


Introduction to The Climate Trust

**Presentation to the Oregon
Environmental Quality Commission
June 16, 2010**



What We Will Cover

- **Carbon Financing Overview**
- **Oregon CO₂ Standard**
 - Monetary Path
- **The Climate Trust**
 - Oregon Program and Portfolio
 - NW Natural Smart Energy
 - Offset Quality Initiative
- **Policy & Market Trends
Looking Forward**



How Carbon Financing Works

Step 1: Policy caps GHG emissions economy-wide, by sectors or sources

Step 2: A capped entity receives/buys pollution allowances and reduces emissions on a specific timetable

Step 3: Entity may also buy measurable and verifiable credits from non-capped projects to meet compliance or voluntary goals

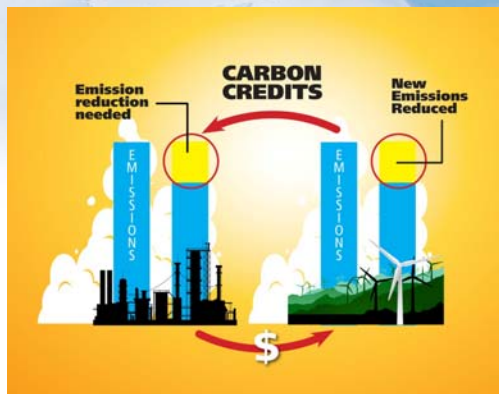


Fig. 1 How carbon financing works



Oregon Carbon Dioxide Standard

- Passed in 1997
- First U.S. state law aimed at reducing CO₂ emissions
- Requires fossil fuel-fired energy facilities to reduce CO₂ emissions by ≈17%:
 - Investing directly in on-site emission reductions
 - Funding and developing carbon projects
 - Providing funding to nonprofit to develop and manage carbon projects on their behalf
(Known as the Monetary Path)



How the Monetary Path Works

- **Current rate is \$1.40 per metric ton**
 - 80% for carbon credits
 - 20% for long-term project management (5-100 years)
 - Plus one-time fee of 5% for investment selection and contracting
- **Payment calculated when site certificate is granted**
- **Law allows for Energy Facility Siting Council (EFSC) to increase the price up to 50% every two years**

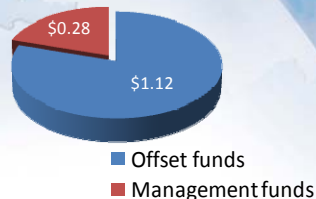


Fig. 2 Monetary path rate funding allocation



The Climate Trust

- **Founded in 1997 as a 501(c)(3) nonprofit based in Oregon**
- **The only qualified organization under the Oregon CO₂ Standard**
- **Investing since 2001 in projects that avoid, sequester or displace emissions of CO₂**
- **Governance**
 - Board nominated by EFSC, environmental groups and utilities
 - Support and oversight from EFSC and Oregon Department of Energy
 - Annual audit



About The Climate Trust

- **Mission:** To provide expertise, financing, and inspiration to accelerate innovative and effective climate solutions that endure
- Provided financing of \$10.5M
- 18 projects, 10 types
- Compliance programs
 - OR, WA, MT, MA
- Voluntary programs
 - NW Natural Smart Energy
 - Colorado Carbon Fund

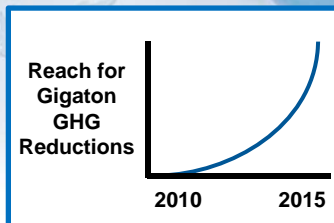


Fig. 3 Emission reduction curve



Our Growth Mirrors the Market

The Climate Trust inspires and accelerates local project-based solutions by:

- 1) Sharing carbon expertise
- 2) Providing carbon financing
- 3) Facilitating a supportive policy environment

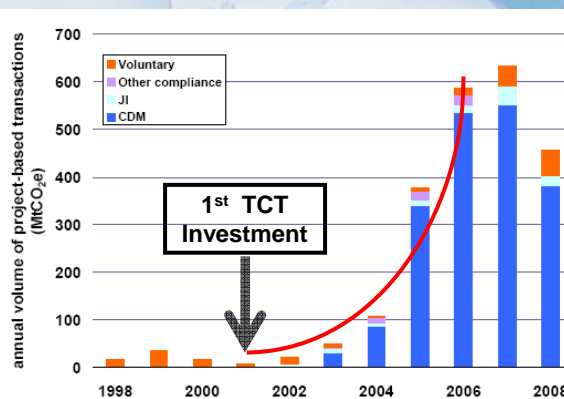


Fig. 4 Project-based emission reduction transaction volume

Source: World Bank, State and Trends of the Carbon Market 2009



Getting to 'Gigaton' Solutions

- **Carbon Management**
 - Expand investment in project types anticipated in policies
 - Pilot new methodologies
 - Effectively aggregate projects
 - Remove financing and other barriers
- **Climate Services**
 - Design, finance and implement climate action plans
 - Assist project developers to finance business models that endure
 - Develop pre-compliance portfolios for investors

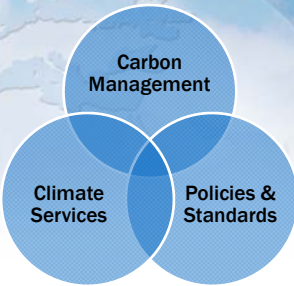



Fig. 4 The Climate Trust services


- **Policies & Standards**
 - Share tangible lessons learned and experience to help improve policies, rules and standards



What Sets Us Apart

- **First U.S. state-based compliance program**
- **Innovative voluntary programs**
 - First by state - Colorado
 - First by natural gas-only firm
- **Measured investment strategy achieves outcomes**
- **Diverse portfolio mitigates financial and other risks**

- **Helped develop industry standards, e.g. VCS**
- **Recognized for quality**
 - Business Council for Sustainable Energy
 - Clean Air Cool Planet
- **Work to ensure quality and industry best practices**
 - Convened the Offset Quality Initiative



TCT's Oregon Program

- First U.S. state-based compliance program
- Oregon CO₂ Standard requirements for offsets:
 - Avoid, reduce or displace CO₂ emissions
 - Projects clearly require carbon financing to succeed
- Investment factors TCT considers:
 - **Price**—Highest quality credits at reasonable cost
 - **Diversity**—Diverse project types mitigate project-specific risks
 - **Innovation**—Promoting development of zero- and low-carbon technologies
 - **Geography**—Preference for projects in Oregon



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Oregon Program Funders

- The following energy facilities have elected the monetary path:



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Oregon Program Is Delivering


- **2.5 million carbon credits**
- **Reinforces Oregon as leader in sustainable development**
- **Benefits Oregon economy** (60% of funding in 9 of 13 projects are in Oregon)
- **Quality carbon credits at competitive price**
- **Risk mitigation practices have protected carbon investments**

- **Environmental co-benefits**
 - Improve air, water quality
 - Preserve biodiversity
- **Economic co-benefits**
 - Preserves jobs
 - Saves money





Life Cycle of Oregon Offsets

| | |
|--------------------|--|
| FUNDING | <ul style="list-style-type: none"> › Energy Facility Siting Council issues site certificate to energy facility developer › Facility developer enters memorandum of understanding with The Climate Trust › Facility developer transfers offset funding to The Climate Trust › Facility developer begins construction of energy facility |
| DEVELOPMENT | <ul style="list-style-type: none"> › The Climate Trust solicits offset projects › Project developer submits short-form proposal › The Climate Trust requests and receives detailed proposal from qualifying project developer › The Climate Trust conducts project due diligence |
| CONTRACTING | <ul style="list-style-type: none"> › Project presented to Offset Committee; if approved, then presented to Board of Directors › If approved, an emissions reduction purchase agreement (ERPA) is drafted and finalized › ERPA presented to Offset Committee; if approved, then presented to the Board › If approved, ERPA is executed |
| MANAGEMENT | <ul style="list-style-type: none"> › Construction begins on offset project › Emission reductions begin once project is operational › Monitoring and verification plan is implemented › The Climate Trust disburses funding to project developer as stipulated in the ERPA |
| DELIVERY | <ul style="list-style-type: none"> › Project monitored annually › Offsets verified by third party › Project developer submits certificate of verified emissions reduction to The Climate Trust › Verified offsets are retired on the Climate Trust's registry |



Oregon Portfolio Accounting




| PROJECT NAME | DATE | TERM | ANTICIPATED CARBON CREDITS |
|--------------------------------|------|-----------|----------------------------|
| Cool Climate Concrete-Phase II | 2009 | 3 years | 300,000 |
| OSU cogeneration | 2007 | 20 years | 338,790 |
| Greenhouse fuel switch | 2007 | 10 years | 25,500 |
| Steam plant upgrade | 2006 | 15 years | 210,328 |
| Truck stop electrification | 2005 | 15 years | 90,000 |
| Paper manufacturer upgrade | 2004 | 10 years | 191,232 |
| Cool Climate Concrete-Phase I | 2004 | 5 years | 249,195 |
| Traffic signals optimization | 2002 | 10 years | 178,572 |
| Portland building efficiency | 2002 | 5 years | 327,776 |
| Ecuadorian rainforest | 2002 | 99 years | 58,890 |
| Deschutes reforestation | 2002 | 50 years | 233,333 |
| Innovative wind financing | 2001 | 10 years | 23,892 |
| Preservation of a NW forest | 2001 | 100 years | 263,159 |
| Internet carpool match | 2001 | 10 years | 1,021 |
| TOTALS | | | 2,491,688 |



OSU Cogeneration

| PROJECT TYPE | PROJECT LOCATION | CONTRACT DATE | CONTRACT TERM | ANTICIPATED METRIC TONS OF CO ₂ (mtCO ₂ e) |
|--------------|------------------|---------------|---------------|--|
| Cogeneration | OR | 2007 | 20 years | 338,790 |

- **Sector:** The commercial sector accounts for nearly 6% of U.S. emissions, or less than half a gigaton
- **Project Partners:** Oregon State University
- **Description:** Combined heat and power plant provides steam and 50% of electricity needs, thereby reducing reliance on grid electricity
- **Other benefits:** Reduces the university's energy bill

Traffic Signal Optimization

| PROJECT TYPE | PROJECT LOCATION | CONTRACT DATE | CONTRACT TERM | ANTICIPATED mtCO ₂ e |
|---------------------------|------------------|---------------|---------------|---------------------------------|
| Transportation efficiency | OR | 2002 | 10 years | 178,572 |

- **Sector:** Transportation totals about 1.9 gigatons of U.S. emissions, or 27%
- **Project Partners:** Portland Office of Sustainability and Office of Transportation, Washington County, and the OR DOT
- **Description:** Optimizing traffic flow on 17 of Portland's most congested roads, reducing idling and acceleration, thereby reducing emissions of carbon dioxide.
- **Other benefits:** Reduced emissions of other air pollutants and reduced travel time and fuel costs for commuters



Paper Manufacturer Upgrade

| PROJECT TYPE | PROJECT LOCATION | CONTRACT DATE | CONTRACT TERM | ANTICIPATED mtCO ₂ e |
|-----------------------|------------------|---------------|---------------|---------------------------------|
| Industrial efficiency | OR | 2004 | 10 years | 191,232 |

- **Sector:** Industry accounts for 19% of U.S. emissions, or 1.3 gigatons
- **Project Partners:** Blue Heron Paper Co., Energy Trust, OR Department of Energy
- **Description:** Retrofitted processing equipment and enhanced material flows to improve energy efficiency by 25%
- **Co-benefits:** Recycles paper instead of filling up landfills



Spotlight: Truck Stop Electrification

| PROJECT TYPE | PROJECT LOCATION | CONTRACT DATE | CONTRACT TERM | ANTICIPATED mtCO ₂ e |
|---------------------------|------------------|---------------|---------------|---------------------------------|
| Transportation efficiency | OR and WA | 2005 | 15 years | 90,000 |

- **Sector:** Transportation totals about 1.9 gigatons of U.S. emissions, or 27%
- **Project Partners:** Shorepower Technologies
- **Description:** Build parking pedestals at truck stops that allow truck drivers to plug into grid energy to power cabs instead of idling engines
- **Co-benefits:** Reduces air and noise pollution and reduces diesel fuel expenses



Voluntary Program: Smart Energy

- First voluntary carbon program in the U.S. by natural gas-only company (NW Natural)
- Voluntary carbon credit program launched in 2007
- Enrolled over 8,250 residential and commercial customers
- Donations raised retired 44,000 carbon credits
- 3 biodigester projects (convert dairy farm methane into clean energy)
- Met PUC obligation



Smart Energy Project: Farm Power

| PROJECT TYPE | PROJECT LOCATION | CONTRACT DATE | CONTRACT TERM | ANTICIPATED mtCO ₂ e |
|--------------------|------------------|---------------|---------------|---------------------------------|
| Anaerobic digester | Mount Vernon, WA | 2008 | 10 years | 60,000 |

- **Project potential:** EPA estimates only 2% of eligible U.S. dairies are using the technology
- **Description:** Project captures, combusts, and converts methane from two dairy farms into a renewable energy source for the community
- **Other benefits:**
 - Destroys dairies' odors and pathogens
 - Provides cow bedding to participating farmers for a savings of up to \$200,000 per year



Policy: Offset Quality Initiative

- Consensus opinions from all aspects of the carbon supply chain—project development, validation and verification, protocol and methodology development, registration
- Resource on quality best practices for policy and rule makers
- White papers on carbon credit quality, CDM, RECs
- Provides regulatory comments, presentations



Trends: Climate Policy

- **State climate policy**
 - Oregon
 - California
 - Washington
- **Regional climate policy**
 - East—RGGI
 - West—WCI
 - Midwest—MGGRA
- **Federal climate policy**
 - American Clean Energy and Security Act (passed House)
 - American Power Act (Senate)



- **Climate-related policy**
 - Energy efficiency
 - Renewable portfolio standards
 - Biofuels and fuel economy
 - Land-use change
 - Tax credits



Trends: Carbon market

- **Explosive growth**
 - From \$91 million in 2006 to \$708 million in 2008*
- **Low carbon prices suppress project development**
- **Uncertainty about climate regulation is stalling investments**
- **Standardization on rise**
 - Development of voluntary standards
 - Increase in carbon service providers



* Ecosystem Marketplace, State of the Voluntary Market Report, 2008

Partnering Opportunities With EQC

- Partner to achieve reinterpretation of Oregon Standard to include all six greenhouse gases (CO₂e)
- Share information about how rule making affects projects and investing
- Assist Oregon public and private entities to prepare for administration of federal climate rules



Q&A

- Fire away!



Thank You

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