Environment Report
In 1977, the Conservation and Environmental Affairs divisions were created at Seattle City Light. A new direction was established.

In recognition of the potential impact our operations have on sensitive areas, Seattle City Light has taken a number of actions. We understand the importance of the natural resources that are vital to fish and wildlife, as well as to our quality of life in the Pacific Northwest. It is our responsibility to be good stewards of the lands and waters we are entrusted to manage.

Similarly, our business model has changed. No longer do we promote the use of electricity – rather, the goal is to have our customers use less of our product and to think of conservation as an energy resource.

City Light’s record for the past thirty years demonstrates its commitment to caring for the planet we share.

Environmental Stewardship
Seattle City Light has a long and proud history of environmental stewardship. Yet, this is the first Environment Report produced by the utility. It’s an appropriate time to stop and take stock of the “state of our environment” and what we at City Light are doing to preserve and protect the resources under our management and how we intend to continue the long tradition of stewardship for generations to come.

Seattle-area citizens are blessed with an abundance of natural resources at their doorstep. The common ingredient is water. Water to drink. Water to keep vegetation green. Water to power generators producing electricity.

As the debate continued to rage across the country about how and whether to reduce carbon emissions and the sources of greenhouse gas, Seattle City Light moved forward as the first electric utility in the United States to achieve zero-net carbon emissions. City Light is setting the standard for reducing harmful emissions that lead to global warming.

The clean, renewable power that flows from the waters of the Skagit and Pend Oreille Rivers is the envy of electric utilities around the country. But as the world increases its demand
for energy to power homes and industry, the need to protect and preserve these pristine energy sources for Seattle City Light customers is critical.

“Seattle thinks differently on this issue,” City Light Superintendent Jorge Carrasco states. “We don’t operate the same way as a lot of other utilities do. It’s in our history from the early days of J.D. Ross, who had a vision that the natural gorges of the upper Skagit River flowing fast and deep, fed by the mountains and glaciers of the high North Cascades could provide clean, reliable power to the citizens of Seattle.”

However, that same natural hydropower advantage enjoyed by City Light is also its Achilles heel. Snow and glacier-fed hydropower is the most vulnerable energy supply affected by the potential impacts of global warming. Glaciers are at the greatest risk. They are our power “reservoirs” – that offer a buffer to the cyclical nature of rain and snow levels in the mountains.

To understand City Light’s present and future, it’s important to take a look at the past.
Energy Crisis in the 1970s

First there was the Middle East oil embargo of 1973 that sent crude oil supplies into a tailspin. Then in 1976, a critical decision closer to home loomed for local elected officials. A plan by the Washington Public Power Supply System to build five nuclear plants pushed Seattle City Light in a new direction.

Seattle refused to join the nuclear project. Instead, the City Council passed five resolutions adopting conservation as a long-term energy strategy.

City Light was one of the first utilities in the country to identify conservation as an energy resource. And, conservation remains a critical power resource for City Light. The recently adopted five-year conservation action plan calls for enough energy savings by 2014 to equal the power output from a new dam.

By the early 1980s, a new environmental challenge loomed. Would city policymakers move to raise the level of Ross Dam and flood habitat in the US and British Columbia in order to meet the increasing energy demands of urban Seattle? In 1984 the utility signed an agreement with British Columbia...
to end plans for High Ross in exchange for the right to buy hydroelectricity from BC at a cost equivalent to the cost of constructing High Ross. The Agreement also establishes the Skagit Environmental Endowment Commission to oversee a multimillion fund to protect the natural and scenic values of the Upper Skagit. The Agreement was incorporated into the Skagit River Treaty between the US and Canada. In 1990, to relicense the Skagit Project, Seattle City Light signed an historic Settlement Agreement with the involved parties -- tribes, state and federal agencies, and an environmental group, the first collaborative relicensing for a large project in the nation.

These are cornerstone events solidifying the foundation for environmentally friendly practices deeply embedded in Seattle City Light’s culture. It’s part of the utility’s commitment in the vision, mission and values and it is set out in the Environmental Policy that guides us (page 20).

Integrating Operating Requirements with Regulatory Mandates

Growing challenges, such as increasing demands for energy and rising costs for pollution control, have not diminished Seattle City Light’s commitment to sound environmental practices and advocacy. Rather, they are seen as opportunities for finding creative solutions that encourage others to take a greener approach as well.

As a result, Seattle City Light has become a catalyst for change. Much of our recent action has occurred in four areas of focus: stewardship, operations, policies and partnerships.
“City Light is the leader in the industry in protecting wildlife habitat,” said David Weeks, executive director for the Washington Field Office of The Nature Conservancy, a nonprofit environmental group that works to preserve land and water that plants, animals, fish and natural communities need to survive. “The conservancy is proud to work with the utility and considers Seattle City Light one of the top two agencies in protecting the Skagit’s wildlife.”

Seattle City Light recognizes that its operations draw upon natural resources that are vital to wildlife and fish and also add to the quality of life in the Pacific Northwest with recreational opportunities and scenic beauty. As such, the utility embraces its responsibilities for being a good steward of the environment.

City Light puts this commitment to work by acquiring property to preserve and restore wildlife and fish habitat, managing its hydroelectric operations to protect fish, and developing recreational projects on behalf of the public.

City Light has acquired more than 8,000 acres of habitat. In addition Seattle City Light protected 1,900 acres of key spawning and rearing habitat for chinook salmon, steelhead and bull trout in the Skagit and Tolt watersheds. These purchases were made in response to the listing of those species as threatened under the Endangered Species Act.

The biggest acquisition was 1,080 acres in the Boulder Creek area of the Skagit River watershed in December 2007. This was the largest piece of land acquired by the utility since the 1990s. Overall, Seattle City Light has protected more than 10,000 acres of habitat.
Combining Education and Environmental Stewardship

In 2005, construction was completed on the North Cascades Environmental Learning Center. Seattle City Light paid for the buildings as part of its license to operate its three Skagit River dams. The National Parks Service owns the land and the North Cascades Institute operates the facility and runs the educational programs.
One of the most important reasons for Seattle City Light’s success as a steward of the environment is the utility’s willingness and ability to develop partnerships with other stakeholders. Working together, the utility, other government agencies, tribes, environmental organizations and others increase the likelihood of success.

There are numerous partnerships at work for the utility and others are being added.

Since the early 1980s, The Nature Conservancy has worked closely with City Light to assess and protect key habitats for conservation. “City Light has more than honored its commitments,” says David Weeks, executive director, Nature Conservancy.

Through its Skagit Hydroelectric Project license, the utility has worked with the North Cascades National Park and the nonprofit North Cascades Institute to learn more about the natural and cultural history of the Skagit River and the North Cascade Mountains and what can be done to protect them.

The collaboration has created a wide range of projects that benefit the public, North Cascades National Park Superintendent Chip Jenkins said, “We look forward to continuing and building on the work that we are doing together.”

“Over the years, we have developed a confidence in our partnership with Seattle City Light that allows our organizations to seek out the best in each other, and to accomplish things together that we would not attempt on our own,” says Saul Weisberg, executive director of the North Cascades Institute. “The commitment to conservation education by Seattle City Light and its Environmental Affairs Division is deep.”
Comparison of Chinook salmon spawner abundance trends from upper Skagit, lower Skagit, and lower Sauk rivers under four time periods. Chinook in the upper Skagit are influenced by Seattle City Light’s hydroelectric project flow releases. The 1974-1984 shows mean spawner abundance values prior to the implementation of Seattle City Light’s fish flow management program. The 1985-1994 is the period when spawning Chinook numbers benefited from interim fish management flows in the upper Skagit. Chinook spawning numbers in the upper Skagit during the 1995-2003 and 2004-2007 periods benefited from the fish flows established under the Skagit Project Fisheries Settlement Agreement. The lower Skagit is less affected by and benefits less from Skagit Project flows. The Sauk is free flowing and not affected by any hydro project.

“Seattle City Light has been a leader in the Skagit River Watershed as part of collaborative efforts to protect and restore aquatic ecosystems,” said Lorraine Loomis, fisheries manager for the Swinomish Indian Tribal Community.

“Whether it has been through the purchase of strategic parcels for protection of important habitats, its water management strategies, or its funding of research or restoration projects vital to the ongoing protection of anadromous salmonids, City Light has demonstrated that a public utility can provide a reliable source of energy while at the same time conserving and enhancing natural resources,” Loomis said. “The Swinomish Tribe is proud to be a partner with Seattle City Light and we look forward to further collaborations in the future.”
Environmental Stewardship through Conservation

The utility achieved its pioneering carbon neutrality first by replacing fossil fuel resources with conservation and renewable resources such as wind. The remaining emissions were offset with reductions in other industries and transportation. Seattle City Light’s conservation programs have reduced the utility’s electric load by 11 percent and avoided 620,000 metric tons of carbon dioxide emissions annually. Electricity purchased from the Stateline wind farm in eastern Washington allows Seattle City Light to avoid 230,000 more metric tons of carbon dioxide emissions each year.

Stewardship and Partnerships

City Light’s hydroelectric projects are situated in some of the most beautiful areas of the state. Not only are these locations home to numerous fish and wildlife species, they also are areas of prime recreation and tourism. Our responsibility is to provide a positive experience for visitors while protecting the integrity and sustainability of the valuable habitat. Much of our success has come from the building of relationships with stakeholders and other organizations entrusted with the protection and preservation of surrounding lands.

Some of the projects we have funded or sponsored to ensure public access and recreational opportunities include:

- A fishing facility at Diablo Lake’s Colonial Campground completed in 2004 that complies with accessibility guidelines under the Americans with Disabilities Act (ADA)
- A boat access to the Skagit River at Marblemount and the Happy Flat-Panther Creek trail that were finished in 2005
- Campgrounds and docks built at Ross Lake in 2005
- And an ADA-accessible trail with interpretive signs that was completed at Rock Creek State Park in 2006.

In all, Seattle City Light received more than $3 million in grants and matching funds between 2004 and 2007.
While about 90 percent of Seattle City Light’s electricity comes from clean, renewable hydroelectric power, the utility does produce some emissions with its fleet of trucks and cars, employee travel and the power it purchases from other utilities. The utility offsets those emissions by paying other organizations to reduce the pollution they produce.

Among the projects City Light has financed to reduce pollution are shore power hookups for cruise ships at the Port of Seattle and the conversion of City Fleets, solid waste trucks and King County Metro buses to biodiesel.

Seattle was the first city outside Alaska to offer shore power to cruise ships. The shore power connection has been so successful that Holland America and Princess cruise lines are now designing their new ships for shore power connections and working to obtain shore power in all the other ports they visit.

Transportation continues to be the single, greatest contributor to carbon emissions in the Puget Sound region. City Light
is showing leadership as a utility on that front too. Our investment in biodiesel was a contributing factor in Seattle Biodiesel’s decision to build a production plant in the Emerald City. And, on the alternative energy front, our commitment to purchase half the wind power from the Stateline wind farm in Walla Walla, Washington, helped solidify development of Washington’s first wind power project.

On the road, Seattle City Light is participating in the country’s largest plug-in hybrid vehicle demonstration project, which is designed to test the performance of plug-ins in the Seattle area. Because plug-ins have a longer-lasting battery that can be charged from an ordinary electric outlet, plug-ins can travel up to 40 miles powered solely by the rechargeable battery, and at a cost equivalent to less than $1 per gallon of gasoline.

The demonstration project is also helping to create local green-collar jobs. Under a contract with the U.S. Department of Energy’s Idaho National Laboratory, Seattle-based V2Green will provide a logging system to collect real-time vehicle performance data. A cellular modem uploads the data to the V2Green server where it is archived and made available for the Idaho National Laboratory’s analysis. These meters also will allow Seattle City Light to test “time of day” charging capabilities, to manage peak energy use loads.

“This partnership is a here-and-now example of what’s possible for the future; a future of more efficient cars and trucks and reduced dependence on fossil fuels,” U.S. Senator Maria Cantwell, Democrat Washington State, said. “This type of technology means that consumers could use the existing electricity grid to power most of the vehicles on our roads at the equivalent cost of less than a dollar a gallon.”
Reducing Our Impact

Operational changes also are underway to reduce Seattle City Light’s use of potentially harmful chemicals, reduce waste and increase recycling.

Since 2005, Seattle City Light has removed 68 transformers with more than 50 parts per million of PCBs and 114 PCB-containing bushings. The final removal of pure PCB capacitors also was completed.

The utility also has been active in reducing emissions of SF6, a potent greenhouse gas that is found in many pieces of equipment.

City Light joined a voluntary program in 2006 to ensure proper handling of SF6. Releases of the gas declined from 537 pounds in 2004 and 491 pounds in 2005 before the changes to 176 pounds in 2006 after the changes.

As part of the City’s Papercuts program, Seattle City Light reduced its use of paper by 38 percent in 2006 and 35 percent in 2007 compared to the 2004 baseline.
Overall, Papercuts reduced paper consumption by 17,141 reams from 2004 through 2007. Production of that much paper would have required 928 million BTUs of energy and would have produced 153,502 pounds of greenhouse gas emissions, 442,452 gallons of wastewater and 49,482 pounds of solid waste.

Seattle City Light expanded its recycling program. The utility now recycles paper, glass, some plastics, paper cartons, aluminum cans, street lights, fluorescent lights, yard waste, transformers with less than 50 parts per million of PCBs, batteries, mercury recovered from equipment, antifreeze, electronics, ceramics from electrical equipment, glass from meters and metal bands from meters. The utility offers its customers the opportunity to safely dispose of burned out compact fluorescent light bulbs, too. City Light also recycles material at salvage and sells materials to the public for reuse.
“It’s taken the equivalent of a generation to get to where we are now,” City Light Superintendent Carrasco said. “Our job today is to build on that and make it even better.”

Challenges Ahead

Growing energy demands for expanding technologies place new demands on energy sources. The Internet, and the businesses and industries that rely on it, have significant energy demands. Likewise, electrification of vehicles to reduce carbon emissions also will increase demand for more power.

City Light is just like any other business facing the challenge of reducing its carbon footprint. The cost of carbon emission offsets is rising, making it more expensive for the utility to remain carbon neutral. Likewise, finding alternative energy sources in the “new renewable” category mandated by Washington voters in 2006 with Initiative 937, is another challenge.

Many utilities are competing for renewable energy, and there isn’t a lot of low-cost, new renewable resources available in the market yet.

Such challenges are significant. They also present an opportunity for Seattle City Light and its partners to find creative solutions.
What’s Ahead

In its partnerships, policies, operations and stewardship, Seattle City Light is fulfilling its commitment to producing low-cost, reliable electricity in an environmentally responsible manner.

Among the utility’s key environmental goals for 2008 and beyond are:

- Continuing the utility’s carbon-neutral operations
- Doubling residential and commercial conservation in the next five years
- Assessing smart charging possibilities for plug-in hybrid cars
- Using the California Climate Registry to certify the utility’s greenhouse gas emissions and offsets
- Working with the Port of Seattle to expand Port electrification
- Identifying new, affordable renewable resources

Many people have been involved in building Seattle City Light’s environmental legacy over the years, ranging from policy makers and partners to the women and men who carry out the utility’s daily operations. It will take all of us, working together, to address the environmental challenges ahead while providing for the energy needs of our customers.

Yet that is our goal. We took the lead in the 1970s and we are taking the lead again today. As threats to the environment continue to develop and emerge, Seattle City Light will be a leader in an effort to find solutions that protect the environment, preserve valuable resources, and provide value to our customer-owners.

Environmental Action Metrics

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<th>Description</th>
<th>Prior to 2004</th>
<th>2004</th>
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<th>2006</th>
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<td>PCB Containing Equipment Removed</td>
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<td>15 transformers</td>
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<td>22 transformers 104 bushings</td>
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<td>Paper Cuts Reductions</td>
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<td>NA</td>
<td>Goal: 30% from 2004 baseline Achieved: 38%</td>
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<td>Pounds of Hazardous Waste Generated</td>
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<td>Violations/Controllable Releases*</td>
<td>Goal: Zero violations or releases 0 violations 8 releases</td>
<td>Goal: Zero violations or releases 0 violations 15 releases</td>
<td>Goal: Zero violations or releases 0 violations 12 releases</td>
<td>Goal: Zero violations or releases 1 violations 6 releases (1 King County clearing permit violation)</td>
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<td>Greenhouse Gas Neutrality, Percent of Emissions Offset</td>
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<td>Goal: Carbon Neutrality Achieved Neutrality, 100% of emissions offset</td>
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<td>Land Acquisition &amp; Habitat Restoration Grants (Seattle City Light Conservation Lands)</td>
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*Controllable releases are those where sufficient maintenance or best management practices would likely have resulted in no spill.
Environmental Awards

Award Winning Accomplishments

Others have noticed Seattle City Light’s accomplishments.

Since 2004, Seattle City Light has received numerous awards for its environmental stewardship work. Among the highlights are the National Hydropower Association’s 2008 Outstanding Stewards of America’s Waters award in recreational, environmental and historical enhancement; the Outstanding Partnership Award from the Skagit Land Trust in 2006; and the Seventh Generation Cornerstone Legacy Award from Salmon Homecoming in 2004.
2007

- Appreciation Award from the Washington State Parks & Recreation Commission for Seattle City Light’s contribution to reconstruction and upgrades of trails for universal access (ADA-compliant), especially to the old growth forest section of Rockport State Park. This award celebrates completion of a long-term cooperative partnership between state and federal agencies and the Utility.

- Outstanding Wastewater Treatment Plant Award from the Washington State Department of Ecology awarded to the Newhalem Wastewater Treatment Plant. The award is given for 100 percent compliance with our permit requirements including compliance with effluent limits, monitoring and reporting requirements, spill prevention planning, and pretreatment.

2006

- Outstanding Partnership Award from the Skagit Land Trust in recognition of Seattle City Light’s commitment to the Skagit River Watershed and its Community as reflected in our cooperative approach and successful efforts to protect key salmon habitat on the Skagit River through the purchase of strategic land and the granting of a permanent protection agreement at Iron Mountain Ranch.

- Outstanding Wastewater Treatment Plant Award for Newhalem from the Washington State Department of Ecology.

- Outstanding Wastewater Treatment Plant Award for Diablo from the Washington State Department of Ecology.

- Hydro Achievement Award, Honorable Mention, Technological Solutions, from the National Hydropower Association for South Fork Tolt Woody Debris Placement Project in recognition of projects that demonstrate significant technical or regulatory contributions to the hydropower industry. Seattle City Light with Seattle Public Utilities coordinated construction of two engineered log jams to trap gravel, activate side channels, and increase channel complexity along the South Fork Tolt. Placing large wood pieces makes the sites more favorable to Chinook and coho salmon, summer and winter steelhead and cutthroat trout that spawn and rear in the river. The project was done in collaboration with state and federal agencies and the Tulalip Tribes.

2005

- Shared Strategy Summit Recognition from the Shared Salmon Strategy for Puget Sound as a result of voluntary actions taken by Seattle City Light at the Skagit Project to avoid the loss of Chinook nests containing nearly half-million eggs during the fall of 2004.

- National Hydropower Association (NHA) Award for Outstanding Stewardship of American Rivers for the sixth consecutive year, the only utility to earn such recognition.

- Outstanding Wastewater Treatment Plant Award for Diablo from the Washington State Department of Ecology.

- Outstanding Wastewater Treatment Plant Award for Newhalem from the Washington State Department of Ecology.

2004

- NHA Award for Outstanding Stewardship of American Rivers for the fifth consecutive year – the only utility to earn such recognition.

- Coastal America 2004 Partnership Award with the Skagit Watershed Council from the U.S. Forest Service for salmon stewardship.

- Outstanding Wastewater Treatment Plant Award for Diablo from the Washington State Department of Ecology.

- Honor Award, Partnering Category as a member of the Snohomish Basin Salmon Recovery Forum for the Snohomish Salmon Conservation Plan from the American Planning Association and the Planning Association of Washington.

- Seventh Generation Cornerstone Legacy Award from Salmon Homecoming.

- City Council Proclamation honoring the City Light’s efforts on Endangered Species Act.

- City Council Proclamation honoring the Skagit Project certification as Low-Impact Hydro.
Our Policy:
Seattle City Light is committed to very high standards of environmental protection. We will operate in a manner that is compatible with the long-term sustainability of the ecosystems that we affect.

We believe that sound environmental performance is a key component of sound business performance. Environmental stewardship is a responsibility of all Seattle City Light employees.

To demonstrate our commitment, we will:

Comply:
- Meet or exceed the requirements of all applicable environmental laws, regulations, policies.
- Be a model for others in meeting our hydro license requirements.

Conserve:
- Promote the efficient use of materials and resources, including water and electricity, in all phases of a facility’s life.

Protect Natural Resources:
- Manage our business activities to avoid, minimize, or mitigate impacts to the ecosystems we affect.
- Provide resource enhancements when opportunities arise.

Prevent Pollution:
- Reduce the quantity and toxicity of materials used and waste generated from our facilities and operations through source reduction, reuse, or recycling.

Continually Improve:
- Set high environmental standards and evaluate our performance against these standards.
- Incorporate environmental costs, risks, and impacts when making decisions.
- Train all employees on this environmental policy and the key environmental impacts and responsibilities of their work.

Lead:
- Collaborate with customers, agencies, tribes and other organizations to promote sound science and achieve common objectives.
- Be proactive in identifying and addressing emerging environmental issues.
- Be a model for others by offsetting our greenhouse gas emissions.
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