



“Purchasing Quality Offsets  
in an Emerging Market”

The Climate Trust’s  
5 year Report  
to the Energy Facility Siting Council

September 2004



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# Executive Summary

The State of Oregon took action to address the serious threat of climate change in 1997 when the Legislature enacted the first law in the U.S. aimed at reducing greenhouse gas levels in the atmosphere. This law (the Oregon Standard) requires new power plants built in Oregon to offset part of their emissions of carbon dioxide (CO<sub>2</sub>), the most abundant greenhouse gas. The Oregon Standard allows power plants to comply by making a monetary payment to a non-profit organization meeting certain qualifications. The Climate Trust was chartered as such a qualified organization in 1997. The Climate Trust is a non-profit organization focused on implementing projects that reduce the level of greenhouse gases in the atmosphere. These projects, called offset projects, come in a variety of forms, including renewable energy, energy and transportation efficiency, cogeneration, and capturing CO<sub>2</sub> in forests. Five years ago, The Climate Trust received its first funding under the Oregon Standard, and is now required to submit a progress report to the Energy Facility Siting Council. This report, “Purchasing Quality Offsets in An Emerging Market,” serves as our five-year report.

During these five years, The Climate Trust has established itself as a leader in the offset market. We have developed a diversified, high quality offset portfolio, and in doing so have established strong working relationships and a reputation for excellence with the regulatory, environmental advocacy, and private sectors. Our Board of Directors is comprised of leaders from Oregon’s renewable energy, energy efficiency, sustainable development, regulatory, and power sector communities. Our staff is top-notch, with excellent credentials and a long and successful history of developing, evaluating, and contracting for offsets.

Our top priority is ensuring quality in all projects funded by The Climate Trust. The Oregon Standard requires that offsets meet high eligibility standards. The Climate Trust builds on these standards and has developed screening procedures and contract terms that further ensure the quality of our portfolio.

Our current portfolio includes a diverse array of high quality projects that will offset 1.7 million short tons of carbon dioxide. We are funding a number of technologies, including wind power, multifamily building weatherization, new green buildings, internet-based ride share coordination, traffic signal optimization, cogeneration of electricity from waste steam, low-CO<sub>2</sub> cement blends, and permanent capture of CO<sub>2</sub> via reforestation and forest preservation.

Each offset project funded by The Climate Trust undergoes a thorough review process performed by our staff, by our Board and committees, and by expert outside reviewers. The Climate Trust reviews projects to ensure that funding provided by The Climate Trust is necessary for the project to move forward. The Climate Trust assesses technology and

implementation approaches to ensure that the projects have a high likelihood of achieving the promised emissions reductions. We scrutinize the proposing organizations in our due diligence process to ensure they can implement the proposed project and meet contract performance obligations. CO<sub>2</sub> emissions reductions must be quantified using state-of-the-art monitoring and verification protocols customized for each project. When negotiating contracts to purchase our offsets, we place a strong emphasis on preserving our capital through a variety of funding structures and requiring performance guarantees. We also establish structures to clearly identify legal ownership and transfer of the emissions reductions.

Reducing the amount of carbon dioxide in the atmosphere is our primary function and first priority, but our projects create numerous other benefits. These benefits, among others, may include reducing other atmospheric pollutants, restoring degraded lands, improving watersheds and water quality, protecting endangered species, creating jobs, and saving money on electricity and gasoline. Investing in projects with these strong co-benefits allows us to leverage our funds for the greater good of the environment, economy, and society. These co-benefits create a benefit to cost ratio for the Oregon Standard that approaches \$10 of in-state benefit for every dollar paid by power plants.

While striving to exceed the quality expected by the Oregon Standard, we have remained in compliance with the spending restrictions detailed by the law. We have met the requirement of investing 60% of funds transferred to The Climate Trust within two years with clearly articulated plans to invest at least 80% of funds directly into offset projects. Throughout our work we have maintained a very competitive price for carbon market, with our current portfolio at an average price per ton of \$2.30.

Our first five years serving as a qualified organization has provided many valuable lessons regarding the Oregon Standard and the offset market, including:

- Power plants have shown a preference for the monetary path option, with all engaging The Climate Trust in lieu of direct acquisition of their own offsets.
- The Climate Trust has demonstrated that a non-profit trust is an effective mechanism for acquiring offsets
- Quality offsets are available, but the market is thin.
- Costs have been higher than anticipated by the Oregon Standard:
  - The costs of offset contracts and managing these contracts (i.e., the costs covered by the Offset Fund) has averaged \$2.88/ton, which is greater than the current \$0.85/ton monetary path rate.
  - Due to the early stage of development of the offset market, and to costs of building The Climate Trust's organizational capability, selection and contracting costs were equivalent to around 9% of the Offset Funds, which

- is in excess of the approximately 5% provided under the monetary path.
- Contracting for 60% of the Offset Fund within two years can be achieved, but this is a tight time line, given the emerging nature of the offset market and the large amount time involved in review of projects and negotiation of contracts.
  - It is possible to mitigate financial and environmental risk by using three approaches:
    - Purchasing a portfolio of different offset project types,
    - Maximizing the reliability of offset projects by conducting extensive review of mitigation technology and due diligence on offset developers, and
    - Structuring offset contracts with offset developers to mitigate environmental and financial risk.
  - The intermittent nature of Oregon Program revenues has proven to be a strategic challenge to the Trust. In response, we established a Greenhouse Gas Offset Partnership Program to complement the Oregon Program and help stabilize revenues. The Partnership Program is a growing initiative that provides carbon offsets to large emitters, businesses, and individuals.
  - The Climate Trust's practical experience with offsets has proven valuable to other stakeholders around the country. We are a key contributor to state, regional, national, and international policy discussions on best practices for using offsets to reduce greenhouse gas levels.
  - In the years since the Oregon Standard was put into place, the scientific understanding of the workings of climate change has been grown stronger and clearer; its impacts are now considered to be significantly worse than those of earlier studies.

We greatly appreciate the opportunity we have had to serve the citizens of Oregon by helping to mitigate rapid climate change through the acquisition of high quality carbon dioxide offset projects. In the coming months and years, The Climate Trust anticipates receiving more funding through the Oregon Standard and from our growing Partnership Program. We will continue to bring the same standards of quality, integrity, accountability, and innovation to our work, and look forward to our growing leadership role in the offset market.

# Background

## Oregon's Innovative Carbon Dioxide Standard

In 1997, the State of Oregon responded to mounting evidence that society must work fast to reduce our contribution to global climate change by passing the first law in the nation controlling carbon dioxide (CO<sub>2</sub>) emissions. CO<sub>2</sub> is the dominant greenhouse gas, and electricity generation is the sector with the greatest CO<sub>2</sub> emissions. Oregon's groundbreaking law requires new power plants built in the State to offset a significant portion of their carbon dioxide emissions in order to obtain a permit for construction (Oregon Standard). An offset is a project specifically implemented to reduce the level of greenhouse gases in the atmosphere. Offset projects come in a variety of forms, including renewable energy, energy efficiency, cogeneration, transportation efficiency, and forest carbon sequestration.

As one means of compliance with this law, the Legislature encouraged the development of a non-profit organization to help implement these cutting edge state regulations. This non-profit would receive funding from new power plants and place the funding into carbon dioxide offset projects. Not only was regulating greenhouse gas emissions a first, but establishing a key role for a non-profit trust in the implementation of environmental regulations was a major innovation as well. The Climate Trust was created to serve this role.

Being qualified to implement projects under the Oregon Standard is the formative purpose of The Climate Trust. We take this role very seriously by applying the highest quality standards to all of our offset projects. We are actively involved in domestic and international discussions on standards to ensure we are consistent with or exceeding the requirements of the developing carbon market. When considering each project, we place a strong emphasis on ensuring that the project is additional (meaning that it would not go forward without our funding), on quantifying and verifying the carbon dioxide reductions, and getting the most CO<sub>2</sub> reductions per dollar that we spend.

## The Climate Trust - Promoting Climate Change Solutions

Located on the east bank of the Willamette River just across from downtown Portland, The Climate Trust is a solutions-focused non-profit working towards a more stable climate. ***Our mission is solely focused on offsets: "promoting climate change solutions by providing high quality greenhouse gas offset projects and advancing sound offset policy."***

To date, The Climate Trust has put into place a diverse and high quality offset project portfolio that has made us one of the largest and most experienced offset buyers in the U.S. and world markets. All of the offset funds we receive are invested in high-quality offset

projects. In order to achieve our mission, our Board has adopted a plan based on three main areas for our work: Oregon Power Plant Offset Program, Greenhouse Gas Offset Partnership Program, and Advancing Sound Offset Policy.

### Oregon's Power Plant Offset Program

The Climate Trust was created to serve this state program. After passage of the legislation that established the Oregon Carbon Dioxide Standard, the state's environmental, regulatory, and power sector communities came together to form the first Board of Directors for The Climate Trust. Five years after receiving our first power plant funding, we have a successful record of investing funds from the Oregon Standard into high quality offsets. All power plants to date have chosen to meet the Standard by making a payment to The Climate Trust. We have met all of the requirements the Oregon Standard places upon us as a qualified organization.

### Greenhouse Gas Offset Partnership Program

The Climate Trust has expanded our services to allow power generators, large and small businesses, and individuals to offset their emissions through our Greenhouse Gas Offset Partnership Program. The Partnership Program currently has commitments totaling \$1.4 million from power plants in Massachusetts and Montana, from one of the largest municipally owned utilities in the country (Seattle City Light), from Nike and other corporate participants, and from individuals. All offsets acquired under the Partnership Program meet the strict standards of the Oregon Offset Program.

### Advancing Sound Offset Policy

The Climate Trust makes an important contribution to the development of sound offset policy by sharing our experience as a leader in acquiring, developing, delivering, and managing cost-effective, innovative projects that reduce levels of greenhouse gas in the atmosphere. We are actively participating in state, regional, national, and international climate change policy discussions on best practices for using offsets to reduce greenhouse gas levels.

## Our Vision Statement

We operate The Climate Trust under a vision based on our commitment to high quality, innovative solutions to global climate change.

- The Climate Trust will be a **global leader** and innovator in the emerging offset market.
- The Climate Trust will act in the public interest, and apply **high standards of integrity** to its environmental benefits and business dealings.

- The Climate Trust will pursue **cost effectiveness** while considering **environmental, economic, and social co-benefits** when selecting offsets.
- The Climate Trust will encourage **innovation** in terms of offset technologies, financing mechanisms, and the participation of organizations not traditionally involved with climate change.
- The Climate Trust will involve itself with **reliable partners** in projects with **measurable results**.
- The Climate Trust will accomplish its aims by employing **partnerships** and by **leveraging** its funds and its market leader position.
- The Climate Trust will offer practical and **user-friendly solutions** to its customers.

## Reporting Requirements and Qualification Standards

### Requirement for a 5 year report

Every five years, we are required to report to the Energy Facility Siting Council on our performance.

(C) “Every qualified organization that has received funds under this paragraph shall, at five-year intervals beginning on the date of receipt of such funds, provide the council with the information the council requests about the qualified organization's performance. The council shall evaluate the information requested and, based on such information, shall make any recommendations to the Legislative Assembly that the council deems appropriate.” - Chapter 469.503

This report is being presented to the Energy Facility Siting Council to meet this requirement. Our Executive Director, Mike Burnett met with EFSC on April 23, 2004 at Tigard City Hall to compile a list of questions EFSC requests to be answered. All questions posed by EFSC at the meeting this spring are addressed in this document.

### Requirements of a Qualified Organization

The Climate Trust Board of Directors and staff have taken care to ensure that The Climate Trust is in good standing with all requirements and qualifications necessary to maintain our status as a qualified organization. We are pleased to report that we are meeting all of the requirements placed on us by the Oregon Standard.

A “Qualified Organization” is an organization that meets the following criteria:

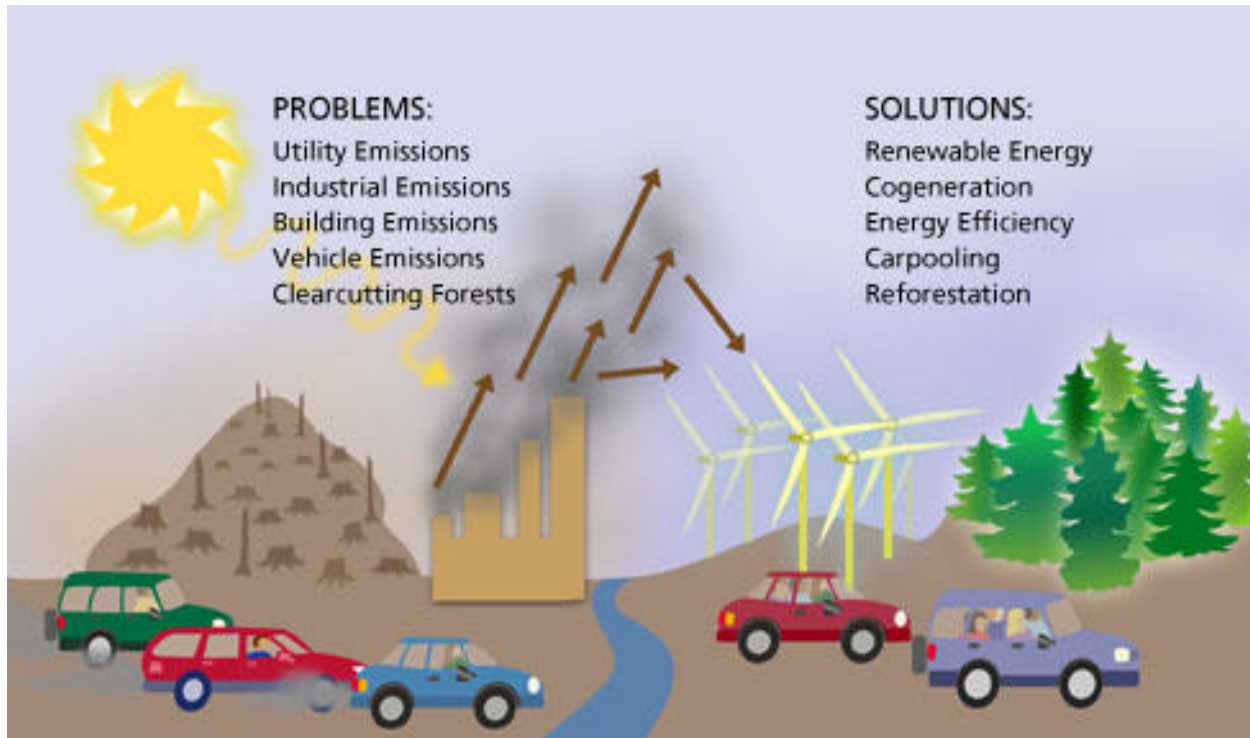
- It is a tax exempt 501(c)(3) non-profit incorporated in or authorized to do business in Oregon
- It has a seven member Board of Directors of which three are appointed by the Energy Facility Siting Council, three are Oregon residents appointed by an environmental nonprofit organization named by the Qualified Organization, and one is appointed by the applicants for site certificates
- It uses offset funds received under the Oregon Standard for offsets that will result in the direct reduction, elimination, sequestration or avoidance of carbon dioxide emissions
- It uses at least 80 percent of the offset funds for contracts to implement offsets
- It obligates at least 60 percent of the offset funds to implement offsets within two years after the commencement of construction of the facility
- It makes available on an annual basis a signed opinion of an independent certified public accountant stating that the qualified organization's use of funds conforms to generally accepted accounting procedures.

## Carbon Dioxide Offset Projects

### What is an Offset?

A greenhouse gas offset is a project implemented specifically to reduce the level of greenhouse gases in the atmosphere. A wide variety of technological approaches can be used to create an offset. These approaches include energy efficiency in buildings, factories, and transportation; renewable energy, such as wind and solar energy; shifting to lower carbon energy sources, e.g., from coal to natural gas; cogeneration; and capturing carbon dioxide in forests and in agricultural soils.

Offsets are named for the fact that they offset the purchaser’s emissions through actions taken by an implementer located at another site. The project implementer transfers the rights to the emission reductions to the offset purchaser, which uses the transferred emission reductions to meet its target. By encouraging this “emissions trading” approach, regulators ensure that mitigation occurs at the lowest total cost to society.



In order to assure that emissions trading results in a tangible net benefit to the environment, offset projects must meet two essential tests. First, it must be demonstrated that an offset project would not occur without the funding provided by the offset purchaser. Second, results must be rigorously quantified. A realistic future baseline projection of emissions absent the project must be developed, and actual emissions must be measured. The difference between the actual emissions and the baseline's projected emission is the greenhouse gas benefit provided by the offset project. A third party with no financial interest in the offset project must verify the approach and calculations used to quantify the results.

In addition to generating a reduction in carbon dioxide emissions, offsets also commonly produce other environmental, social and economic co-benefits. These benefits are further discussed below.

## The Climate Trust's Oregon Offset Portfolio

After completing two international Requests for Proposals (RFP), we have developed a high quality portfolio of twelve offset projects. In 2000, we issued our first RFP using funding provided by the City of Klamath Falls for the Klamath Cogeneration Project. This solicitation yielded 60 proposals which led to offset contracts for 5 projects. In 2001, our second RFP yielded 79 proposals coming from 15 different countries and 25 different states. From this second solicitation, we contracted for seven more projects. Our entire portfolio of projects is outlined below. All meet the strict requirements of the Oregon Standard.

### Innovative Oregon Wind Financing Project - Complete

The Climate Trust and The Bonneville Environmental Foundation (BEF) shared the costs of a joint purchase of the "pollution-avoiding" benefits from a wind farm. This project was scheduled to take ten years; however, this project was completed in just two years, and is the first complete offset project in our portfolio. We purchased the environmental benefits of wind power, called Green Tags, by paying the extra cost of wind power over grid power. This transaction is unique because the CO<sub>2</sub> reductions are being separated from the other environmental benefits and transferred to The Climate Trust, and we retired the 23,178 tons of CO<sub>2</sub> reductions rather than use them in any future trading system of credits. As a co-benefit to the project BEF will also retire the other environmental benefits.



### Preservation of Unique Northwest Forest

With funding from The Climate Trust, the Lummi Indian Tribe will buy more than 1,600 acres of forest land near Mt. Vernon, Washington to protect it from logging. A one hundred year conservation easement will help ensure old growth forests are preserved and degraded lands are reforested to capture 350,000 tons of CO<sub>2</sub> over the project life. The project site is located in the Arlecho Creek watershed and involves rare mid-elevation Cascade mountain forest. In addition to sequestering carbon dioxide, preservation and reforestation of the Arlecho Creek lands will help sustain important salmon and endangered species habitat and preserve the Tribe's cultural ties to the land. The project site is expected to serve as an educational laboratory for the Northwest Indian College, chartered by the Lummi Tribe, to instruct students on measuring the amount of carbon dioxide captured in trees, soil and other vegetation.

### Portland Internet-Based Carpool Matching

The Climate Trust is funding a ten-year interactive Internet site to help commuters from Salem, OR, to Vancouver, WA, conveniently and easily arrange carpools. The free service is being developed in partnership with Portland's Office of Transportation and includes nearly 20 other transit agencies, associations, and businesses to offset 70,000 tons of CO<sub>2</sub>.



CarpoolMatchNW.org addresses the three barriers to conventional carpool matching programs:

- It's anonymous, so that people can feel secure about finding riders.
- It's user-driven and eliminates a coordinator to find suitable riders.
- It's fast and convenient. People can find other riders in a few days, rather than weeks or months.

### Rainforest Reforestation in Ecuador

With funding from The Climate Trust, Conservation International and the Jatun Sacha Foundation will reforest more than 680 acres of highly degraded pastureland in a biological preserve in northwest Ecuador. Rare native hardwoods will be planted and the site will be returned to critical rainforest habitat for a minimum of 99 years. The project site is located in one of the most biologically diverse and threatened areas on Earth. While storing 65,000 tons of CO<sub>2</sub>, the reforested land will help support local communities and preserve a unique composition of flora and fauna, internationally renowned for its diversity and rarity.

### Portland Building Energy Efficiency Project

The Climate Trust has contracted to buy offsets from two City of Portland building energy efficiency programs. These programs reduce carbon dioxide emissions from grid power, natural gas, and fuel oil. The Multifamily Assistance Program increases weatherization activity in multifamily housing units by serving as a one-stop shop for project coordination, technical and financial advice, and incentives. The Commercial Green Buildings Program encourages building designers and owners to construct to Portland's highly efficient LEED Green Building Standards. After the efficiency measures have been installed, The Climate Trust will pay a fixed price per ton based upon the anticipated carbon dioxide reductions over the lives of the measures.



### Portland Traffic Signals Timing Project

The Climate Trust has contracted to buy offsets from a City of Portland project that will improve the timing of traffic signals. Over the next five years, the Portland Office of Sustainable Development will work with the Portland Office of Transportation, Washington County, and the Oregon Department of Transportation to improve signal timing on seventeen major metropolitan area arterials. By reducing idling and acceleration, emissions of carbon dioxide from gasoline and diesel fuel will decrease. After the signal timing has been completed, The Climate Trust will pay Portland based upon the amount of carbon dioxide emissions that will be avoided.

### Cement Substitution Project

The Climate Trust has contracted to buy offsets from the Horst, Inc. Blended Cement Concrete Program. Horst, Inc. is run by Scot Horst, a sustainable materials consultant with ten years of experience in green building projects and sustainable product design. The manufacturing process for Portland cement releases approximately one ton of carbon dioxide for every ton of cement produced. In blended cement, industrial byproducts replace part of the cement in concrete while maintaining its structural integrity. This avoids the emissions of carbon dioxide resulting from the cement manufacturing process. The Climate Trust will pay Horst to recruit participants and provide incentives for the use of blended cement concrete in construction and civil works projects. Part of Horst's funding is contingent on certification of the use of blended cement concrete, and incentives are in place for Horst to exceed the targeted amount of carbon dioxide benefit.

### Lumber Mill Cogeneration Project

The Climate Trust has contracted to buy offsets from a Collins Companies project that will install a cogeneration facility at a lumber mill in Lakeview, Oregon. This factory will switch from a high-pressure to a low-pressure drying kiln, and install a high efficiency 638 kW backpressure steam turbine to generate electricity from previously wasted steam. The co-generated electricity will displace purchased power, and the corresponding carbon dioxide emissions, from the grid. The Climate Trust will provide its funding once the cogeneration facility has achieved commercial operation. Collins guarantees that the project will provide a pre-determined amount of offsets over a 15-year life.



### Deschutes Riparian Reforestation Project

The Climate Trust has contracted to buy offsets from a Deschutes Resources Conservancy (DRC) program that helps landowners in the Deschutes River Basin reforest denuded riparian areas with native trees. The Deschutes River is one of Oregon's premier trout streams. Stock for replanting denuded stream banks will be taken from remnant stands of local native species. As the trees

grow, they will absorb carbon dioxide from the atmosphere and sequester it in biomass. The amount of sequestration will be quantified according to a state-of-the-art monitoring and verification plan. The Climate Trust funding will pay DRC to recruit and provide incentives to landowners to participate in the program. Landowners will enter into legally binding agreements to preserve the trees for at least 50 years.

### Industrial Energy Efficiency with Energy Trust

The Climate Trust recently contracted to buy offsets from an Energy Trust of Oregon program that will implement industrial sector energy efficiency projects.

### State-of-the-Art Landfill Gas Power Project – Terminated

The Climate Trust contracted to buy offsets from a commercial demonstration of power generation that planned to capture methane from landfill gas to efficiently generate electricity, and separate the CO<sub>2</sub> from the waste gas to use in greenhouses. The project would have offset 342,000 tons. The project was located at the nation's fourth largest landfill, the Roosevelt Regional Landfill in south central Washington. The electricity generated by the project over the 30 year life would displace electricity that otherwise would have been generated by burning fossil fuel at other power plants. Unfortunately, this project was terminated by the developer due to difficulties in developing an adequate supply of landfill gas fuel for the generator. Because of the way we structured our contract, all money The Climate Trust had invested in the project was returned. We are working now to place the funding in an alternative project.

## Data Center Distributed Generation Project – Terminated

The Climate Trust contracted to buy offsets from a Sure Power Corporation project that would install ultra-high reliability, onsite power generation systems at data centers. Sure Power's systems were highly efficient, and emitted less carbon dioxide than do conventional systems relying on the power grid. The Climate Trust would have paid a fixed price per ton for these emissions reductions at the end of each year, after they had been quantified by a third party verifier. Sure Power's environmentally preferred systems produced what the company called "24-by-7-by-forever" power through a patented architecture of multiple power generation, storage, and backup devices. Sure Power systems were installed with state-of-the-art environmental controls, and they eliminated the need for environmentally unfriendly back-up batteries and diesel generators. They also integrated combined heat and power (CHP) technologies that recycled byproduct heat through highly efficient heating and cooling systems. Unfortunately, Sure Power Corporation was hit hard by the recent economic downturn and filed for bankruptcy in July 2004. Because this contract was structured to pay for offsets after verification by a third party, The Climate Trust paid no money to Sure Power. We are working now to place the funding into an alternative project.

## Benefits Created by The Climate Trust

### Global Greenhouse Gas Benefits

Our current portfolio of ten offset projects we will offset 1.7 million short tons of CO<sub>2</sub> over the project lifetimes. To put this in perspective 1.7 million tons is equivalent to taking 340,000 cars off the road for a year. That is more than 10% of all cars in Oregon! And we are just getting started. We still have \$3 million to obligate into offset contracts. In addition, three more permitted power plants have committed to the monetary path totaling \$20 million in offset funds. If and when they start construction, we will initiate our process to acquire additional offsets that deliver more emissions reductions.

### Environmental Co-Benefits of Our Projects

Reducing tons of carbon dioxide in the atmosphere is our first priority, but there are many other benefits that come as a consequence of implementing these offset projects. These other benefits are called co-benefits. Our offset projects create environmental and economic co-benefits that meet important needs of society, beyond their greenhouse gas mitigation benefits. When we evaluate offset projects, the co-benefits that will occur are an important decision-making factor. Investing in projects with co-benefits allows us to help society address other problems at the same time we address the CO<sub>2</sub> problem. It allows us to leverage our funds for the greater good of the environment, economy, and society.

In addition to reducing carbon dioxide emissions, many of our offset projects also reduce emissions of other air pollutants. Two of our projects are focused on reducing our emissions from transportation, the second leading source of CO<sub>2</sub> emissions in the nation according to the US EPA. By encouraging drivers to carpool and reducing idling and acceleration at traffic lights, these projects are providing cleaner air to Oregon residents, mostly in the Portland airshed. Our wind energy, building energy efficiency, and cogeneration projects displace fossil fuel-based electricity. This reduces the emissions of SO<sub>x</sub>, NO<sub>x</sub>, and other pollutants from power plants located mostly in rural areas of the state.

A different type of co-benefit is created through our three forest sequestration projects. These projects help restore land which has been degraded by historical land use practices.



The projects improve habitat, reduce soil erosion, improve watersheds and water quality, preserve biodiversity, and protect endangered species such as salmon. Here in Oregon, one of our projects is reforesting the riparian area in the Deschutes River basin, one of the premier trout streams in the state. Another project is working to restore the native lands of the Lummi Indian tribe in Washington State, with an emphasis on improving salmon habitat. Our third sequestration project is located

in the coastal region of Ecuador and is restoring one of the world's top five endangered biodiversity hotspots.

## Economic Co-Benefits of Our Projects

Environmental co-benefits are only one type of co-benefit created by our offset projects. Each project also creates economic co-benefits. By investing in projects, we create jobs and inject money into the communities where our projects are implemented. Several jobs were created to run the Deschutes River program and conduct the reforestation work. Our one international project is providing a number of much needed jobs in a very economically disadvantage part of Ecuador, which is one of the poorest countries in the world. Our other sequestration project is providing jobs and training to members of the Lummi Indian tribe in an area with very high unemployment. Not only sequestration projects create jobs. Our transportation and building efficiency projects create jobs for implementing the mitigation measures as well as managing these programs. Our projects have secondary employment impacts as well, since they create additional demand for manufactured products used to reduce emissions. These products range from wind turbines and cogeneration equipment to insulation and efficient windows to nursery stock and planting equipment.

Another type of economic co-benefit is saving money on electricity and gasoline. Some of our projects enable participants to pay less for energy for their homes, cars, and businesses. Two of our projects are focused on improving transportation efficiency by increasing

ridesharing and reducing idling and acceleration. They not only help save money at the pump, they also reduce traffic congestion and enhance our energy security by reducing our dependence on oil imports. Reduced congestion helps keep the costs of commerce down by speeding up delivery times. Our building efficiency program creates savings on utility bills for residents of multifamily homes, whom often have lower incomes. In addition, another element of this program helps build new high efficiency commercial buildings, which helps the business sector be more competitive by reducing utility bills.

## Benefits to Oregon

The Oregon Standard allows us to purchase carbon dioxide offsets from anywhere in the world. However, we place a priority on and preference for investing these funds in Oregon when we can identify high quality, cost-effective projects located here. As a result of this preference, seven of the ten projects in our portfolio are in Oregon. By investing in our state, Oregon is gaining experience on how to develop high quality offset projects, while we promote the leadership role Oregon has taken in developing a sustainable economy. Oregon is an international leader in clean energy manufacturing and we are helping to support this industry cluster. Our projects are helping to promote a transition to a clean energy future.

Because most of our projects are located in Oregon, most of their resulting co-benefits are located in the state as well. The types of co-benefits occurring from our Oregon projects include improved air quality from reduced transportation emissions, reduced SO<sub>x</sub> and NO<sub>x</sub> emissions from power plants, improved habitat, reduced soil erosion, improved watersheds and water quality, biodiversity preservation, endangered species protection, job creation, stimulation of markets for sustainable products, savings on energy bills and gasoline costs, reduced traffic congestion, and improved energy security.

The Oregon Standard, as implemented by The Climate Trust, has a highly positive benefit-to-cost ratio. In total, power plants have provided The Climate Trust with \$8.8 million in funding. Two of our projects – Traffic Signal Optimization and Building Energy Efficiency – will save Oregonians \$80 million in energy payments over their lifetimes. Using just these two figures yields a benefit-to-cost ratio of nine dollars of benefit for every one dollar of cost. Please note that this favorable benefit-to-cost ratio includes only a very narrowly defined set of benefits. It ignores the primary benefit of the Standard, reduced CO<sub>2</sub> levels, and it ignores all co-benefits except the reductions in energy payments by Oregon citizens, and this from only two of our ten projects.

# The Oregon Power Plant Offset Program

The Climate Trust is the only qualified organization to receive funding from power plants under the Oregon Standard. The Oregon Standard offers power plants two options for compliance. They can either satisfy the need for carbon offsets by independently investing in projects with the approval of EFSC, or they can pay a set per ton fee for the tons they are required to mitigate to a qualified organization. The latter option is referred to as the monetary path option, and the Climate Trust is currently the only organization qualified to perform these services. The power plants find this option more attractive, as every power plant constructed in the state since the law became effective has chosen the Climate Trust to meet its obligation. This section describes the primary funders under the Oregon Program, the operations of the Oregon Program, highlighting how we acquire high quality, low risk offsets, and the current status of our offset portfolio and financial performance.

## Primary Funders of the Oregon Program

Funding for The Climate Trust's portfolio of offsets under the Oregon Program was provided by the following new energy facilities in Oregon:

- Klamath Cogeneration Project, a 480 MW plant in Klamath Falls, OR owned by the City of Klamath Falls and operated by PacifiCorp Power Marketing;
- Hermiston Power Project a 550 MW plant in Hermiston, OR owned by Calpine;
- Coyote Springs 2, a 241 MW plant in Boardman, OR owned by Avista and Mirant;
- Klamath Expansion Project, a 100 MW plant in Klamath Falls, OR operated by PacifiCorp Power Marketing; and
- An underground natural gas storage station constructed by NW Natural.

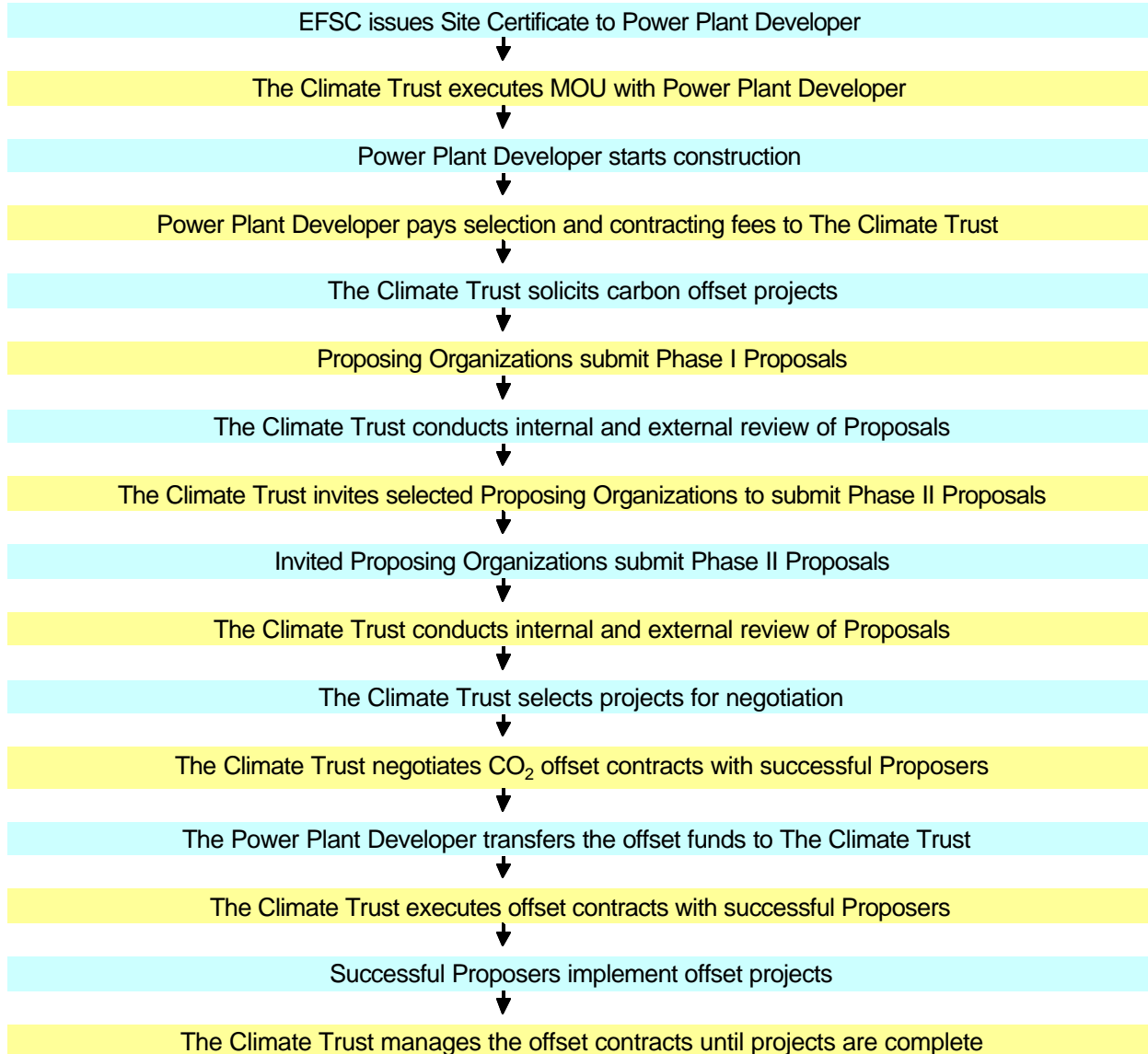
## Process for Acquiring Oregon Program Offsets

Under the Oregon Standard's guidelines, a wide variety of offset projects are eligible for funding. The law also allows projects to be located anywhere in the world. As noted above, however, we give preference to projects located in Oregon. Regardless of the project type or location, each offset project must comply with the Oregon Standard's requirement to purchase quantifiable and measured CO<sub>2</sub> offsets to be generated from projects implemented in the future.

In 2000 and 2001, we used a two-phase Request for Proposal (RFP) process to identify and select offset projects. First, we distributed a solicitation globally inviting short form proposals. Several projects were selected from this first phase and invited to submit a more

detailed phase two proposals. During both phases, proposals were subject to extensive review by staff, outside experts, and our Offset Committee, with all final selections approved by the Trust's Board of Directors. The primary selection factor was cost effectiveness, in terms of the cost per ton of reasonably assured additional CO<sub>2</sub> benefit. After making final selection the purchasing process concluded with negotiation and agreement on a detailed term sheet that was finalized in a contract.

#### IMPLEMENTING THE MONETARY PATH OF THE OREGON STANDARD



The following is a list of selection factors used by the Trust in 2001 to analyze offset projects:

- *Type of greenhouse gas:* As required by Oregon statute, The Trust considers only offsets that directly avoid, displace, or sequester emissions of carbon dioxide (CO<sub>2</sub>). The Trust does not consider emissions reductions of other greenhouse gases for purposes of quantifying emissions reductions, but rather may consider these when evaluating co-benefits.
- *Cost of Offsets:* The Trust considers the price per ton of CO<sub>2</sub> offset.
- *Quantifiability of offsets:* The Trust considers only projects that directly avoid, displace, or sequester the appropriate greenhouse gas, and where the amount of Carbon Dioxide Emissions Benefit can be quantified, taking into consideration any proposed measurement, monitoring, and evaluation of mitigation measure performance. A Carbon Dioxide Emissions Benefit is quantifiable if the total amount of the reduction can be determined, and the reduction is calculated in a reliable and replicable manner.
- *Timing of project implementation:* The Trust considers only projects where mitigation measures will be implemented in the future, subsequent to contract execution. The Trust does not consider projects where mitigation measures have been implemented prior to contract execution. The Trust requires that the implementation of mitigation measures proposed by a project be planned for completion within five years from the date of contract execution.
- *Additionality requirement:* The Trust only funds projects where mitigation measures would not occur in the absence of offset project funding. Projects for which the applicant or other party derives benefits, other than those relating to carbon dioxide benefits (including financial benefits) are eligible.
- *Regulatory surplus:* The Trust considers only projects where the Carbon Dioxide Emissions Benefit is over and above what is required by law. An emission reduction is surplus if it is not otherwise required of a source by current regulations or other obligations.
- *Types of projects:* The Trust considers offsets based on renewable energy, energy efficiency, supply side energy (such as fuel switching), and CO<sub>2</sub> sequestration. Sequestration projects include forest preservation, reforestation, afforestation, and forest management. Agricultural projects which increase soil carbon are eligible, but The Trust especially scrutinizes how these projects address quantifiability and permanence.

- *Portfolio diversity:* The Trust considers it important to acquire a portfolio of diverse project types. Projects which help meet this portfolio diversity objective may receive special consideration.
- *Eligible proposers:* The Trust accepts proposals from non-profit and for-profit corporations, government agencies, national laboratories, individuals, and combinations of these parties.
- *Permanence:* The Trust prefers projects that permanently avoid or displace emissions of carbon dioxide, such as energy-related projects, over projects that temporarily sequester carbon.
- *Guarantees:* The Trust prefers projects that provide guarantees, especially carbon benefit guarantees. Guarantees are especially important for sequestration projects, and would provide important support for any project proposal. Carbon Dioxide Emissions Benefit guarantees must meet an additionality test, and are preferred over money back guarantees. The Trust considers the use of a pay-for-performance approach, where The Trust pays a fixed amount per ton of CO<sub>2</sub> delivered over a specified period of time, as a form of guarantee.
- *Portfolio price range:* Without sacrificing quality, the Climate Trust uses cost effectiveness as the primary selection factor for offsets. We also balance the desire to acquire the least expensive, reasonably assured offsets available with the need to diversify risk with a portfolio of different project types.
- *Replicability and expandability:* The Trust considers the ability to replicate a project in other locations with economies of scale or to expand a project at the original site to be beneficial in project evaluation.
- *Geographic limitations and preferences:* The Trust is open to considering offsets in Oregon, the United States, or internationally. It is important that The Trust acquire some offsets in Oregon. The Trust gives some preference to projects located in Oregon, and is more likely to consider projects with funding levels of less than \$250,000 if they are located in Oregon. The Trust requires an international project to have both a strong U. S. partner and a strong international partner in the host country. The U. S. partner must co-sign the proposal and any offset contract. Host country approval for international projects is strongly encouraged.
- *Leverage of The Trust's funding:* The Trust evaluates the cost effectiveness of proposed projects on the basis of the cost to The Trust per metric ton of Carbon Dioxide Emissions Benefit. Projects for which The Trust provides partial funding, and/or that employ financial leverage, such as revolving loan pools and loan guarantees, are encouraged to apply.

- *Co-benefits:* The Trust prefers projects with environmental, health, and socioeconomic co-benefits, and will request information on co-benefits from proposers. Special consideration may be given to projects with excellent co-benefits.
- *Retirement of credits:* The Trust plans to "retire" the offsets they acquire, holding them in perpetuity for the benefit of the citizens of Oregon. The Trust may use these credits in any manner allowed under any future greenhouse gas regulatory system that may be put into place. The proposer will not be eligible to receive allocation or credit in the future in another regulatory setting for the offsets acquired by The Trust. The Trust will not consider offsets that have already been allocated or awarded credit for carbon dioxide or greenhouse gas emissions benefits in another regulatory setting.

## Monitoring and Verification

Determining the quantity of carbon dioxide emissions reductions resulting from an offset project is a requirement of the Oregon Standard. As a requirement of the offset agreements, The Climate Trust requires each offset project to implement state-of-the-art monitoring and verification to quantify emissions reductions. We require nationally recognized experts to prepare these monitoring and verification plans. The plans calculate the amount of CO<sub>2</sub> that a project reduces below a baseline established to quantify what would occur in the absence of the offset project. The plans require periodic (typically annual) monitoring and verification reports to be prepared and verified by an independent third party, providing an unbiased report of offsets generated. These reports are used by The Climate Trust to determine how many tons of emissions reductions a project yields. In addition, they are used in our contracts to determine if a project is meeting its offset delivery requirements, performance milestones, and/or delivery guarantees. For contracts that pay a set price per ton of offsets, they determine how much an offset provider gets paid. Since monitoring and verification costs can be spread over many years, some of our contracts require the use of escrow accounts to ensure sufficient funding is available to meet these future costs.

## Ensuring Quality and Mitigating Risk

Ensuring offset quality and mitigating risk to our offset funding is the top priority for our organization. We address risks using three approaches: due diligence, portfolio diversity, and contract structure. The first risk mitigation approach was described in a previous section: we perform a thorough review of mitigation technology and due diligence on proposing organizations prior to entering into a contract for offsets.

The second risk mitigation approach involves portfolio diversity, similar to that provided by investing in a mutual fund. We have invested our offset funds into a wide variety of projects,

so that if one type of project fails or underperforms for any reason, this risk is minimized by other projects that are performing as or better than expected. The portfolio as a whole is more resilient against risk than is any individual project in the portfolio.

The third risk mitigation approach is derived from how we structure our offset contracts. We place a strong focus on preserving our capital, reducing the risk of underperformance, and defining the ownership of offsets.

### Preserving our capital

Once a project has been selected for negotiations, the most important goal for The Climate Trust is preservation of our capital. We want to avoid paying our money and getting nothing, or significantly less, than what we paid for. We do this by structuring the payments in our contracts, and by taking a security interest in project equipment if practicable.

Unfortunately, two of the twelve projects in which we have invested have been terminated. One project was cancelled due to technical difficulties, and one company went out of business. Fortunately, we had structured these contracts so that we didn't lose any money. For the Klickitat Landfill Gas Power project, we paid some initial money to start up the project, but required them to pay the money back if the project did not reach commercial operation. It did not, so we received back all of the money that we paid them. The contract for the Data Center Distributed Generation project was structured so that we paid after third party verification of the offsets. Since the company went out of business before delivering any offsets, we never paid them any money. On the two projects that failed, therefore, we recovered or retained 100% of the offset funds that we had obligated.

For the six projects that currently comprise our 2001 Batch of offsets (Hermiston Power Project, Coyote Springs 2, Klamath Expansion, NW Natural), five are structured so that we pay after the event creating the offsets. Payments are triggered by the installation of energy efficiency measures in buildings, the completion of traffic signal optimization, the planting of trees, the commercial operation of a cogeneration system, and the successful installation of industrial efficiency equipment.

In total, across the twelve projects that we have put under contract, all but one had some form of capital preservation built into their contracts. These eleven projects include over 84% of the money that we put into offset contracts. The other project is a programmatic offset with specific tons-based performance milestones that allow The Climate Trust to terminate further funding of the program if these milestones are not met.

## Reducing the risk of underperformance

In addition to securing our capital, we've structured our contracts to ensure a high degree of certainty that the predicted quantity of carbon dioxide emissions reduction will be achieved by the project. To reduce the risk of underperformance, most of our offset contracts include some form of guarantees that CO<sub>2</sub> offsets will occur from the project. We work within the constraints of each proposing organization so the guarantees are structured effectively. The best form of guarantee is not paying until the offset has been verified. For only one of our projects were the tons paid for before the project measures were implemented. Many projects also include a requirement to replace tons if monitoring and verification indicates that a shortfall has occurred. For offsets from programs as opposed to projects, we have included performance milestones allowing the Trust to de-obligate funds as a result of offset shortfall. On power generating projects where we pay upon commercial operation, we require a guarantee of the anticipated quantity of tons.

## Defining the ownership of offsets

Each contract includes extensive legal definitions regarding the offsets. Our contracts require that the offset developer transfer any and all rights to CO<sub>2</sub> reductions resulting from their project to The Climate Trust in exchange for funding. The offset developer (and other implementation partners) is excluded from selling the same tons to another entity, using the tons for other purposes, or selling the CO<sub>2</sub> in other environmental products (e.g., Green Tags). Each contract also includes a requirement for written disclaimers from all project partners and participants, disclosure of sale to regulatory authorities and other parties, and definitions on what "bragging rights" are acceptable. In our programmatic offsets in which participants enroll in a program operated by the offset developer, our offset contracts require participation agreements to create a clear ownership trail to tons of CO<sub>2</sub>. These documents include a Bill of Sale, an Annual Offset Certificate, and third party verification of the quantity of offsets delivered.

# Financial Performance

## Financial Management of the Offset Funds

The Climate Trust operates under a very strict investment policy to ensure offset funds in our possession are not subject to capital risk. Initially, all offset funds were placed into a liquid money market account, which allowed for immediate access with very little risk, but also provided limited interest earnings. Due to the statutory financial structure established by the Oregon Standard, The Climate Trust relies on interest earnings to operate the administrative functions of the organization. Therefore in 2003, The Climate Trust implemented a revised investment policy that allows offset funds to be invested in low risk bonds, which provide higher returns with very little risk to capital. Most of the offset funds were moved into a new account with a large reputable securities firm, and is managed with

the assistance of a community development bank. On September 10, 2003, the Board of Directors adopted a new investment policy providing guidelines for our investment manager in managing these funds. In addition to ensuring that funds are invested conservatively in investment vehicles focused on capital preservation, the policy also includes strict internal controls ensuring that funds are always available when needed.

### **Highlights of the investment policy and internal controls:**

The Climate Trust's investment objectives are, in order of priority:

1. To preserve the Trust's capital.
2. To generate cash for programmatic investments.
3. To earn income sufficient to cover normal operating expenses.

The Climate Trust's investment portfolio consists exclusively of savings, money market and longer term debt instruments. The Climate Trust does not invest its idle funds in equity securities or mutual funds containing equity securities. The Climate Trust does not engage in futures, options or forward contract trading or hedging. Investment performance is compared to appropriate benchmarks by the Executive Director and Administrative Committee on a quarterly basis.

### **Placement of Offset Funds into Offset Projects**

Since the Oregon Standard was implemented in 1997, all five energy facilities that have developed power plants in Oregon chose to provide funds to The Climate Trust through the monetary path option. We believe that this makes a strong statement about the wisdom of providing a monetary path and about the excellent work the Trust has done in meeting the requirements of the Oregon Standard.

### **Meeting Our Statutory Obligations**

The Trust must comply with two important requirements while placing offset funds. First, at least 80% of the offset funds provided to The Climate Trust must be used for contracts to implement offsets, with the remainder set aside for use in managing these contracts over time. Second, we must obligate at least 60% of the offset funds into contracts to implement offsets within two years after the commencement of construction of the facility, unless there is for good cause for failing to do so.

The Climate Trust works diligently to meet all these requirements. To date, the Trust has obligated 60% of funds into offset contracts within the two year requirement for each funding source that has provided funding more than two years ago. For the first funding provided by Klamath Cogeneration, the Trust exceeded the requirement to obligate at least 80% of offset funds, and obligated 83% of funds. For the second solicitation, the Trust has

yet to meet the 80% requirement, but has clearly articulated plans to do so.

Each time we meet such a milestone, The Climate Trust provides an independent auditor with an attestation letter and supporting documents which allow the auditor to verify our statements. The auditor certifies the attestation letter is accurate and a copy of the auditor's testimony letter is sent to the Energy Facility Siting Council. This approach allows The Climate Trust to provide independent assurance regarding our performance on these milestones while keeping our contracts out of the public record.

Additionally, we are audited every year and provide a copy of this audit to the EFSC for review. Below are two charts indicating all funding received by the Trust and dates that we obligated the funding into projects:

|                       | Start of Construction | Offset Funds Received | 60% Funds Invested | 80% Funds Invested |
|-----------------------|-----------------------|-----------------------|--------------------|--------------------|
| Klamath Cogen Project | August 11, 1999       | \$1,197,697           | July 11, 2001      | March 28, 2002     |

|                          | Funds Obligated    | Date Obligated     |
|--------------------------|--------------------|--------------------|
| Carpool-Match NW.org     | \$120,000          | May 24, 2001       |
| Landfill Gas Power*      | \$475,000          | July 5, 2001       |
| Preserving NW Forest     | \$150,000          | July 11, 2001      |
| Oregon Wind              | \$105,120          | September 10, 2001 |
| Reforestation in Ecuador | \$186,000          | March 28, 2002     |
| <b>SUBTOTAL</b>          | <b>\$1,036,120</b> |                    |

\*This project terminated and will be replaced

Our second Request for Proposals was distributed to find funding for four Oregon energy facilities. We decided to batch these four together due to the timing of the incoming funds and to reduce costs associated with the selection process.

|                           | Start of Construction | Offset Funds Received | 60% Funds Invested |
|---------------------------|-----------------------|-----------------------|--------------------|
| Hermiston Power Project   | August 16, 2000       | \$4,218,760           | August 1, 2002     |
| Coyote Springs 2          | January 2, 2001       | \$2,643,097           | December 26, 2002  |
| Klamath Expansion Project | June 1, 2001          | \$261,478             | June 10, 2003      |
| NW Natural                | October 1, 2001       | \$23,566              | June 10, 2003      |

|                            | Funds Obligated    | Date Obligated    |
|----------------------------|--------------------|-------------------|
| Deschutes Reforestation    | \$780,000          | July 25, 2002     |
| Portland Energy Efficiency | \$914,400          | August 1, 2002    |
| Distributed Generation*    | \$1,200,000        | August 1, 2002    |
| Blended Cement             | \$580,125          | November 22, 2002 |
| Lumber Mill Cogeneration   | \$126,700          | December 18, 2002 |
| Portland Traffic Signals   | \$533,000          | December 26, 2002 |
| Distributed Generation II* | \$345,000          | June 10, 2003     |
| Industrial Efficiency      | \$500,000          | July 13, 2004     |
| <b>SUBTOTAL</b>            | <b>\$4,979,225</b> |                   |

\*Distributed Generation and Distributed Generation II were terminated and will be replaced

On October 30, 2003 we received an additional \$434,141 for offset funds from the Hermiston Power Plant as a true-up payment. These funds are yet to be invested into any offset projects, and The Climate Trust has another year to meet the 60% contracting requirement.

#### **Average Cost of the Climate Trust's Offset Portfolio**

One important measure of performance that is of great interest to those involved in the offset market is the average price that we have paid to offset providers per ton of CO<sub>2</sub> delivered. We are cautious in providing this information, as it ignores important features of each offset contract that factor into the price that we pay. An especially important feature affecting price that is not captured in this average is the nature of any guarantees that The Climate Trust receives that act to preserve our capital and ensure that tons are delivered. We urge the reader to use caution when interpreting this information. It is difficult to extrapolate our experience with our projects and contracts to a broader, more active market, where there will be more buyers, more sellers, and many more transactions. Furthermore, we have been buying at the earliest stages of market development, with market standards still under development.

Despite this caveat, we do provide this information because it is important for The Climate Trust, as an early market leader and major buyer in terms of market volume (especially in the United States), to inform the offset market. The Climate Trust has entered into a total of thirteen offset contracts with funding provided under the Oregon Standard. In these contracts (listed in the above two tables), we obligated \$6,015,345 for projects that were expected to offset 3,246,748 short tons of CO<sub>2</sub>. The average price paid to offset providers for this portfolio is \$1.85 per short ton of CO<sub>2</sub>.

| Allocations               | Cost per Ton    |                    |                   | Percent of Cost Allocations |                    |                   |
|---------------------------|-----------------|--------------------|-------------------|-----------------------------|--------------------|-------------------|
|                           | Oregon Standard | Original Portfolio | Current Portfolio | Oregon Standard             | Original Portfolio | Current Portfolio |
| Offset Fund Contracts     | \$0.68          | \$1.85             | \$2.30            | 80%                         | 80%                | 80%               |
| Offset Fund Management    | \$0.17          | \$0.46             | \$0.58            | 20%                         | 20%                | 20%               |
| <b>SUBTOTAL</b>           | <b>\$0.85</b>   | <b>\$2.32</b>      | <b>\$2.88</b>     | <b>100%</b>                 | <b>100%</b>        | <b>100%</b>       |
| Selection and Contracting | \$0.04          | \$0.22             | \$0.42            | 5%                          | 9%                 | 14%               |
| <b>TOTAL</b>              | <b>\$0.89</b>   | <b>\$2.53</b>      | <b>\$3.30</b>     | <b>105%</b>                 | <b>109%</b>        | <b>114%</b>       |

Since we executed these contracts, two projects (involving three contracts: the Distributed Generation II contract was an expansion of the project for which Distributed Generation I was the initial contract) have been terminated. These two projects were the largest resulting from each solicitation, and were some of lower cost projects as well. They represented one third of the funding that we had obligated and nearly half (47%) of that tons for which we had contracted. Their average price paid to the offset providers for these two projects was \$1.34 per short ton of CO<sub>2</sub>, which was well below that of the full contracted-for portfolio. (Please note that as we described in the “Ensuring Quality and Mitigating Risk” section, The Climate Trust had insulated itself from termination risk in these two offset contracts by retaining or recovering 100% of the offset funds obligated to the respective offset providers.) After removing these two projects, our current ten-project Oregon offset portfolio now totals \$3,995,345 in ten obligated contracts that are expected to offset approximately 1,734,118 million short tons of CO<sub>2</sub>. The average price paid to offset providers for our current portfolio is, therefore, \$2.30 per short ton of CO<sub>2</sub>.

This price per ton compares very favorably with other market prices from around the country and the world. Offset prices in Europe’s regulatory market have ranged between \$7 and \$11 per short ton. The Canadian Government has guaranteed a maximum price of around \$10 per short ton under their combined voluntary and regulatory reduction programs. While our prices are lower than others, this does not mean we have sacrificed quality for cost. Outside observers cite our price indicator as one for “quality offsets” in the U.S. market, referring to offsets that must comply with stringent eligibility requirements. In contrast, the lower prices from the Chicago Climate Exchange -- less than one dollar per ton -- are not analogous to offset prices. Rather, they represent the pricing behavior of a self-selected group of companies voluntarily agreeing to meet a modest emissions target with a relief valve created by a large volume of pre-qualified offsets not subject to an additionality test.

### **Comparison of The Climate Trust’s Current Offset Portfolio to the Monetary Path Rate**

The monetary path payments to The Climate Trust provide funding not only for offset contracts (discussed above), but also for monitoring, evaluating, administering, and enforcing these contracts over time. We term these latter activities “offset management.” When

receiving a monetary path payment, The Climate Trust is required to place at least 80% of these funds into offset contracts, and may use up to 20% for offset management. Together, these are termed the “offset fund.” The prior section focused on the 80% put into offset contracts. It provides information of interest (with the aforementioned caveat) to the offset market. It is not, however, comparable to the monetary path rate, which includes all of the offset funds, not just those used to pay for offset contracts.

This section provides information on a measure of performance of especial interest to EFSC: the average cost per ton of CO<sub>2</sub> when the offset management funds are included as well. This metric, since it includes the entire offset fund, is directly comparable to monetary path rate. The monetary path rate is currently \$0.85 per short ton of CO<sub>2</sub>. However, this is the rate that applies to power plants that receive permits since the \$0.85/ton rate was established. Please note that all of the funding provided to The Climate Trust under the Oregon Standard to date was at the original \$0.57 per short ton of CO<sub>2</sub> established in the statute. However, it is most relevant for EFSC to understand how the current \$0.85 per short ton rate compares with our experience in acquiring offsets in the marketplace.

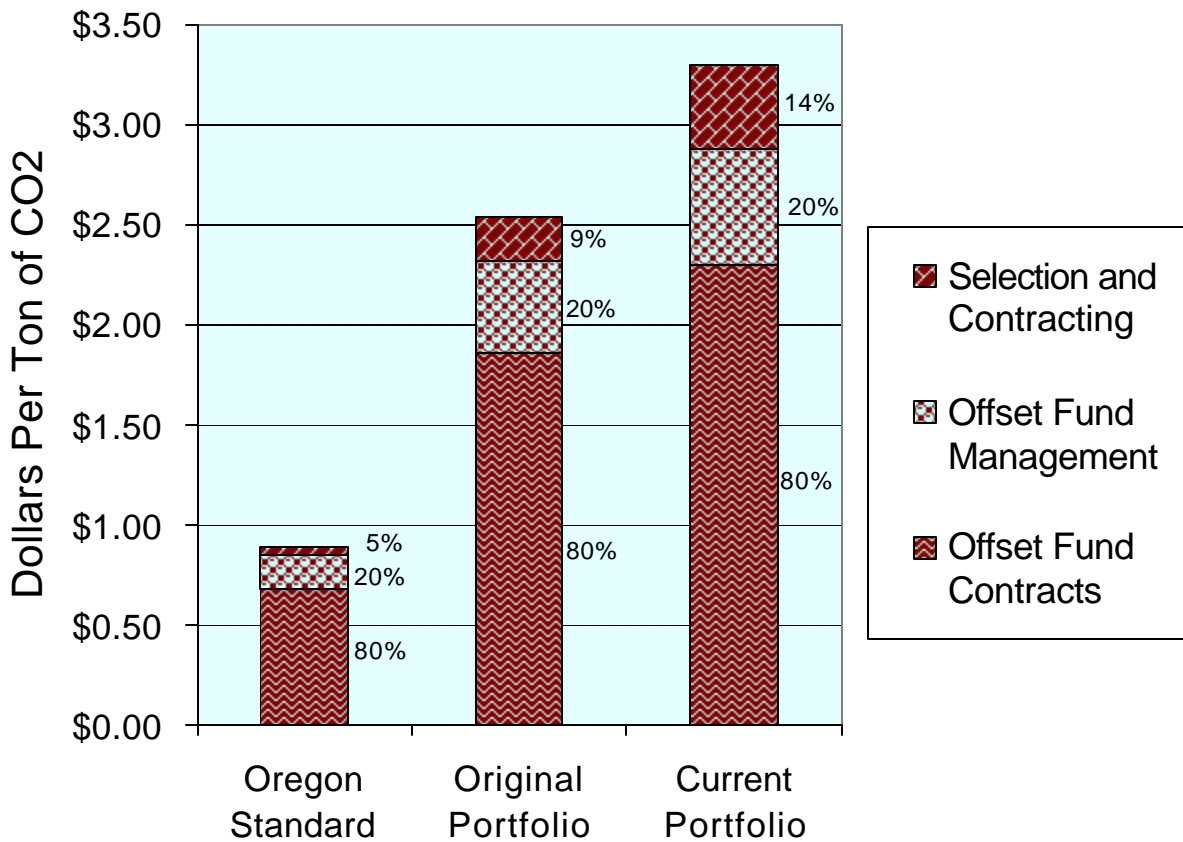
The Climate Trust has set aside \$1,668,920 for managing offset contracts. The Climate Trust now plans to retain the maximum amount allowed for management funds. Since we are still in the early phase of contract management it is difficult to determine the actual costs associated with the work required in the out years. However, we believe that this amount of funding should be adequate for managing our portfolio over the lives to the contracts that comprise it. The 20% of the Offset Fund (the \$0.85/short ton) allotted to monitoring, evaluating, administering, and enforcing offset contracts seems reasonable, given the length of time that we must manage our contracts. For example, for an offset contract lasting 20 years, this would provide 1%/year for contract management. This seems reasonable, especially in comparison with the annual fees associated with other fund-based commodities. Stock mutual funds charge around 1.5%/year for management, while bond mutual funds, perhaps the most administratively efficient pooled investment vehicle, charge around 0.5%/year. Specialized environmental investment funds charge 2-4% per year for the ongoing administration of a fund after completing investment.

Determining the amount of these offset management funds that should be allocated to our current portfolio is complicated by two factors. First, we have not completed contracting for the 2001 Batch of offsets. Second, we have had two terminated contracts. The \$1,668,920 in funding is to manage all contracts that we will put into place to meet our obligations: we have to complete the 2001 Batch contracting and replace the terminated contracts. The simplest way to calculate the amount of money set aside for the current portfolio of projects is on a pro rata basis. As established by the statute, contract management costs add a cost of 25% on top of the costs for offset contracts. This is calculated by dividing the 20% allowed for contract management by the 80% required for offset contracts. Applying this 25%

increment on top of the average cost for offset contracts of our current portfolio (\$2.30 per short ton of CO<sub>2</sub>) provides a figure of \$2.88 per short ton of CO<sub>2</sub>. This number includes all of the offset funds attributable to our current portfolio of projects. It is directly comparable to the \$0.85 per short ton currently set by EFSC as the monetary path rate.

The \$2.88 per short ton of CO<sub>2</sub> represents the cost that The Climate Trust has experienced in assembling the set of high quality offset projects that currently comprise its portfolio. Please note that this excludes the two projects that were terminated. While it is significantly greater than the \$0.85/short ton monetary path rate currently applied under the Oregon carbon dioxide standard, it does represent the costs of assembling a high quality offset portfolio in today's market. The graph below entitled, "Comparing Oregon Standard to Actual Costs," shows how the costs experienced by The Climate Trust in assembling its current portfolio compare to those embedded in the \$0.85 per short ton monetary path rate. The original portfolio that we assembled, including the two terminated projects, is included as well.

## Cost Per Ton of CO<sub>2</sub> Offset Comparing Oregon Standard to Actual Costs



If the monetary path rate stays at \$0.85 per short ton of CO<sub>2</sub>, and market costs stay the same as those that make up The Climate Trust's current portfolio, then the offsets acquired under the monetary path would likely offset about 30% of the amount of tons by which power plants exceed the Oregon Standard. Since the Standard is approximately equivalent to 17% of power plant emissions, the monetary path can be expected to mitigate approximately 5% of the CO<sub>2</sub> emissions of a new power plant paying at the \$0.85 per short ton of CO<sub>2</sub> rate.

Please note that some of our offset contracts are in the early stages of offset delivery. Some currently appear to be over performing and some appear to be under performing. It is premature to formally report on the to-date performance of these projects as measured under the monitoring and verification plans.

### **Selection and Contracting (S&C) Costs and Funding from the Monetary Path**

The Climate Trust's source of funds to cover the costs of assembling our portfolio comes from a fee charged to the power plant developers. The "selection and contracting" fee comes on top of the funds dedicated to offset providers and contract management: it is in addition to the \$0.85/ton currently charged for the Offset Fund. The fee is calculated by a formula set by statute. The calculation results in a payment to The Climate Trust that is equivalent to approximately 5% of the Offset Fund.

The Climate Trust's costs for assembling our offset portfolio are competitive compared to those of other portfolio managers. To date, selection and contracting has cost an average of \$60,000 per project. Other offset portfolio managers and investors commonly face costs of \$150,000 or more per project to pay for identification, assessment and contracting of projects. In addition, our costs also compare favourably with those of brokerage services which – in stark contrast to The Climate Trust – do not take an ownership interest in the performance of the offsets they transact. Environmental commodity brokerage fees are typically about 7% of the transaction value, (compared to the 5% S&C funds provided to the Trust), but their services do not include two of the more costly activities undertaken by the Trust: project evaluation and contract negotiations. Finally, our average cost in percentage terms bears up well in comparison with environmental (non-carbon) fund managers. We have so far incurred costs averaging about 5% of total available funds per year for the two years of each of the selection and contracting processes. This is on the same order of the project acquisition costs of specialty environmental funds, which typically spend around 4% of available funds per year for several years when assembling a portfolio.

Despite this record of cost-effective acquisitions, the costs of selection and contracting exceeded the S&C funds provided for each of our first two rounds of offset acquisition. This was largely because the offset market was in the early stages of development, and because The Climate Trust itself was a new organization that needed to develop its capability to acquire offsets. In order to continue its offset acquisition activities once the provided S&C funds were exhausted, The Climate Trust chose to augment the S&C funds with discretionary funds. The specific costs for each of the two batches and the revenue sources are explained in more detail below, as well as summarized in the table below entitled, "Overview of the Selection and Contracting Process."

In more specific terms, the power plants that funded our first two rounds of offset acquisition (Klamath Cogen and 2001 Batch) provided \$488,000 for selection and contracting. This is equivalent to 5.8% of the offset funds provided. The total cost of this process to date has been \$708,000, resulting in thirteen contracts totaling \$6,015,345. When the funds set aside for contract management are added to this \$6 million in contracts (the total Offset Fund amount for these contracts), it has cost us about 9% of the total offset funds to put these contracts into place (please see the bar chart in the previous section "Cost Per Ton of CO<sub>2</sub>

Offset”).

When we realized that the S&C funds would be depleted before completing our acquisition process, we responded quickly and appropriately in two ways. The first strategy was to tap into discretionary funds, thereby ensuring continuity in a process already begun, a path leading to the highest quality offsets at the best price possible for the Oregon Standard. These discretionary funds came from two sources: a \$169,000 start-up grant provided by the City of Klamath Falls, owner of the Klamath Cogen plant and the first power plant owner to use the monetary path, and interest earnings, largely on the Offset Funds. While discretionary funds were sufficient to fund the completion of the Klamath Cogeneration offset portfolio, they were not sufficient to do so for the 2001 Batch. We drew down our discretionary funds to the lowest prudent level, and then stopped applying discretionary funds to offset acquisition. We then employed the second strategy, one that involved seeking outside funding to complete our process. We approached some foundations, but were not encouraged by the response. We have approached a government agency, and have strong prospects for a receiving a grant that would help us place funding into an offset project of interest to that agency. When appropriate, we also selectively sought to recover some of the costs of selection and contracting from the offset providers whose projects we were evaluating, and with whom we were negotiating contracts. We placed a strong emphasis on maintaining high levels of integrity and accountability in our project selection processes while doing so.

We still face a challenge to fulfill our ongoing obligation to contract for offsets with the 2001 Batch of offset funds. We must still obligate \$738,296 in order to meet the overall requirement of 80%. We also must now re-obligate the \$1,942,038 in offset funds that has come back to us from two terminated contracts. In total, we currently have \$2,680,334 to obligate into contracts from Klamath Cogen and 2001 Batch. Despite having depleted the S&C funds provided, we are still engaged in a process to obligate these funds, and have been successful in securing outside funding that will allow us to make significant progress towards completing the selection and contracting process.

The Climate Trust has evaluated – both during and after our acquisition processes – why the S&C process was costing more than the amount of S&C funds provided. One of the key contributing factors to these higher costs was the fact that the offset market was quite early in its developmental stages. Despite more than 60 proposals in the first batch and 80 in the second, few proposals provided information that was transparent and easy to evaluate. This required considerable staff time to follow up with questions, and in interpreting the proposals. As we narrowed down the selection to the most promising prospects, costs of negotiations (staff time) and contracting (legal services) were higher than anticipated because those that proposed projects were unfamiliar with the offset market and The Climate Trust’s requirements. Many perceived that they were applying for a grant, and contract negotiations

on terms that placed risk on the proposers were time consuming. Finally, we found that our contractors for project assessment (outside review and verification services) and our legal counsel were often somewhat unfamiliar with our specific needs and the details of this new market, leading to higher cost of services and/or more staff time in getting results.

A second contributing factor is that our first two rounds of offset solicitation had considerable overlap. We were running simultaneous two-year acquisition processes one year apart. Before we were done with the Klamath Cogen acquisitions, we started our 2001 Batch acquisitions. This year of overlap was quite demanding on staff, and slowed both processes.

A third and very important contributing factors is that our portfolios are comprised of a larger number of smaller offset projects than we had hoped. The costs of review and negotiations for a smaller project are more or less the same as those for a larger project: the cost of putting an offset project in place is fairly independent of the size of the offset project. In each round we had hoped to contract for just several projects. While our RFPs allowed for more projects, our internal targets were to contract for no more than three projects with the Klamath Cogen funds and for no more than five projects with the 2001 Batch funds. Our results were a five-project portfolio for Klamath Cogen, and we have eight projects in our 2001 Batch portfolio, with more money yet to obligate. We ended up with more projects than we had targeted because we found that there were not enough large projects that met our selection criteria.

One critically important benefit of the sunk cost of the first two rounds of selection and contracting has been building the capacity of The Climate Trust. We are a unique organization that over the past five years has had to pioneer the development of groundbreaking processes and procedures for identifying, evaluating, contracting, and managing offset projects. We now have a staff that has gained valuable experience in acquiring offsets, and a set of technical and legal consultants that better understands our needs and the offset market. In addition, we have developed a set of procedures and criteria for evaluating projects that we can rely on in the future. Finally, we have developed a set of offset contracts that can be used as templates for future negotiations, which should significantly decrease legal costs. All of this represents valuable organizational capital that will bear fruit in the continuing application of acquired knowledge and refinement of established practices in future acquisitions. The returns on this investment we have made in the first rounds of acquisition will be gained in the coming acquisition rounds. Its immediate value is already recognized around the world, literally, by other organizations and public agencies that cite our work as they advance themselves into the field of GHG offset market development.

## Overview of the Selection and Contracting Process

|   | RESOURCES  | PLAN   | RESULTS  | LESSONS LEARNED / OUTCOMES   |
|---|--|--|--|--|
| <b>1<sup>st</sup> Solicitation - Complete</b><br>Klamath Cogen Project  | <ul style="list-style-type: none"> <li>• OR Standard = \$0.57 per ton</li> <li>• Received \$80,257 for S&amp;C</li> <li>• Unrestricted funds / start-up grant</li> </ul>   | <ul style="list-style-type: none"> <li>• Place \$958,158 into offsets</li> <li>• Release a global RFP</li> <li>• 1-6 projects (expected 2-3)</li> <li>• \$50,000 minimum</li> <li>• \$960,000 maximum</li> </ul>       | <ul style="list-style-type: none"> <li>• 5 projects were executed</li> <li>• Cost of S&amp;C = \$165,468</li> <li>• Chose to augment S&amp;C funds with unrestricted funds</li> </ul>  | <ul style="list-style-type: none"> <li>• The offset market was in its infancy</li> <li>• Projects selected were smaller than expected</li> <li>• Legal costs were high to develop first offset contracts</li> </ul>  |
| <b>2<sup>nd</sup> Solicitation – In progress</b><br>Hermiston Power Project<br>Coyote Springs 2<br>Klamath Expansion Project<br>NW Natural Mist | <ul style="list-style-type: none"> <li>• OR Standard = \$0.57 per ton</li> <li>• Received \$407,354 for S&amp;C</li> <li>• Leveraging funds through grants</li> <li>• Processing fee charged to proposers</li> </ul> | <ul style="list-style-type: none"> <li>• Place \$5,717,521 into offsets</li> <li>• Release a global RFP</li> <li>• 3-10 projects (expected 3-5)</li> <li>• \$250,000 minimum</li> <li>• \$2,000,000 maximum</li> </ul> | <ul style="list-style-type: none"> <li>• 8 projects have been executed</li> <li>• Cost of S&amp;C to date \$556,037</li> <li>• Chose to augment S&amp;C funds with unrestricted funds</li> <li>• Anticipate leveraging offset funds with Federal grant</li> <li>• Charged a review and negotiation fee to proposers</li> </ul> | <ul style="list-style-type: none"> <li>• The offset market was still very immature</li> <li>• Projects selected were smaller than expected</li> <li>• Continued to develop offset contracts</li> <li>• Gained valuable staff and legal experience</li> </ul> |
| <b>Future Solicitation*</b>   | <ul style="list-style-type: none"> <li>• OR Standard = \$0.85 per ton</li> <li>• Anticipate \$215,000 for S&amp;C*</li> <li>• Various fees charged to proposers</li> </ul>   | <ul style="list-style-type: none"> <li>• Anticipate \$3,600,000 for offsets*</li> <li>• Limit to 2-3 projects</li> <li>• Contract for larger projects</li> </ul>   | <ul style="list-style-type: none"> <li>• Execute 2-3 high quality projects</li> <li>• Cost of S&amp;C = \$215,000 + various fees to proposers</li> </ul>   | <ul style="list-style-type: none"> <li>• We expect a slightly more mature offset market</li> <li>• Plan to execute fewer projects of larger size</li> <li>• We have more experienced staff</li> <li>• New market standards should decrease costs</li> </ul>  |

\*These estimates are based on Port Westward

At this 5-year juncture in our work, we are well prepared to meet our ongoing responsibility to the Oregon Standard, and are confident that we can do so with the S&C funding provided. Developments in the still-emerging offset market and the organizational capacity that we have developed will allow us to acquire offsets in an even more cost-efficient manner. Our Offset Committee, supported by staff and with input from our Board, is in the process of refining our acquisition plan so that we will be ready when the next power plant provides us funding. This plan has the goal of obliging 80% of total funds on time and within budget, without sacrificing on quality and price. The next new acquisition process could start as soon as late 2004 or early 2005.

Our plan will likely be based upon the following developments in the offset market:

- Fewer, larger offset projects, which have become available as the market has begun to mature;
- Integrating standards for project eligibility that are now under development in collaborations (with The Climate Trust participation) led by leading non-profits in the field (e.g. the World Resources Institute, the World Business Council for Sustainable Development, the Center for Resource Solutions, and the World Wildlife Fund, among others);
- Communicating our minimum contracting requirements to potential offset providers earlier and more often; and
- Requiring various fees from offset providers to help recover costs of project review and negotiation.

In addition, we expect to reap the benefits of the investments we have made in organizational capacity in the coming months and years. These too will allow us to operate a more cost-efficient process. These include:

- Investment in documents, procedures and systems. These range from the mundane adoption of money flow management systems to the ground-breaking development of detailed terms and conditions for contracting, including innovative ways to mitigate risk;
- Investment in scopes and terms for engaging outside contractors for their services in project assessment, review and verification; and
- Investment in staff expertise covering all areas of our work: offset project identification, assessment, and selection; structuring and negotiating offset purchase agreements; and offset portfolio management.

We look forward to reporting to EFSC and the general public on our progress on our current and future acquisitions.

## Lessons Learned

A number of important lessons have been learned during The Climate Trust's initial five years serving as a qualified organization. Some of these lessons are relevant to the Oregon Standard, and some are relevant to The Climate Trust's activities as a qualified organization.

### **Lessons Relating to the Oregon Standard**

- Power plants prefer the monetary path and the use of a qualified organization to the performance path, which involves direct acquisition of their own offsets.
- A non-profit trust is an effective mechanism for acquiring offsets.
- Carbon dioxide mitigation is practicable and available: quality offsets are available, but the market is thin.
- New power plants can bear the cost of CO<sub>2</sub> mitigation cost, which adds less than 0.5% to the life cycle cost of a new gas power plant.
- Assembling a diverse offset portfolio is achievable.
- CO<sub>2</sub> mitigation provides environmental and economic co-benefits: these co-benefits create a benefit to cost ratio for the Oregon Standard that approaches \$10 of in-state benefit for every dollar paid by power plants.
- Costs have been higher than anticipated by the Oregon Standard:
  - The costs of offset contracts and managing these contracts (i.e., the costs covered by the Offset Fund) has averaged \$2.88/ton, which is greater than the current \$0.85/ton monetary path rate.
  - Due to the early stage of development of the offset market, and to costs of building The Climate Trust's organizational capability, selection and contracting costs were equivalent to around 9% of the Offset Funds, which is in excess of the approximately 5% provided under the monetary path.
- Contracting for 60% of the Offset Fund within two years can be achieved, but this is a tight time line, given the emerging nature of the offset market and the large amount time involved in review of projects and negotiation of contracts.
- Oregon's leadership has placed The Climate Trust in a position of influence on regional, national, and international offset policy and market development.

### **Lessons Relating to The Climate Trust's Activities as a Qualified Organization**

- Reliability of the mitigation technology and the offset developers' capability to deliver as promised are paramount when selecting projects.
- Offset developers will sign contracts structured to mitigate The Climate Trust's environmental and financial risk:
  - Most contracts include guarantees (sometimes partial)

- Replace tons if a shortfall occurs
- Give money back
- Security interest in project equipment
- Program offsets include performance milestones that allow The Climate Trust to de-obligate additional funding if program throughput is inadequate.
- Regular reporting leading to defined remedies for underperformance is an important contract management mechanism.
- Structuring payment mechanisms so that The Climate Trust pays after mitigation technology has been implemented is an important and viable risk mitigation approach.
- Pay for verified tons after they are certified by a 3rd party is highly desirable to The Climate Trust, but it is difficult to get offset developers to agree to such a structure, often because of difficulty in arranging for project financing.
- A portfolio of different offset project types mitigates risk.
- It is very important that The Climate Trust to take an active role in managing our offset contracts.
- The intermittent nature of Oregon Program revenues is a strategic challenge to the Trust, but our Greenhouse Gas Offset Partnership Program is starting to become a viable mechanism for stabilizing revenues.

We greatly appreciate the opportunity we have had to serve the citizens of Oregon by helping to mitigate rapid climate change through the acquisition of high quality carbon dioxide offset projects. In the coming months and years, The Climate Trust anticipates receiving more funding through the Oregon Standard and from our growing Partnership Program. We will continue to bring the same standards of quality, integrity, accountability, and innovation to our work, and look forward to our growing leadership role in the offset market.

## More about The Climate Trust

### Partnership Program

In 2002, The Climate Trust's Board adopted a Strategic Vision that would significantly expand the scope and magnitude of our climate change mitigation activities beyond those undertaken as a part of our core Oregon Power Plant Offset Program. This vision builds upon our unique successes with the Oregon Program, and keeps us focused on our mission of providing high quality greenhouse gas offset projects and advancing sound offset policy.

## Intermittent Funding under the Oregon Program

A primary consideration in this vision is to even out the “spiky” revenue stream provided by the Oregon program. Under the Oregon program, we receive one-time, lump-sum funding tied to a rare event: the construction of a new power plant. An intensive two year period to place the majority of this funding into contracts with offset providers follows. We retain sufficient funding to manage these contracts over their lives, but this involves a much lower level of activity than in the initial two years. Thus, each new power plant in our core program provides us with a “boom and bust” funding cycle.

Unfortunately, the duration of each power plant “boom” is typically shorter than the time between “booms.” In Oregon, it is common for three to five years to elapse between new power plants. The Climate Trust is faced with the need to develop additional complementary revenues to sustain its service level and outstanding staff during the “bust” periods. This, along with keeping focused on the strength and quality of our offsets, is a key driver in our strategic vision.

At its outset, The Climate Trust chose to focus almost exclusively on implementing the core Oregon Program in order to assure that it would be successful, so that this success could serve as a foundation for implementing other mission-related programs. The Climate Trust has now moved into a phase of diversification by establishing our Greenhouse Gas Offset Partnership Program. This program provides offsets to institutions and individuals.

The Climate Trust has limited financial means to put this revenue-generating initiative in place, and has relied heavily on grants received to develop the Partnership Program. The funds that we receive under our core Oregon Program are statutorily restricted to acquiring and managing offsets, and cannot be used for developing the Partnership Program, despite its importance to the long term viability of the organization. Furthermore, our pool of reserves is extremely limited, as is our stream of unrestricted revenues.

## Elements of the Partnership Program

The Climate Trust provides services to power generators, large and small businesses, and individuals to offset their emissions through our Greenhouse Gas Offset Partnership Program. The Partnership Program has commitments totaling \$1.4 million from power plants in Massachusetts, and Montana, Nike, and other leading companies from around the world, and individuals. All offsets acquired under the Partnership Program meet the strict standards of the Oregon Offset Program.

The Partnership Program is comprised of four elements.

- *Large Emitter Customized Offsets:* The Climate Trust provides customized offset acquisition services for large emitters. Under this program, the offsets can be owned

by the client as a corporate asset, and used to meet present and future mitigation requirements.

- *Donate-to-Offset:* A simple and efficient way to satisfy the climate change goals for businesses of all types and sizes. Participants make a tax-deductible donation to The Climate Trust, and we use the proceeds to expand our innovative offset portfolio and retire a specified amount of greenhouse gases for the benefit of the environment.
- *www.CarbonCounter.org:* In partnership with Mercy Corps, The Climate Trust has developed a user-friendly, interactive website that allows individuals to calculate carbon dioxide emissions from their daily activities, and make a tax-deductible donation to offset part or all of their emissions.
- *Employee Offset Program:* The Climate Trust helps employers establish an employee donation program with Carboncounter.org to demonstrate and improve an organization's commitment to protecting the environment.

## Policy Contributions

We have worked hard to build an outstanding reputation for the Trust. We are perceived as doing excellent work, and as being easy to work with. We have good working relationships with a number of the leading environmental groups working on climate: Conservation International, The Nature Conservancy, World Resources Institute, World Wildlife Fund, Natural Resources Defense Council, and the California Climate Action Registry all are participating on our Advisory Council, among others. The Advisory Council is an ally in the growth of the Trust, serving as ambassadors, references, and sources of information.

## Who's Who at The Climate Trust?

The Climate Trust's excellent staff has a combined 30 years of experience in assessing and buying greenhouse gas offsets. Our staff and Board have developed and are now managing an excellent portfolio of high quality greenhouse gas offsets. The Climate Trust's Greenhouse Gas Offset Partnership Program has commitments totaling \$1.4 million. These include two power plants in Massachusetts, a power plant in Montana, Seattle City Light, Nike, and the balance from companies and individuals around the country.

We have demonstrated, successful, practical experience acquiring quality offsets. Our experience places The Climate Trust at the forefront of carbon offset contracting. We are buying more offsets at lower cost than any other independent organization in the country. We are implementing innovative ways to reduce risk, ensuring to the greatest extent possible that greenhouse gas credits we purchase will not be "superceded" by future, federal regulations.

## Our Clients and Collaborators

We are well respected, having developed an excellent reputation of quality and integrity among the business, regulatory and non-profit communities. Some of our clients and collaborators include:

- Seattle City Light
- American National Power
- Calpine
- Avista
- PPM Energy (PacifiCorp)
- Nike
- Delta Airlines
- Patagonia
- Natural Resources Defense Council
- World Wildlife Fund
- World Resource Institute
- Battelle Pacific Northwest National Laboratory
- National Renewable Energy Laboratory
- Winrock International
- Center for Resource Solutions

## Board of Directors - Governance of The Climate Trust

Our seven member Board of Directors governs The Climate Trust, as stipulated by the Oregon Standard. Three members are selected by the environmental community; three by the Oregon Energy Facility Siting Council, and one member is elected by the private power generators that are subject to the regulation. Each power generator that has provided offset funding to The Climate Trust may appoint a nonvoting member to serve on the Board so long as The Climate Trust holds funds associated with that site certificate.

### **Our Current Board**

Energy Facility Siting Council Appointees:

- Susan Anderson, Director, City of Portland Office of Sustainable Development (Board Chair)
- Martha Dibblee, Member, Oregon Energy Facility Siting Council (Vice Chair)
- Margaret Gardner, Executive Director, Northwest Energy Efficiency Alliance (Secretary)

Environmental Organization Appointees:

- Martin Goebel, President, Sustainable Northwest
- Bettina von Hagen, Vice President, Ecotrust (Treasurer)
- Alan Zelenka, Resources Manager, Emerald PUD

Energy Facility Developer Appointee:

- Rick Colgan, Plant Manager, Hermiston Power Project, Calpine

Non-Voting Site Certificate Holder Appointees:

- Tim Carlberg, P.E., Project Manager, Avista Corp.
- Peter Hansen, Vice President, Business Development, Calpine
- Michael Hayward, Environmental Specialist, NW Natural
- Roby Roberts, Manager, Renewable Business Development, PPM Energy

## The Climate Trust Staff

Our staff started with one lone pioneer leading the way, our executive director, Mike Burnett. By adding a new staff person each year he has grown the organization to include five highly skilled professionals.

**Executive Director, Mike Burnett** is an environmental engineer with twenty-six years of executive, management, policy, and technical experience in climate change, energy efficiency, and renewable resources, mostly in the Pacific Northwest. As the Trust's initial Executive Director, Mike took the organization through its start up phase, overseeing the development of its accounting system and assisting the Board in developing its policies

regarding the selection of offsets. He works with the Board on strategic planning for the Trust, oversees the development of annual work plans and budgets, and manages the staff. Under his guidance, the Trust has assembled an excellent offset portfolio.

Mike was a Vice President for Trexler and Associates, Inc., an international leader in climate change mitigation. Mike was also the founding CEO for Conservation and Renewable Energy System (CARES), a consortium of public power utilities in Washington State. Mike also has worked in energy conservation, renewable energy, and power planning for two utility trade associations, Bonneville Power Administration, the Western Solar Utilization Network, and the National Park Service.

Mike earned an M.S. in Environmental Engineering from the University of Florida.

**Deputy Director, Michael Ashford** is an economist and energy project analyst with 14 years experience working for private, public, and non-profit enterprises in Washington, DC and Portland, Oregon. As the Trust's Deputy Director, his primary responsibility is managing the Oregon Power Plant Offset Program. Under this program, the Trust implements Oregon's innovative carbon dioxide standard, which requires new power plants to offset a significant portion of their emissions. He leads the Trust's offset selection and negotiation process, and has helped the Trust grow its portfolio over the past two years. Michael's other duties include client relations in the Trust's Greenhouse Gas Offset Partnership Program.

Before joining the Trust, Michael was a Vice President at Econergy International Corporation's (EIC) Washington, DC office, a technical advisory and asset management firm specializing in international energy and clean technology development, where he worked consistently on the design and analysis of green house gas reduction projects. With his colleagues, he co-managed the feasibility study of the World Bank's Prototype Carbon Fund. He has published articles on carbon financing for clean energy projects and has made contributions to the work of the Global Environment Facility, which assists projects around the world in reducing GHG emissions.

Michael holds a M.A. in International Economics and European Studies from The Johns Hopkins University.

**Offset Portfolio Manager, Sean Clark** has been working in the field of climate and atmosphere policy issues for more than ten years. As the Offset Portfolio Manager for the Climate Trust, Mr. Clark is responsible for the management and administration of the Trust's growing portfolio of carbon offset projects.

Prior to joining the Climate Trust, Mr. Clark was with Trexler and Associates (TAA), a climate change consulting company with a focus on working with private sector companies

to address their risk to the climate change issue. Mr. Clark's primary responsibilities were: project management, management of the firm's marketing efforts, and leading TAA's expansion into the Japanese market through a strategic alliance with Sumitomo Corporation. Prior to TAA, Mr. Clark was a program consultant with UNDP's Energy and Atmosphere Program based at their headquarters in New York. Mr. Clark assisted with several of the unit's ongoing programs including the World Energy Assessment and the development of their biomass technology guide.

Sean earned a M.A. in International Affairs at Columbia University's School of International and Public Affairs. He received his B.A. at Claremont McKenna College.

**Program and Operations Manager, Erica C. Graetz** has five years of experience in environmental policy, economics, and program management support. She performs a diverse set of functions at the Trust, including managing the organization's administrative function, overseeing its communications function, assisting in offset evaluation and negotiations, managing offset contracts, tracking offset performance, and providing program support to fund raising and the Greenhouse Gas Offset Partnership Program.

Prior to joining the Trust, Erica was the head of the Superfund Amendment and Reauthorization Act (SARA) Division at United States Compliance Corporation (USCC) in Minneapolis. As an environmental consultant with USCC, Erica assisted manufacturing facilities in complying with federal and state environmental regulations under SARA. Erica also worked for the Fund for Public Interest Research, Citizens for a Better Environment, and the Sierra Club, where climate change was her specialty.

Erica holds a Bachelor of Arts degree from St. Olaf College in Economics and Environmental Studies.

**Office Manager and Program Assistant, Ted Presberg** has been at the Trust since January, 2003. Mr. Presberg performs a diverse array of tasks, including co-managing the Trust's administrative functions, preparing communications materials, supporting the Greenhouse Gas Partnership Program, researching potential offset projects, and maintaining the Trust's website.

Ted earned a Bachelor of Science degree with Departmental Honors from the University of Oregon in Environmental Studies. His thesis on the science of sea level rise and its implications for South Pacific Islands included interviews he conducted while living on the islands of Viti Levu and the Yasewas in Fiji. Ted also designed and coordinated a carbon dioxide emissions removal analysis for the University of Oregon and Lane Transit District in 2000.

## Advisory Council

The Advisory Council is a volunteer group of supporters of The Climate Trust dedicated to helping it successfully achieve its mission of "promoting climate change solutions by providing high quality greenhouse gas offset projects and advancing sound offset policy."

### **Current Member Slate**

- Gail Achterman, Director of the Institute for Natural Resources for Oregon State University
- Dale Bryk, Senior Attorney, Natural Resources Defense Council
- Tom Casten, President of International Cogeneration Alliance; Chairman and CEO of Private Power
- Sally Ericsson, Pew Center for Climate Change
- Ross Gelbspan, author of "The Heat is On" and "The Boiling Point"
- Jan Hamrin, Executive Director of the Center for Resource Solutions
- Joel Makower, Executive Producer of the Green Business Network
- Andrei Marcu, Executive Director, International Emissions Trading Association
- Tia Nelson, Director of the Global Climate Change Initiative for The Nature Conservancy
- David Nemtsov, Executive Director of Alliance to Save Energy
- Ken Newcombe, Manager, World Bank Prototype Carbon Fund Team
- Jonathan Pershing, World Resources Institute
- Glenn Prickett, Executive Director of the Center for Environmental Leadership in Business, and Senior Vice President of Conservation International
- David Sandalow, Environment Scholar, The Brookings Institution
- Diane Wittenberg, President of the California Climate Action Registry

The broad membership of The Climate Trust Advisory Council includes, and is open to representatives from the private, public, and non-profit sectors, including: representatives of large emitters of greenhouse gases; early implementers of climate change mitigation; providers of climate change mitigation technology; members of the offset project development community; actors in the emissions trading market; participants in the climate change policy arena; and members of the environmental media. All members are bound together by a common interest in developing high quality offsets as an effective tool achieving real reductions in greenhouse gas levels.

# Appendix

## Questions of The Climate Trust Regarding Its Five-Year Report

Prepared by: Mike Burnett, Executive Director, The Climate Trust  
April 12, 2004

1. How does The Climate Trust operate its program to purchase offsets as a qualified organization?  
See Page 16
2. Please tell us about the projects from which The Climate Trust has purchased offsets. What technologies are involved? From which organizations has The Climate Trust purchased offsets?  
See Page 9
3. What steps does The Climate Trust take to assure that the offsets it acquires meet the requirements of the Oregon Carbon Dioxide Standard (Oregon Standard), and more generally that the offsets are of high quality?  
See Page 20
4. How does The Climate Trust choose among offset projects?  
See Page 16
5. Describe the measures The Climate Trust takes to manage its money prudently to ensure that its investment capital is preserved.  
See Page 22
6. What steps does The Climate Trust take to mitigate three types of risks that its capital investments in offset projects face:
  - a. the financial risk of failing to get what you pay for;
  - b. the environmental risk that projects fail to perform as expected; and
  - c. the legal risk that others may have or claim title to the emissions reductions that you purchase?

See Page 20

7. The Oregon Standard requires that The Climate Trust place at least 60% of the Offset Funds it receives into offset contracts within two years. How has The Climate Trust performed on this requirement?  
See Page 23
8. The Oregon Standard requires that The Climate Trust place at least 80% of the Offset Funds it receives into offset contracts. How has The Climate Trust performed on this requirement?  
See Page 23
9. Please tell us about the financial performance of The Climate Trust with the monetary path funding provided to it under the monetary path of the Oregon Standard. Has the funding been adequate for offset contracts? For offset selection and contracting? For managing offset contracts?  
See Page 26
10. Does The Climate Trust provide offsets to any other clients, outside of Oregon power plants? If so, please describe these programs.  
See Page 36
11. What contribution has The Climate Trust made to national and international offset policy development?  
See Page 38
12. How does the intermittent nature that the funding The Climate Trust receives under the Oregon Standard affect its staffing strategy and levels?  
See Page 35
13. What are the benefits of the Oregon Carbon Dioxide Standard globally and to Oregon in terms of carbon dioxide mitigated; environmental, economic, and social co-benefits; and policy leadership?  
See Page 13
14. What are the major lessons that The Climate Trust has learned from its five years of serving as a qualified organization?  
See Page 35

## Climate Change Science Has Strengthened

The science behind climate change has continued to develop since 1997 when the law establishing the Oregon Standard was enacted. Scientists are more certain that the climate has already changed, that these changes are byproducts of human activity, and that these effects will accelerate this century. More importantly, scientists consider it essential that we act now to reduce emissions, or major and rapid changes to our climate will cause irreparable and irreversible harm to the environment and overwhelm our economy.

The easiest way to understand the impacts of this global issue are to make them local and personal. If we don't change our ways, we are on a path toward "severely shifted seasons." In fact, by the end of the century, our weather patterns are projected to shift by an entire season. In Portland, our state's largest city, weather typical of our four coldest months will disappear, to be replaced by conditions we now experience when the flowers bloom in April. And four months will be hotter than August, with sweltering temperatures like those Sacramento now has in summer. These are clearly dramatic changes with profound implications for all human institutions and infrastructure.

An important concept to bear in mind is that "global warming" is a bit of a misnomer. What really is happening is better termed rapid climate destabilization. Not only is the average temperature going to increase, but the climate will become more variable, with a much greater frequency of extreme weather events. This will be especially true for precipitation, with two paradoxical results: a much greater percent of rainfall is anticipated in intense deluges, while extended and intense droughts will at the same time become more common.

Summarizing some of the more important evidence of rapid climate destabilization and its implications:

The heat is building up...

- 1998 was the hottest year on record, followed by 2002 and 2003, which were essentially tied.
- The ten hottest years ever documented have all occurred since 1990.
- According to the most recent United Nations report, absent a concerted mitigation effort, the average global surface temperature in the year 2100 will likely be nearly 8 degrees higher than today. This is the same magnitude of temperature change as occurs in an ice age, but in the opposite direction.

The ice is slipping...

- The average arctic winter temperature has already increased by 11 degrees Fahrenheit. The northern polar ice cap has decreased in thickness by 40% and in extent by 6% over the past 40 years. It is expected to completely melt in summers

within 50 years. An ice free arctic has not occurred for 50 million years. Because it is floating, the demise of the arctic ice cap does not affect sea level.

- The melting of Greenland's glaciers, which are perched on top of a land mass, does affect sea level. Coastal glaciers in Greenland are undergoing rapid thinning, as much as 3 feet per year in some places. Recent modeling indicates that 50 more years of unabated greenhouse gas buildup will irreversibly commit the Greenland ice cap to melt in its entirety over the next millennium, adding 23 feet to sea level. The Portland airport is 30 feet above sea level.
- In the region, glaciers in Glacier National Park are receding so rapidly that the park is expected to have no glaciers within several decades.
- Closer yet to home, a recent study of Northwest climate change impacts concluded that the Cascades are the western mountains most at risk for losing snow pack, with business as usual bringing an anticipated decline of 60% over the next fifty years. This makes Oregon one of the states most at risk from climate change, since snow pack drives our hydroelectricity, water supply, and agricultural systems.

There are many scientifically measured impacts...

- Scientifically measured changes include shrinkage of glaciers, thawing of permafrost, later freezing and earlier break-up of ice on rivers and lakes, lengthening of mid-to-high latitude growing seasons, poleward and altitudinal shifts of plant and animal ranges, declines of some plant and animal populations, and earlier flowering of trees, emergence of insects, and egg laying by birds. It is little wonder that a top Ford Motor Company executive recently stated that anyone who claims that global warming is not happening is in denial.

Scientists are sure that humans are causing it...

- The Intergovernmental Panel on Climate Change (IPCC), a consensus group of climate scientists organized under the United Nations, has concluded that the climate is changing, and that human activity is the primary source. In addition, it states that the impacts will accelerate this century.
- National academies of science from 19 countries representing over half of the world's population and emissions have urged implementation of the Kyoto Protocol as a first step in combating the rise in greenhouse gas levels.
- Top US government scientists from the National Oceanographic and Atmospheric Administration and the National Center for Atmospheric Research concluded in Science magazine that human influences are the dominant factor in recent global warming and that "in the absence of climate mitigation policies...the likely result is more frequent heat waves, droughts, extreme precipitation events and related impacts [such as] wildfires, heat stress, vegetation changes and sea-level rise."

Key natural resources will be negatively impacted...

- Reductions in agricultural crop yields are anticipated for many regions, especially in later decades as temperatures increase more. Recent studies have shown that rice, the world's most significant grain crop, yields fall by 10% for each degree of warming.
- Water availability is expected to decrease, particularly in the sub-tropics, where 5 billion people are expected to be living in water-stressed areas by the year 2025.

Nature is at also risk...

- A study published in Nature concluded that climate change could put a quarter of land animals and plants on a path towards extinction over the next 50 years.

As understanding increases, the anticipated future is more grim...

- Results from recently improved supercomputer modeling with a significantly higher degree of confidence indicates that the likely temperature increases associated with doubling of CO<sub>2</sub> levels are one third higher than previously thought.

Dramatic emissions reductions are needed...

- The IPCC has stated that dramatic reductions that go far beyond the Kyoto Protocol are necessary if we are to stabilize the climate and prevent runaway climate change.
- The German Advisory Council on Global Climate Change issued a report focused on preventing dangerous levels of climate change by stabilizing atmospheric levels of CO<sub>2</sub> at 450 ppm. They conclude that the developed world must reduce emissions by 20% below 1990 levels for 2020, and 45-60% by 2050.

## The Ongoing Evolution of Climate Change Policy

Since 1997, policy on climate change has continued to take shape around the world. The Kyoto Protocol has not yet been formalized, since the United States and Russia have so far refused to ratify. However, European nations are moving forward to meet their targets, and individual states in the U.S. are developing policies in the absence of federal regulations. News reports indicate that Russia will likely ratify the Kyoto Protocol by the end of this year, which will make it a binding treaty to signatory countries. Here are some highlights on recent policy development:

The US has rejected an international climate treaty...

- The current US administration policy takes a “wait and see” attitude on climate change. The federal climate plan involves emissions reductions unchanged from business as usual, significant increases in overall emissions, more money for the fossil fuel industry, and reductions for renewable energy and efficiency. Internationally, the administration has withdrawn from the Kyoto Protocol, putting at risk the first step in a long-term, coordinated international effort. Within the US, the administration has declared that carbon dioxide from fossil fuel combustion is not a pollutant worthy of regulation under the Clean Air Act.

International pressure on the US is building...

- Sir David King, Tony Blair’s chief science advisor, castigated the United States in a Science magazine article, saying the climate change is more of a security threat than terrorism. Britain has committed to reducing emissions by 60% by 2050. Canada’s Environment Minister, David Anderson, recently echoed the same climate change is more of a security threat than terrorism theme.
- Late this spring, Prime Minister Tony Blair said there was "no bigger long-term question facing the global community" than the threat of climate change.
- In July, the British and French issued a joint appeal for industrialized nations to take the lead on reducing greenhouse gas emissions from fossil fuel consumption, citing "uncalculable" cost to health, the environment and national economies that "will clearly be higher than the economic cost of measures to tackle the phenomenon."
- In June, the United Nations announced that Vladimir Putin has formally committed Russian to ratifying the Kyoto Protocol by the end of the year. Kyoto will go into effect as an international treaty, despite the US’ rejecting it. Europe plans to proceed with Kyoto-based targets and measures even if the Protocol does not go into effect.

Federal legislation is currently unlikely, but prospects are increasing...

- Last year, the Senate came much closer to passing cap and trade legislation for greenhouse gases than anyone had anticipated. The vote was 43 for, 55 against.

Contrast this to five years earlier, when a 1997 resolution opposing the Kyoto Protocol passed 95 - 0. The same cap and trade bill will be introduced again this year.

States are stepping into the federal leadership vacuum...

- States are taking legal action: attorneys general from twelve states have sued the federal government, arguing that carbon dioxide is a pollutant that should be subject to regulation under the Clean Air Act.
- States are also taking action in the financial markets: state treasurers from six states have joined forces with institutional investors and pension fund managers to urge the Securities and Exchange Commission to require that greenhouse gas liabilities be disclosed on corporate financial statements. Recently, two major utilities, AEP and Cinergy, fended off shareholder resolutions by agreeing to do so.
- States are investigating mitigation options and committing to reduction targets. In late 2003, Governor Kulongoski of Oregon appointed a Global Warming Advisory Group (on which The Climate Trust serves) to recommend actions to help mitigate climate change. Oregon's work is part of a collaboration among the three West Coast states - Oregon, California, and Washington - based on a joint statement of responsibility and cooperation. The states intend to announce joint mitigation action in the fall of this year. Together, these three states constitute 15% of the US population. On the East Coast, eight states including the New England States, New York and New Jersey have established greenhouse gas mitigation targets. This block of states represents another 15% of the US population.
- This summer eight States and New York City filed a lawsuit against five of the largest power companies in the U.S. to demand a reduction in carbon dioxide emissions.

All of these are indicators that the issue of climate change will be of growing importance in the future. Market-based mechanisms such as emissions trading underlie much of the policy thinking on how to achieve the necessary amount of mitigation. Offsets are an essential part of market mechanisms. Since the Oregon Standard was enacted, The Climate Trust has gained considerable and valuable experience as the only non-profit organization in the country that assembles carbon offset portfolios. We have been demonstrating how offsets can be done well and cost-effectively, and are now an important contributor to the policy dialog surrounding how best to mitigate climate change.