

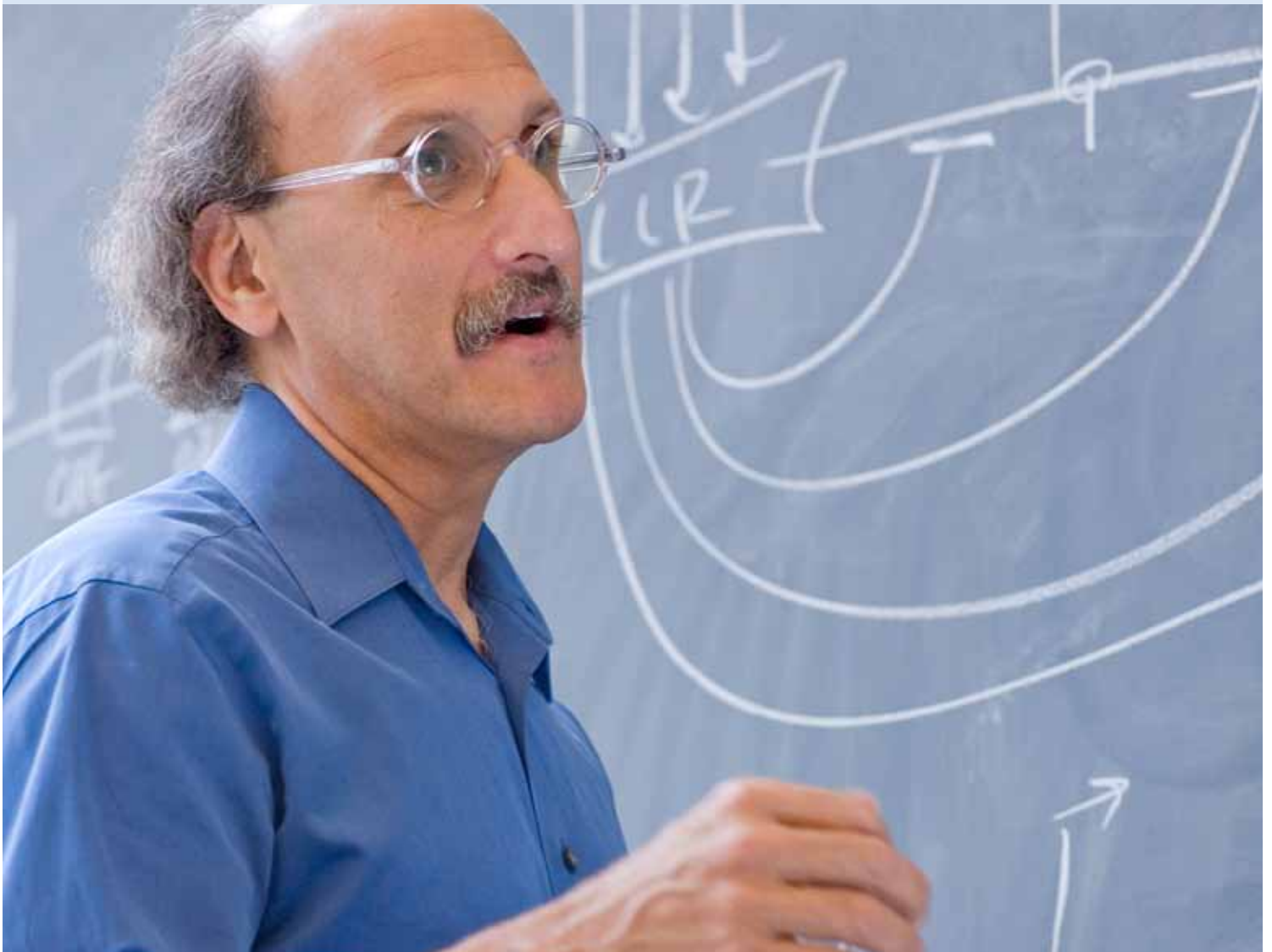


CAMPUS  
SUSTAINABILITY



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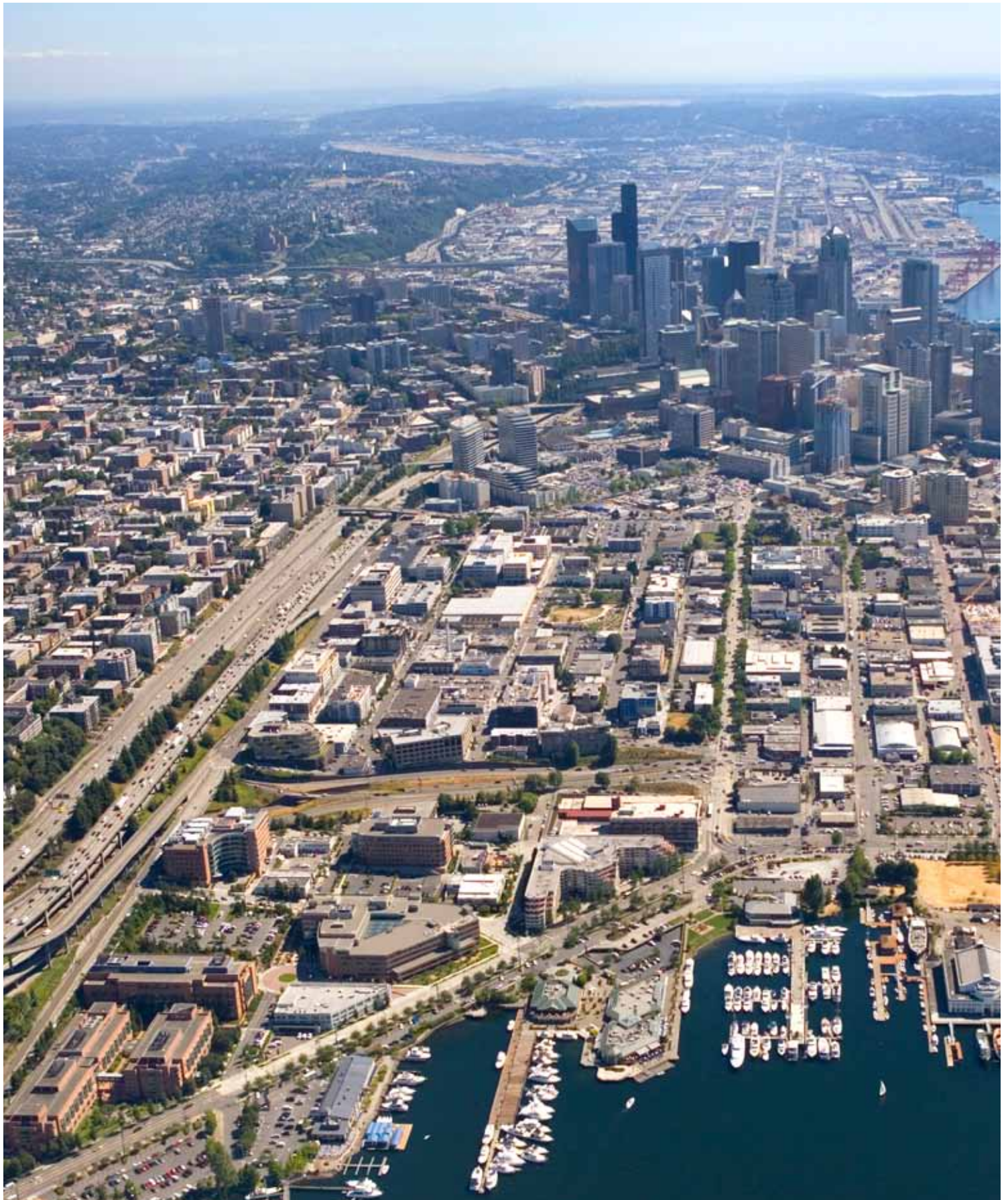
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# INTRODUCTION

Fred Hutchinson Cancer Research Center is one of the world's foremost biomedical research organizations. An independent, nonprofit research institution, the Hutchinson Center is dedicated to developing lifesaving therapies to prevent, diagnose and treat cancer, HIV/AIDS, and many other diseases. Our interdisciplinary team of world-renowned scientists and humanitarians includes three Nobel laureates and more than 3,000 medical, scientific and administrative personnel who bring a relentless passion for health, knowledge and hope to their work and to the world.





Recognizing the significance of the connection between indoor environment and occupant health, the master plan maintains a connection to the outdoors. Orientation of buildings respects the former street grid to maximize use of existing infrastructure and provides vistas to the lake and downtown.

# OUR COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY

Our mission at the Hutchinson Center is to eliminate cancer and other life-threatening diseases as a cause of human suffering and death. This is a mission we take with pride, passion and the utmost dedication.

Conquering disease requires a holistic approach of prevention, early detection and effective therapies that restore people to their maximum health. We also know that physical health goes hand in hand with a healthy environment. That's why a serious commitment to environmental sustainability is woven into every part of our work.

We are fortunate to conduct our research with the stunning natural landscape of the Pacific Northwest right outside our doors. Our 14-acre campus in Seattle, Washington, is surrounded by beautiful mountains and water, an ever-present scenic reminder of our obligation to environmental responsibility. For the past 20 years we have planned, built, expanded and operated this campus with a commitment to sustainability and efficient use of resources, and have been recognized with dozens of awards for environmental leadership.

In this brochure we invite you to learn more about our work, and we encourage others to explore sustainable approaches that will improve human health and the health of our planet.



Scott Rusch  
Vice President of Facilities and Operations

# SUSTAINABLE DEVELOPMENT

Established in 1975 and originally dispersed throughout numerous Seattle buildings, the Center began planning for consolidation in the 1980s. A once-blighted site along Lake Union was selected because of its central location between downtown and the University of Washington, where many of the Center's researchers have faculty appointments, and because of its long-term potential as an attractive, comfortable location where world-class scientists could flourish and generate new discoveries. A multiphased development ensued, accommodating the need for high-quality, flexible spaces and future growth, and fostering interaction and scientific collaboration. Today our campus—comprising six separate but interrelated buildings, parking and a series of open spaces including landscaped courtyards, walkways and bridges—has become a catalyst for a now thriving neighborhood where people live, work and play.

- 14.3-acre campus
- Currently 1.3 million sf of lab, office, patient care and support facilities
- Total build-out potential of than 2.2 million sf
- Site includes more than 30% open space
- Collaboration with City of Seattle, Department of Energy and Environmental Protection Agency





Underground parking reduces heat island effect

### Design and Construction

- Site Development - erosion and sedimentation control during construction
- Construction waste management - 75% of construction waste recycled
- Recycled content - 20% of materials used in construction were recycled materials
- Regional materials - 30% of construction materials were manufactured within a 500-mile radius
- Low VOC paint, carpet, recycled furniture and casework

# ENERGY CONSERVATION



Our campus has been designed and built to maximize energy efficiency because of our strong desire to be a good environmental steward and in order to keep our costs down —thereby freeing more operational dollars for cancer research. We have reduced our overall carbon footprint by 26%. New buildings are constructed with state-of-the-art conservation equipment and processes, and existing buildings are continually retrofitted to ensure continued savings. The Center is also part of the City of Seattle's Climate Partnership. Seattle led U.S. cities by joining the Kyoto Protocol, an agreement to reduce heat-trapping gas emissions by 2012 to levels 7% below those of 1990.

## Features and Accomplishments

- 18 million kwh saved per year
- 433,000 therms saved per year
- \$1,400,000 annual savings
- Utility incentives: \$3,070,000
- Compressed air optimization
- Heat recovery from process water
- Chiller optimization
- Air change rate reduction in laboratories
- Variable speed drives for fans and pumps
- Boiler combustion management
- Outside air cooling for high heat areas
- Heat recovery from server rooms
- Variable air volume lab controls
- Using water twice prior to dispensing

Some of the lighting conservation features of the Center include high-efficiency systems with occupancy and daylight sensors, high-efficiency glazing, and optimized space planning for use of daylight. The total savings generated through all the Center's energy conservation measures could power 1,310 single-family homes in Seattle every year.



## RENEWABLE ENERGY

In partnership with Seattle City Light's Green Power Program, the Center has installed 12 solar panels that generate 2,900 kwh of electricity per year, equivalent to the power needed for lighting 20 standard offices.

## BUILDING COMMISSIONING

In commissioning, systems are tested just before occupancy to ensure that each building operates as it was designed. Benefits include reduced energy use, lower operating costs, better building documentation and improved occupant productivity. The initial performance of each building is augmented with ongoing commissioning to ensure optimum performance.

The Center has commissioned all buildings on campus, which is particularly important in our laboratories to ensure increased energy efficiency of fume hoods and laboratory systems to ensure occupant safety by confirming proper airflow.



Highly efficient compressed air driers reduce use of compressed air.



Waste heat from server rooms, environmental rooms and other heat sources is used to preheat buildings.



Variable speed drives and chilled water reset temperatures optimize chiller energy.



Use of outside air for 'free cooling' minimizes mechanical cooling.



New and retrofit drives for hundreds of fan and pump motors reduce energy requirements and extend equipment life.



Boiler combustion optimization controls reduce fuel use.



Heat recovered from server rooms is used to preheat laboratory supply air.



Delivering the coldest air from cooling equipment to server room cold aisles and isolating server cold aisles from hot maximizes the utilization of cooling energy.

# WATER EFFICIENCY



With a campus surrounded by an abundance of lakes and Puget Sound, we are keenly aware of water as a precious natural resource that must be conserved and preserved. The Center has taken a variety of measures to reduce water use, including efficient plumbing fixtures and mechanical system features such as use of groundwater.



The Center's green spaces are maintained with an efficient irrigation system. A groundwater harvesting system captures, diverts and stores storm water for future non-potable uses such as landscape irrigation. By harvesting groundwater, the Center saves 540,000 gallons of domestic water annually.



## NON-CHEMICAL WATER TREATMENT SYSTEM FOR COOLING TOWERS

Traditional condenser water systems require thousands of pounds of organic chemicals to prevent equipment from corroding. These chemicals are continuously bled to municipal water systems and must then be replenished, a process that requires additional city water for the flushing process. The Center has installed a non-chemical water treatment system that uses a special water softener to eliminate the use of 2,000 pounds of chemicals annually, also saving more than 530,000 gallons of city water each year.

## WATER-EFFICIENT GLASS WASHERS

New glass washer design and technology increases quantity of glassware washed in each load and minimizes the use of water for rinse cycles.

### Innovative Wastewater Technologies

- De-ionized water production efficiency, saving 3.5 million gallons annually.
- Washer waste water is reused, thus offsetting city water, saving 825,000 gallons annually.
- Heat recovery/water reduction from washers, saving 3.1 million gallons annually.

# RECYCLING PROGRAM



Approximately 146 tons of food waste is recycled each year, working with the City of Seattle in an innovative food recycling program, where it is composted and resold as yard compost.

Recycling has long been a way of life for most Northwest businesses and homes. In addition to the now-common practices of carefully marked recycle bins for paper, cans, glass and plastic, the Center salvages and reuses many chemicals used in research. The Center also trains all personnel on universal waste issues and encourages people to reduce environmental impacts across the organization—which means more than 591 tons of material are kept out of landfill annually, a 47% recycling rate.

Polyethylene terphthalate (PET) bottles are recycled and polypropylene pipette tip boxes are shipped to recyclers, returning 11 tons of plastic to the manufacturing process. Recycled content materials are given preference in purchasing, and we arrange “refill and take back” policies with companies that send research materials in reusable containers such as plastic foam ice chests used to deliver frozen samples. Additionally, the Center sends unused lab products to developing countries, serving both a recycling and a humanitarian purpose.

Further encouraging efficiencies among individual labs, the Center manages a surplus program for furniture, medical equipment and computers, ensuring the maximum usable life is obtained from every asset. Damaged metal furniture is recycled to a metal scrapper.





## ANNUAL RECYCLED MATERIALS

**Paper**

143 Tons

**Glass, Plastic, Aluminum**

20 Tons

**Compost**

146 Tons

**Cardboard**

86 Tons

**X-ray Film**

280 Pounds

**Lead**

300 Pounds

**Chemicals**

1,924 Pounds

**Photo Fixer**

290 Pounds

**Computer Monitors**

387 Monitors  
2.5 tons of CPU's

**Refrigerators/Freezers**

75 each / 9.4 Tons

**Scrap Metal**

7 tons

**Pipette Tip Racks**

11 Tons

**Water**

825,000 Gallons (695 ccf)  
Captured from Glasswash

**Batteries**

3,588 pounds

**On-site Re-use**

60+ cabinets, shelving,  
fixtures, ATU's, etc

**Yard Waste**

43 Tons

**Toner Cartridges**

2,857 each

**Palletes**

Numerous

**Construction Materials**

102.7 Tons

**Lamps**

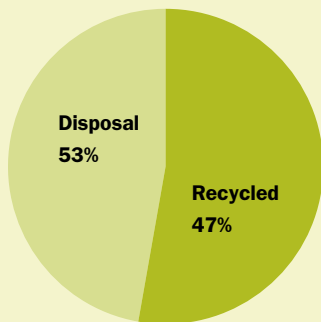
4,750 each

**Oil**

220 gallons

**Refrigerant**

125 pounds

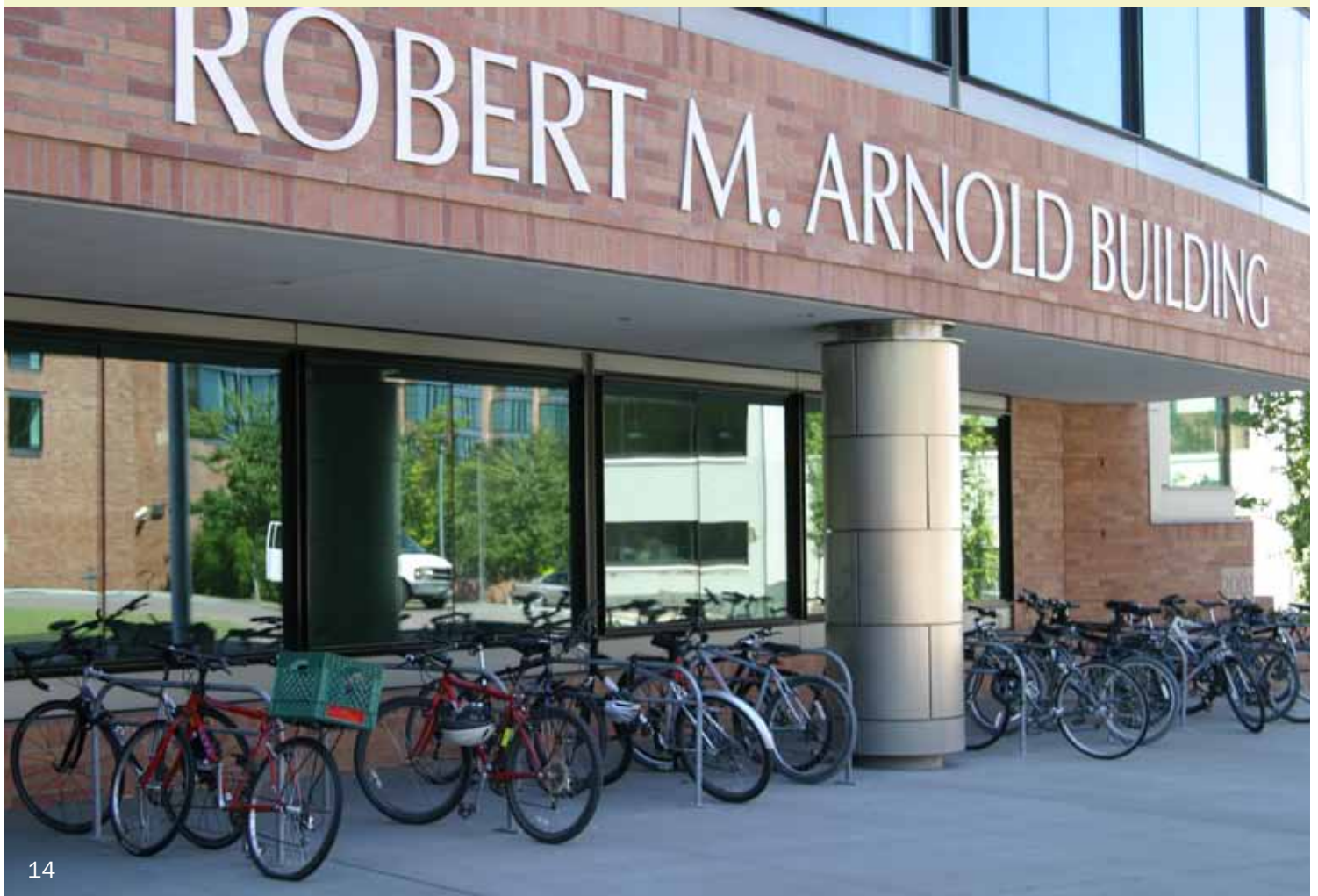


**Campus Waste Stream**

# TRANSPORTATION

One of the major conservation advantages of the Center is its central location in downtown Seattle, accessible by various modes of transportation. With incentives for employees to reduce CO2 emissions by ridesharing, mass transit and other alternatives to single-occupancy vehicle commuting, the Center has set a high standard for other Puget Sound area organizations.

More than 200 employees commute daily by bike and take advantage of bike racks and secured bike cages provided at all campus buildings, as well as locker rooms, showers and towel service. These employees are excellent role models for personal and environmental health. Additionally, we participate in Bike to Work Day, offer biking workshops, and provide financial incentives for bike tune ups to those who bike to work at least three days each week.





Additionally:

- The subsidized Hutch Pass is actively used by 1750 employees as an incentive to ride public transportation. The pass is valid for service on public transportation providers—Metro, Community Transit, Pierce Transit and Sound Transit
- Carpoolers receive reduced parking rates
- Vanpoolers park for free and receive a subsidy toward monthly vanpool fare
- The Center's transportation office facilitates carpool and vanpool formations
- Numerous dedicated bulletin boards around campus promote transportation opportunities and alert employees about commuting, traffic and ridesharing issues



For meetings, teaching, testing and treatments, many people must go back and forth between the Center, Seattle Cancer Care Alliance, University of Washington Medical Center and Children's Hospital and Regional Medical Center. Staff, patients, families and caregivers may all take advantage of our free shuttle service, eliminating the need for individual cars and reducing an estimated 81,413 pounds of carbon per year.

# ENVIRONMENTAL QUALITY

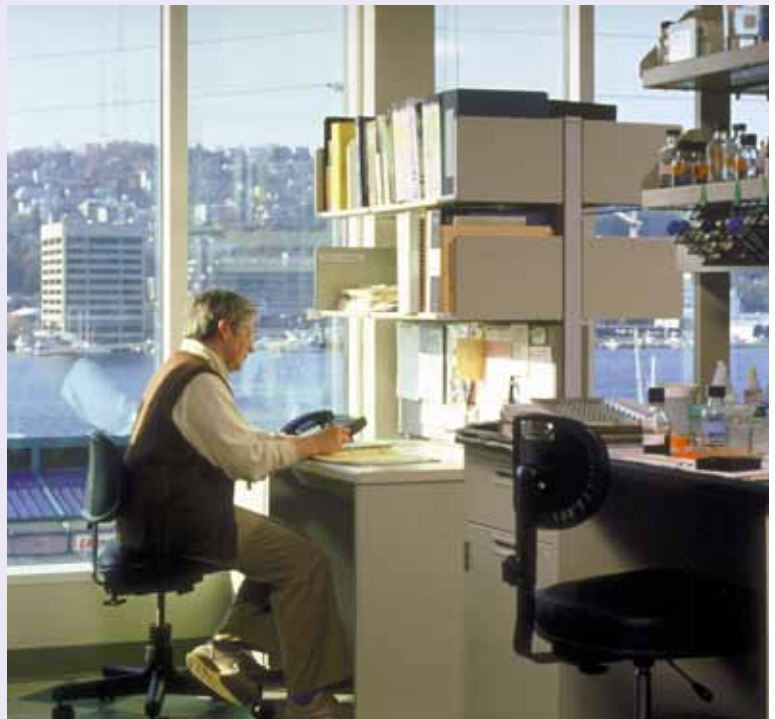


World-class scientific research and discoveries that save lives can only be accomplished with the very best people, working together with the best possible resources in the best possible environment. That's why the Center has, since earliest inception of the campus master plan, devoted so much attention to the quality of the work environment. Center staff expressed the need for "internal community" along with high-quality, flexible laboratories and other spaces that provide for effective collaboration. The resulting campus incorporates a series of buildings with uniquely attractive work, lab, meeting and resting spaces, linked by walkways, bridges and landscaped courtyards. Low VOC-emitting materials such as adhesives, sealants, paint, coatings, carpet and wood have been used throughout, providing an overall superior level of indoor air quality.

Research thrives when it happens in an engaging, uplifting setting. Access to natural light and views of the city and Lake Union are provided through daylit lab, work and social spaces. Daylight harvesting allows for lighting systems to automatically adjust to ambient light levels.



The Center includes several tranquil outdoor courtyards with a combination of grass, trees, waterfalls and seating areas where faculty and staff can relax among the peaceful elements of nature. Edson Park, on the Northwest corner of campus, is also available for the public's enjoyment and helps enhance our South Lake Union community.



Labs are designed with large windows that maximize use of natural light and provide researchers with private work space, often with views, away from lab benches.



This roof deck provides researchers and other staff access to fresh air, sunlight, and stunning views.



Many stairways in the Center's buildings are not dark and hidden away, but instead are pleasing architectural elements and atriums that make maximum use of daylight harvesting.

# AWARDS AND RECOGNITION




We are proud that the Center has achieved more than 35 awards for energy conservation and environmental leadership, yet equally proud that our employees embrace a philosophy of conservation and sustainability. In fact, we could not make such significant progress without their eager involvement. Our Employee Education Programs about environmental responsibility are enthusiastically received, and employees partner with the Center in practices that reduce our overall environmental footprint, thereby preserving the earth's natural resources and contributing toward improved human health.

- 2008 CEO Magazine's Green Washington Award in Health Care
- 2007 Top Award, Association of Washington Business Environmental Excellence Award
- 2007 "Commuter Challenge Diamond Award" from the Economic Development Council of Seattle and King County, for excellence in commute trip reduction
- 2005 Awarded "Recognized Leader" by EnviroStars Program
- 2005 Public Health Sciences Building (Arnold Building) receives LEED certification
- 2004 Finalist – Governor's Award for Pollution Prevention and Sustainability Practices
- 2004 "BEST- Mayor's Environmental Leadership Award" for Energy Conservation, Water Conservation, and Recycling Solid Waste, from the Business and Industry Resources Venture
- 2004 "BEST- Energy Conservation Award" for Overall Excellence in Energy Conservation, from the Business and Industry Resource Venture
- 2004 "BEST- Innovation in Conservation Award" for Innovation in Energy Conservation, from the Business and Industry Resource Venture
- 2004 "Recycler of the Year" award from the Washington State Recyclers Association
- 2003 Energy Smart" award for the PHS Building, from Seattle City Light and Bonneville Power Administration
- 2002 Named as a Case Study by "Laboratories for the 21<sup>st</sup> Century," a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy. Case Study prepared and published by the National Renewable Energy Laboratory, a DOE national laboratory



- |      |                                                                                                                                                                                                                                                                  |      |                                                                                                                                                                                                                    |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2002 | "BEST- Mayor's Environmental Leadership Award" for Energy Conservation, Water Conservation, and Recycling Solid Waste, from the Business and Industry Resources Venture                                                                                          | 1995 | "Commuter Challenge Diamond Award" from the Economic Development Council of Seattle and King County, for excellence in commute trip reduction (Repeat Winner)                                                      |
| 2002 | "BEST- Energy Conservation Award" for Overall Excellence in Energy Conservation, from the Business and Industry Resource Venture                                                                                                                                 | 1994 | "Environmental Excellence" award from the Seattle Rotary Club                                                                                                                                                      |
| 2002 | "Technical Merit" award for Excellence in Concrete Construction, from Washington Aggregates & Concrete Association for SCCA building high density concrete for Linac vault                                                                                       | 1994 | "Commuter Challenge Diamond Award" from the Economic Development Council of Seattle and King County, for excellence in commute trip reduction                                                                      |
| 2002 | "Merit Award" for Achievement in Energy Efficiency, from the Association of Energy Services Professionals International                                                                                                                                          | 1994 | "Laboratory of the Year" award from R&D Magazine, Chicago, IL                                                                                                                                                      |
| 2002 | "Energy Smart" award for the New Yale Office Building, from Seattle City Light and Bonneville Power Administration                                                                                                                                               | 1993 | "Office Developer of the Year" award, from the Society of Industrial and Office Realtors (SOIR)                                                                                                                    |
| 2001 | "Power Player 2001 Award" for Exemplary Commitment to Energy Efficiency, from Seattle City Light                                                                                                                                                                 | 1993 | "Oil Smart" award from the Bullitt Foundation for best non-motorized employee transportation program                                                                                                               |
| 2001 | "Governor's Commute Smart Award" for going above and beyond the call of duty reducing drive alone commuting by Center employees, from the Washington State Governor and the Department of Transportation                                                         | 1993 | "Environmental Innovator of the Year" award from the Washington State Department of Ecology, the Association of Washington Business' Law and Pollution Prevention Conference, and the Puget Sound Business Journal |
| 2001 | "Energy Smart" award for the Phase III Clinic (SCCA), from Seattle City Light and Bonneville Power Administration                                                                                                                                                | 1993 | "Energy Smart" award for the Phase I Laboratories, from Seattle City Light and Bonneville Power Administration (BPA)                                                                                               |
| 2001 | "Commuter Challenge Diamond Ring Award" for Longevity and Continued Commitment to Commute Trip Reduction (one of only two firms to receive a second consecutive Diamond Ring Award in Seattle), from the Economic Development Council of Seattle and King County |      |                                                                                                                                                                                                                    |
| 2001 | "Environmental Excellence Award" for Energy Conservation, from the Association of Washington Business                                                                                                                                                            |      |                                                                                                                                                                                                                    |
| 2000 | "Power Player 2000 Award" for Exemplary Commitment to Energy Efficiency, from Seattle City Light                                                                                                                                                                 |      |                                                                                                                                                                                                                    |
| 2000 | "Grand Award" for Commercial Landscape Construction, from the Washington Association of Landscape Professionals                                                                                                                                                  |      |                                                                                                                                                                                                                    |
| 1999 | "Commuter Challenge Diamond Ring Award" for Longevity and Commitment to Commute Trip Reduction (second award ever granted in Seattle), from the Economic Development Council of Seattle and King County                                                          |      |                                                                                                                                                                                                                    |
| 1998 | "Energy Smart" award for the Phase II Laboratories, from Seattle City Light and Bonneville Power Administration                                                                                                                                                  |      |                                                                                                                                                                                                                    |
| 1996 | "Design Citation" from the American Institute of Architects (AIA) "Advanced Technology Facilities Design" magazine                                                                                                                                               |      |                                                                                                                                                                                                                    |
| 1996 | "Commuter Challenge Diamond Award" from the Economic Development Council of Seattle and King County, for excellence in commute trip reduction (Unprecedented Third Year Winner).                                                                                 |      |                                                                                                                                                                                                                    |
| 1996 | "Innovative Performance in Facilities Management" award from American Productivity & Quality Center                                                                                                                                                              |      |                                                                                                                                                                                                                    |
| 1995 | "Masonry Design" award from the Masonry Institute of Washington                                                                                                                                                                                                  |      |                                                                                                                                                                                                                    |
| 1995 | "Environmental Excellence" award from the Seattle Rotary Club, (Repeat Winner)                                                                                                                                                                                   |      |                                                                                                                                                                                                                    |





Seattle's reputation as a leader in high technology and biotechnology and the allure of the region's natural beauty attract the world's best minds to Fred Hutchinson Cancer Research Center. We draw inspiration from our diverse landscape—from rivers and ocean to mountains and forest. At the Hutchinson Center, we live and breathe a life of science.

## CAMPUS SUSTAINABILITY

**For more information:**

Scott Rusch  
Vice President, Facilities and Operations  
1100 Fairview Avenue North  
Seattle, WA 98109-1024  
P.O. Box 19024  
[srusch@fhcrc.org](mailto:srusch@fhcrc.org)