Reid, Total Productive Manufacturing (TPM) has added discipline and rigor to the selection of eco-efficiency projects over the years. “The Team really needed to understand the process in detail,” asserts Reid. “We started using the TPM Loss Tree to map energy, water, air and product losses so we could identify root causes and focus our efforts on the projects with the biggest payback.” Otherwise, according to Reid, you end up doing what is called “snacking”; tackling obvious eco-efficiency projects without first prioritizing their payback to the bottom line or impact on environmental goals.

Reid also notes that measurement is crucial. “Teams need to measure the problem and know how they will measure the impact of the solution. If you cannot prove how it saved money, energy or met your targets, what have you accomplished?” Based on the analysis and prioritization of energy efficiency measures the plant has carried out more than 128 small and large projects over the last 9 years. A sample of these initiatives, from simple light bulb changes to large capital plans, is listed below.

**Heat Recovery** – The plant’s first project in 1999 involved fitting the boiler with a condensing economizer which recovered heat that would otherwise be lost up the boiler stack. The energy was then used to pre-heat water that fed the boiler. The project cost approximately \$500,000 and saved the company roughly \$378,000 a year. A 1.3 year simple payback.

**Lighting Upgrade** – Retrofitting existing T-12 fluorescent lighting with T-8 fluorescent lighting and installing motion sensors in certain areas of the plant was a simple measure. The total cost was \$3,700 with a 2.6 year payback. In Phase II, motion sensors were installed in private offices, storage spaces and meeting rooms with an annual savings of \$3,900 and a total project cost of \$4,000; a payback of a little more than a year.

**Reverse Osmosis – Desalination System** – One of the most extensive energy efficiency upgrades at the plant involved treating and diverting hot process waste water to feed the boilers. In the new system, the hot wastewater was captured from low-risk process water streams, filtered to remove suspended solids, and then polished through an oil filtration process before reaching a reverse osmosis (RO) system. The RO water was then fed directly into the steam boilers. By capturing hot process water and recycling it as boiler feed water Unilever reduced consumption of natural gas by roughly \$250,000, reduced city water use by 25 million gallons per year and reduced water conditioner use (salt and dealkalizers) by \$22,000. This project saved Rexdale over \$380,000 a year in natural gas, water and chemical treatment costs. The RO system simple payback was less than 16 months. The project received \$50,000 in incentives from the City of Toronto for decreased water consumption and \$14,000 in incentives from Enbridge Consumers Gas.

**Scrap Vegetable Oil as Biofuel** – Before the eco-efficiency measures, scrap vegetable oil was an expensive disposal problem. A system was designed to turn the waste product into a biofuel for the boilers to generate heat and steam. This action lowered solid waste, and decreased CO<sub>2</sub> emissions by substituting a fossil fuel with renewable energy.

*“After all we’ve done to improve energy efficiency; we still aren’t close to finished. Think your plant is running efficiently? Think again. Unless you’ve undergone a study like this, assume absolutely nothing. The study’s data will mean better informed decisions for optimizing processes and investments. It’s our hope that more plants follow this lead.”*

**Doug Dittburner, Energy Team Leader at Unilever in 2006**

### Lessons Learned and Bottom Line Results

What is the secret to Unilever - Rexdale’s success? Many factors contributed to Unilever’s eco-efficiency savings.

- Real-time data measurement and software systems.
- Total Productive Manufacturing tools and continuous improvement and corrective action processes in ISO 14001 and TPM.
- Monetary incentive programs from Enbridge, the City of Toronto and Natural Resources Canada.
- Dollars to Sense Eco-Energy Training from consultants and Natural Resources Canada.
- Corporate targets on eco-efficiencies.

But by far, workforce participation lies at the heart of Rexdale’s eco-efficiency success. Reid notes that in the beginning a cultural change took place within the facility. The Energy Team, led by Doug Dittburner enrolled employee participation by creating an “opportunity database” where each employee was encouraged to submit energy saving ideas. The Energy Team, known as the Watt Watchers, handed out compact florescent light bulbs and Watt Watcher T-shirts as incentives for submitting ideas. Hundreds of ideas were submitted and only 3 or 4 were considered unfeasible. Employees were seen as “Resident Energy Managers” of their departments. Communication programs including company newsletters, posters, bulletins, performance charts and incentive programs carried the eco-efficiency message.

Although you won't find Watt Watcher T-shirts in the plant today, the involvement of employees is still embedded in everyday practices. "Energy, water and waste reduction is just part of what we do now," says Reid. "At every meeting we talk about product quality, line efficiencies and how we eliminate loss – energy, water, packaging, and product. It comes up in all discussions. It is just how we run the business."

Since 1999 Unilever - Rexdale has saved over \$5 million dollars and significantly reduced its environmental footprint. On a common basis of comparison per 1000 lbs production, the follow results were achieved:

- Natural Gas use was reduced by 46%
- Electricity was reduced by 23%
- Steam use was reduced by 50%
- Compressed air use was reduced by 26%
- Water use was reduced 48%
- Solid waste to landfill decreased by 468 metric tons
- Cardboard captured for recycling was 97.7%
- Corrugated cardboard in waste stream decreased by 55%

At the same time the plant received numerous awards including the Canadian Energy Efficiency Award in 2005; ECOMagination Leadership Award in 2006; Green Toronto Award on Energy Conservation in 2006, and the Globe Award in 2007. Furthermore, the plant became a "Lighthouse Site" for Unilever North America for training; and "best practices" were shared with other Unilever plants around the world through an Intranet website.



David Blanchard, Unilever President and CEO, receiving the 2007 Green Toronto Award for Water Conservation from City of Toronto Deputy Mayor Joe Pantalone.

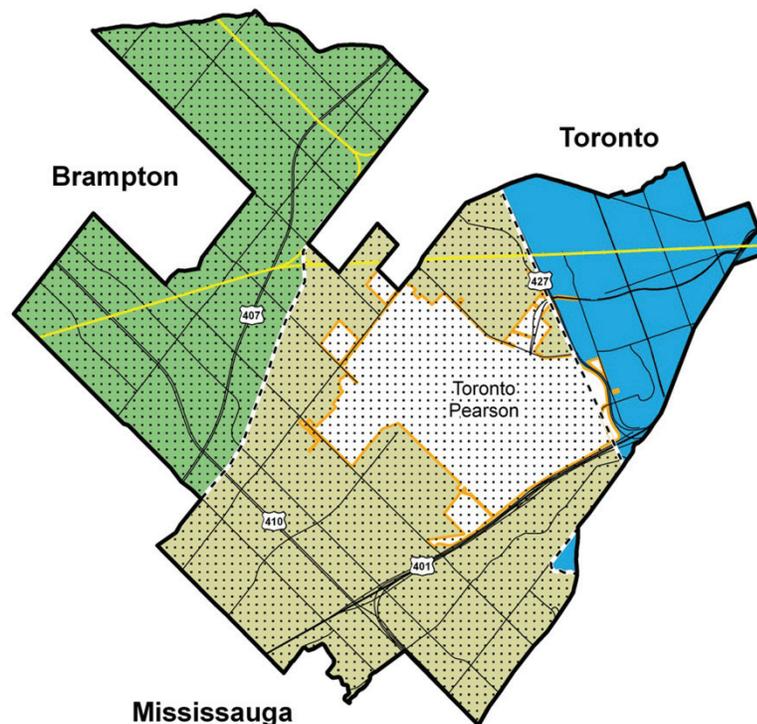
Yet, beyond the awards, the achievement of corporate sustainability goals and the reduction of the plant's environmental footprint, the main beneficiaries have been the people who work at the Rexdale plant each day. "Our eco-efficiency measures have made this plant economically viable even through unpredictable economic conditions and energy fluctuations. More importantly, employees are proud to come to work each day; a place where they are engaged, valued and where everyday we make efforts to reduce our environmental impact."

## WHAT IS PARTNERS IN PROJECT GREEN?

Opportunities to gain a competitive advantage through sustainable business practices are more attainable than you think. Partners in Project Green is a growing community of businesses working together to green their bottom line by creating an internationally-recognized eco-business zone around Toronto Pearson.

Through new forms of business-to-business collaboration, Partners in Project Green delivers programming that helps businesses reduce energy and resource costs, uncover new business opportunities, and address everyday operational challenges in a green and cost-effective manner.

## PEARSON ECO-BUSINESS ZONE



[www.partnersinprojectgreen.com](http://www.partnersinprojectgreen.com)