

Buyer's Perspective on Forest Carbon Offsets

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ODF Forest Carbon Workgroup Meeting

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3Degrees



2007 DOE Renewable Energy Marketer of the Year



Want to fight Global Warming without changing your carbon-spewing Lifestyle?

CARBON OFFSETS "A" US

You can't! But WE can make you feel like you can! HERE'S HOW IT WORKS-

1 YOU PAY US A FEW HUNDRED BUCKS



2 WE SPLIT YOUR MONEY WITH SOME COMPANY THAT ALREADY HAS PLANS TO REDUCE ITS CARBON EMISSIONS



OR MAYBE WE'LL JUST PLANT SOME TREES IN A DEFORESTED WOODLAND WHERE THEY WOULD HAVE GROWN ANYWAY.

3 THEN WE SHOW YOU SOME FUZZY MATH.

$$\text{CO}_2 + \text{CH}_4 = \text{y} \pi \leq 5 \text{ MPG} \times 10\text{k ft}^2 = \text{GREEN}$$

4 AND YOU CAN CONTINUE YOUR HARD-CHARGIN' WAY ON THE ENVIRONMENTAL HIGH ROAD!



Our Satisfied Customers



"Now I can walk my carbon-neutral footprint all over my energy-guzzling mansion!"

-A. Gore, Nashville, Tenn.



"I travel in my caravan of Hummers and in my private jet, but I'm still a green governor. Hasta la vista, critics. Get it?"

-A. Schwarzenegger Sacramento, Calif.

AND TRY THESE OTHER SERVICES--

@\$#-HOLE OFFSETS "A" US

GO AHEAD, BE AS BIG AN @\$#-HOLE AS YOU WANT! WE'LL PAY SOME POOR JERK TO BE EXTRA-NICE!



YOUR NET IMPACT WILL BE @\$#-HOLE NEUTRAL!

WAR OFFSETS "A" US

(A division of the U.S. government)

YOU SUPPORT THE WAR, BUT THERE'S NO WAY YOU OR YOUR KIDS ARE GOING TO IRAQ! JUST PAY YOUR TAXES, AND WE'LL PAY SOME WORKING-CLASS SHMOE TO GO!



YOUR WAR-POSITIVE FOOTPRINT WILL BE ALL OVER IRAQ!

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garyvarvel.com



Renewable Energy Certificates

Resale and Wholesale
Sales of Renewable
Energy Certificates



Globally Sourced Carbon Offsets

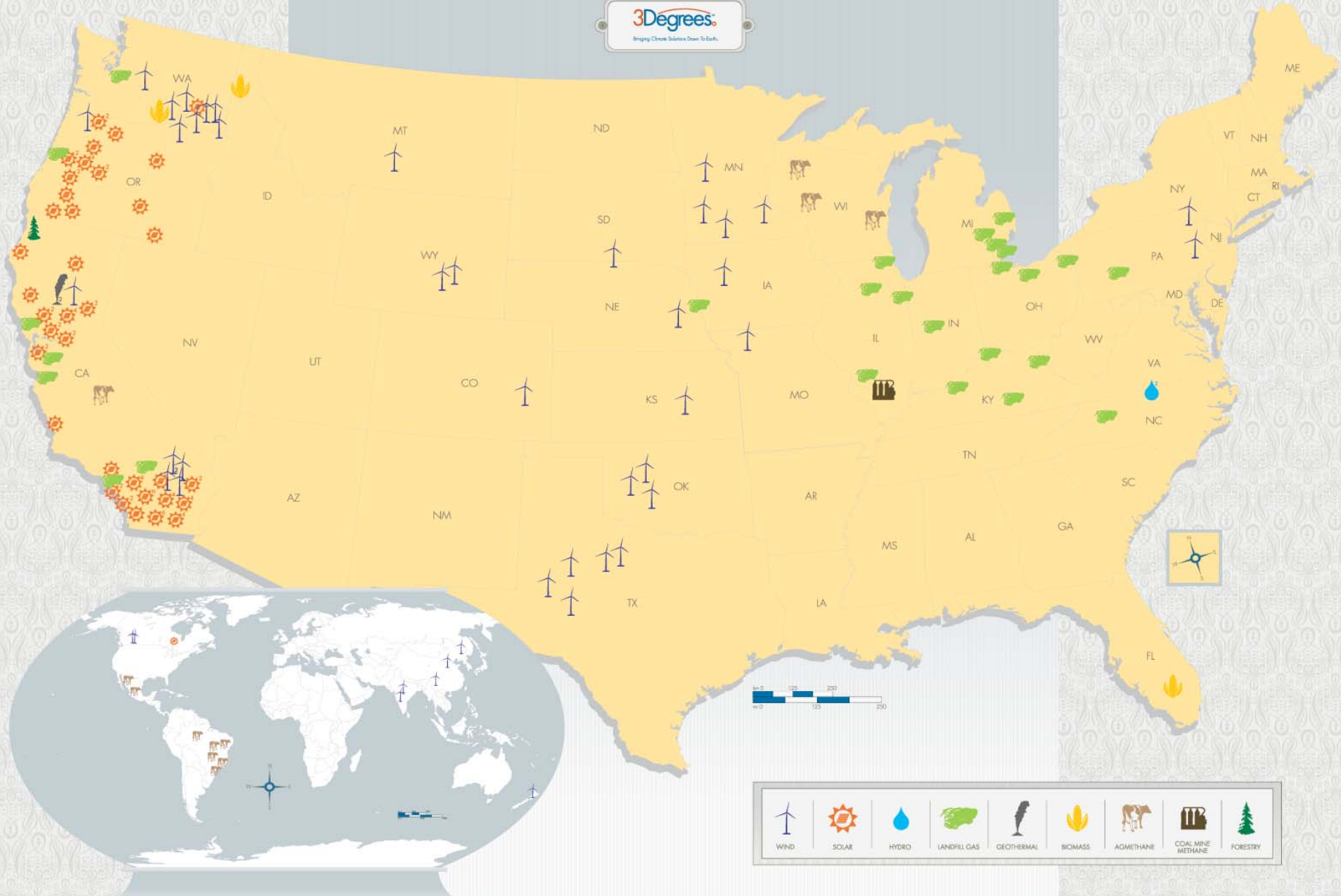
Resale and Wholesale
Sales of Verified
Emission Reductions



Utility Green Pricing Programs

Green Power
Program Design
and Management





3Degrees REC & VER Portfolio Over 140 Projects Worldwide



3Degrees is a proud renewable energy supplier to 7 of the 15 largest green power purchasers in the country...

Wells Fargo and Company, Since 2006

US Air Force, Since 2005

Johnson & Johnson, Since 2004

Starbucks, Since 2004

Dupont

US Department of Energy

Cisco Systems

HSBC

Staples

IBM

...and to 20 of the Fortune 500 participants

- Wells Fargo and Company, Since 2006
- Johnson & Johnson, Since 2004
- Starbucks, Since 2004
- Dupont
- Cisco Systems
- Staples
- IBM
- Safeway
- FedEx Kinko's
- Hewlett-Packard
- Liz Claiborne
- Baxter Healthcare
- Applied Materials
- Coca-Cola
- Pitney Bowes
- UPS
- Roche
- Lockheed Martin
- Agilent Technologies
- Yahoo!

The 3Degrees *Reduce, Renew, Balance* Approach to Carbon Footprint Management

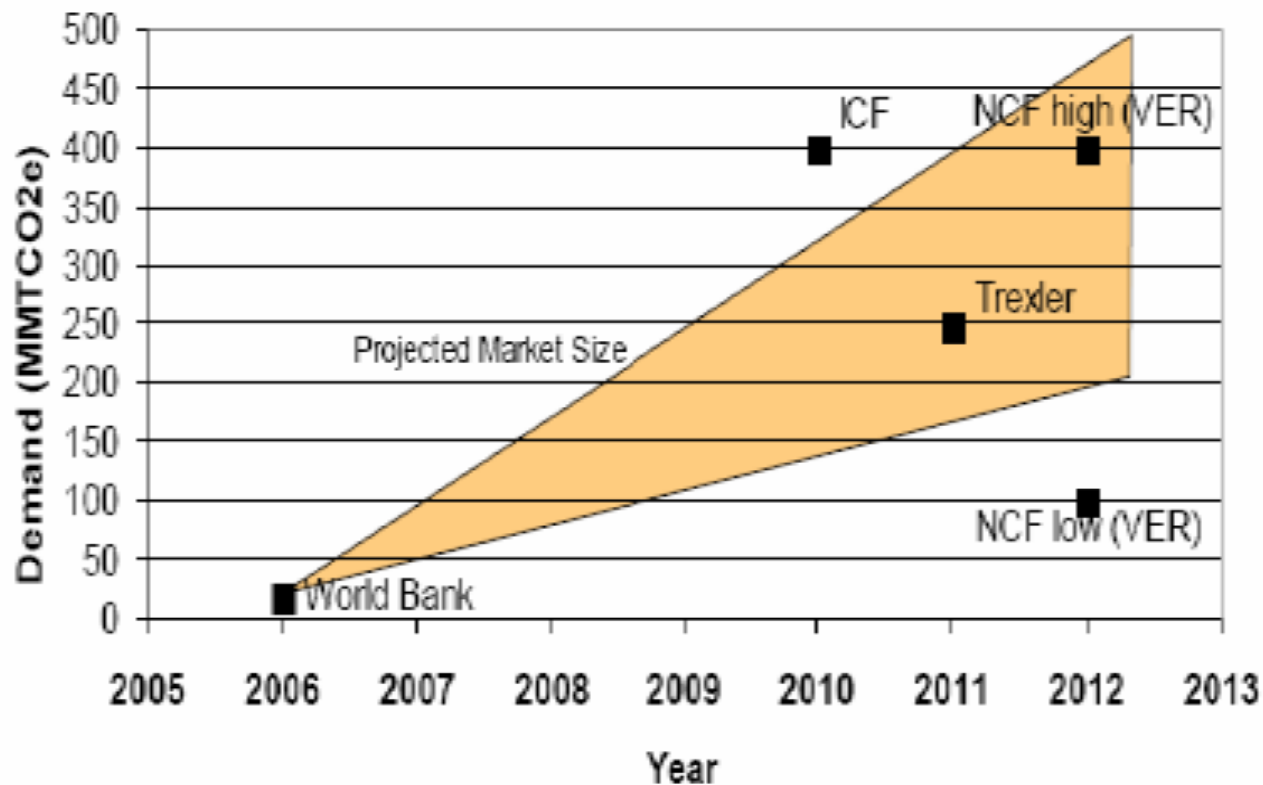
- **REDUCE** - Start by reducing your emissions as much as possible through energy efficiency and conservation.
- **RENEW** - Switch all or a portion of your electricity to renewable energy since it is readily available through onsite generation or [Renewable Energy Certificates \(RECs\)](#) and it is preferable to replace the dirty choice (fossil fuels) with an equivalent clean choice.
- **BALANCE** - Balance out remaining emissions that can not reasonably be eliminated by supporting high quality [Verified Emission Reduction \(VER\)](#) (aka, carbon offset) projects elsewhere.
- As a result, you will be both “carbon neutral” and green powered.

A lush, green forest scene featuring tall, slender evergreen trees with thick, moss-covered trunks. The forest floor is densely packed with vibrant green ferns and other undergrowth. The lighting is soft and diffused, creating a serene and natural atmosphere. The text "The Scale of the Market Opportunity" is overlaid in a bold, yellow font in the center of the image.

The Scale of the Market Opportunity

Market Forecasts Global Voluntary VER Market Demand to be \$1-\$5B by 2012

Recent VER Market Forecasts



Tons traded:
 2006: 20,000,000
 2007E: 75,000,000

Market Size (\$):
 2006: \$91M
 2007E: \$200M

U.S. ~ 60% of global Voluntary Carbon Market
 Point Carbon, Ecosystems Marketplace.

Source: AES-GE.

US Emission Reduction Project Market Could Reach \$7-\$26 Billion/yr by 2012

- Kyoto (EU ETS & CDM)
 - \$30 billion traded in 2006
 - \$70 billion in 2007
- U.S. GHG Emissions Are 50% Larger Than the Industrialized Countries Governed by Kyoto
- Warner-Lieberman (as proposed):
 - Economy-wide cap – 70% reduction by 2050 based on 2005 levels
 - 15% domestic offsets: \$4.2 - \$12.6 billion per year
 - 5% Allowance set-aside for agriculture & forestry CO₂ reductions: \$1.4 - \$4.2 billion per year
 - 2.5% Allowances set-aside for international avoided deforestation: \$.7 - \$2.1 billion per year

3Degrees Investing in Forest Carbon

○ Conservation-Based Forest Management

- Conservation-based forest management creates net additional carbon stocks in a forest area through modifications of harvest and regeneration practices which leads to enhanced wildlife and conservation values as well as sustainable wood products. Extending harvest rotations increases forest volume and sequesters and stores more carbon than typical industrial forest management.

○ Avoided Deforestation

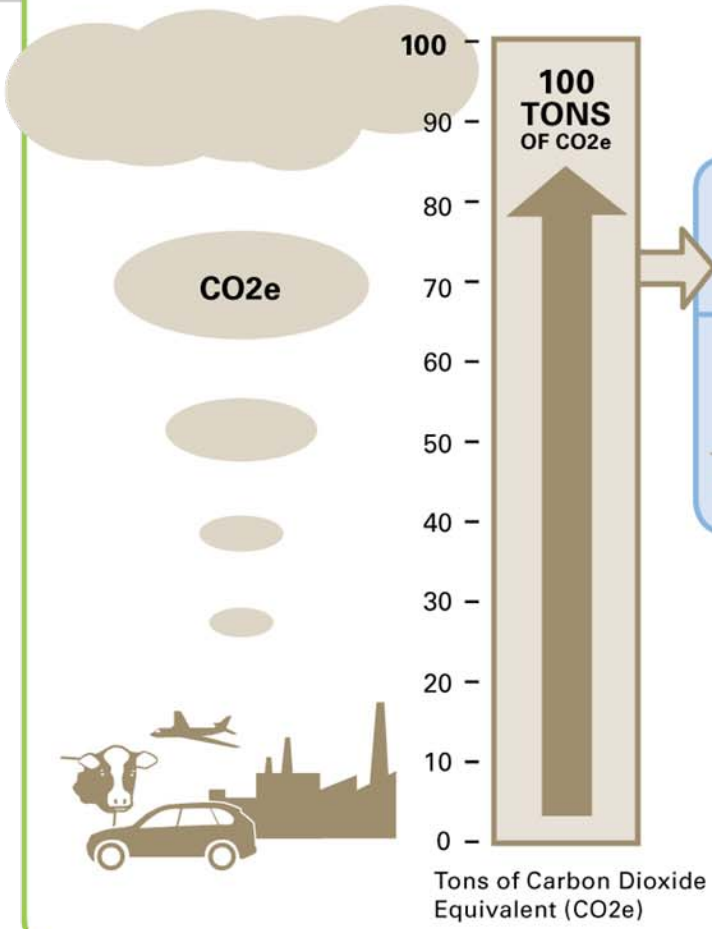
- Reduced Emissions from Deforestation (RED) prevents the release of significant GHG emissions by preventing or slowing the rate of tropical deforestation in the world's richest biodiversity hotspots. Forest loss accounts for 20% of global GHG emissions and roughly 40% of developing country GHG emissions.

○ Reforestation Carbon Sequestration

- Reforestation projects aim to restore native forests to lands that were once forested, but have been out of forest cover for at least 10 years. New forest growth increases sequestration and storage of carbon over time while enhancing conservation values and providing sustainable livelihoods.

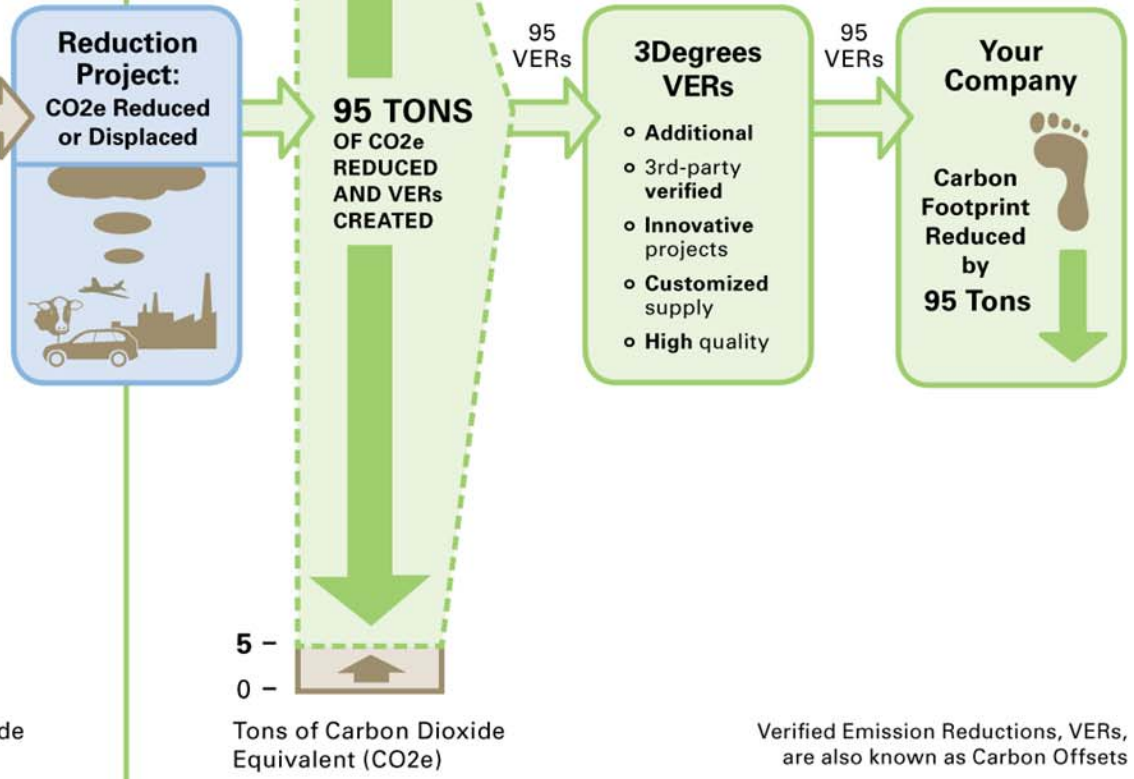
WHAT ARE VERIFIED EMISSION REDUCTIONS (VERs)?

BEFORE: Business as Usual



AFTER: Verified Emission Reductions

VERs represent independently verified reductions of CO₂e below a business as usual baseline scenario.



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What 3Degrees Looks for in a GHG Emission Reduction Project

- VERs are generated from specific projects that reduce GHG emissions below a baseline and have real environmental benefits.
- Variety of technologies:
 - Agricultural methane, Landfill Methane, Coal Mine Methane
 - International Renewable Energy
 - Conservation-Based Forestry and Avoided Deforestation
- VER projects result in **real, quantifiable, additional, and permanent** GHG reductions.
- Without exception, all projects are 3rd-party verified.
- Additionality test defined by the protocol, not the media or a blog
- Multi-stakeholder transparent offset protocols in the public domain.
- VER registries for security against double counting.

Verifying Voluntary Offset Market Claims

Much has Improved

	Renewable Energy Certificates	Verified Emission Reductions
Retail Product Certification	Green-e Energy	Green-e Climate
Project-Based Emission Reduction Protocol	Green-e National Standard	<ol style="list-style-type: none"> 1. Voluntary Gold Standard (VGS) 2. Green-e Climate Standard 3. Chicago Climate Exchange (CCX) 4. Voluntary Carbon Standard (VCS) 5. California Climate Action Registry (CCAR) 6. Community, Climate, & Biodiversity Alliance (CCBA)
Registry	State and Regional Electronic Tracking Systems	<ol style="list-style-type: none"> 1. CCX platform is a registry 2. VCS, CCAR, and Gold Standard all developing registries 2008

Selecting and contracting offset projects

Project identification

Making initial contact with project developers and their agents

Project screening

Preliminary screening against Protocol / client portfolio requirements

Detailed due diligence

Project, counterparty, carbon & “co-benefits”

Contracting

Negotiate risk-sharing, signing Emissions Reduction Purchase Agreement

Offset verification

Independence, ‘delivery’ of carbon

3Degrees View on Forestry VER Standards

- CCAR Forest Protocol
 - + Highly credible and rigorous (NGO endorsed)
 - + Clear standard on additionality (performance standard)
 - + Registry in development
 - + Potential role in AB 32
 - - Limited to CA
 - - No minimum crediting period or project life, no buffer required
 - - Only 2 projects registered
- Community, Climate, and Biodiversity Alliance
 - + Highly credible and rigorous (NGO endorsed)
 - + Explicit co-benefit criteria
 - - Does not quantify and verify GHG reductions

3Degrees View on Forestry VER Standards

- Voluntary Carbon Standard
 - + Highly credible and rigorous
 - + Clear standard on additionality (performance or project)
 - + Registry in development
 - + Reserve buffer requirement
 - - Limited to CDM A/R protocols to date
 - +/- IMF and RED methodologies in development
 - + Hybrid of top down and bottom up approach to methodologies
- Chicago Climate Exchange
 - +/- Positive and negative attributes
 - - CCX credibility gap: lack of stakeholder input
 - + CCX making a market and very innovative

3Degrees Recommendations for ODF WG and WCI on role of Forestry Offsets

1. Offsets have a role in WCI.
2. Forestry must be part of the climate change solution set.
3. Don't reinvent the wheel on forestry protocols.
4. Stay true to the purpose of an offset: enable a regulated entity to comply as if they had made their own emission reductions.
5. Don't try to reward business as usual activities. Forests are already a sink. Purpose of offsets would be to increase the sink.
6. Hybrid top down and bottom up protocol development ideal, enables adoption of early protocols while more complex protocols are developed.
7. Additionality: performance standards when properly defined are preferable.
8. Leakage, baseline, buffers all critical, but keep it manageable.
9. Pick a reasonable start date and move on.
10. Governance: state by state not desirable, need regional cooperation.

What Drives Buyers to Reduce their Carbon Footprint?

Motivations of Different Types of Voluntary Buyers:

1. Speculative and pre-compliance buyers

- Anticipate that GHG emissions will be regulated by federal GHG legislation
- Lieberman/Warner Climate Security Act – S. 2191
 - Credit for early action possible
 - Banked offsets possibly eligible e.g. CCAR, CCX and Climate Leaders
- AB 32
 - Credit for early action possible, but rules not developed
 - CARB endorsement of CCAR Forest Protocol encouraging sign

2. Corporate buyers

- Driven by corporate social responsibility and carbon neutral marketing that creates environmentally friendly product and brand value (i.e. Google, Net Jets, HSBC)
 - Joining numerous voluntary reporting and accounting programs: US EPA Climate Leaders, CCAR, TCR, US Green Power Partnership

3. Retail consumers

- Motivated to “offset” their personal lifestyle emissions such as flying, driving, and energy use

Communicating a Carbon Program: Examples

SAFeway
Ingredients for life.™

Recipe for a Cleaner Environment

What we're doing about it and how you can help

TAKING STEPS TO REDUCE OUR CARBON FOOTPRINT...

SAFeway
Ingredients for life.™

THE ENVIRONMENT. IT'S EVERYBODY'S BUSINESS

Our Commitment

Year	Tons of CO ₂ Reduction
2007	38,000
2008	78,000
2009	117,000
2010	156,000

Environmental Benefits

Year	CO ₂ Reduction Environmental Equivalents
2007	8,440 passenger cars off the road 32,300 acres of pine or fir forests storing carbon
2008	16,880 passenger cars off the road 65,000 acres of pine or fir forests storing carbon
2009	25,320 passenger cars off the road 97,300 acres of pine or fir forests storing carbon
2010	33,760 passenger cars off the road 130,000 acres of pine or fir forests storing carbon

Cleaner Air

Examining our footprint means examining our entire supply chain. Our goal? To apply green development concepts everywhere—construction, operations, maintenance and waste disposal. In 2006, we removed over 350,000 tons of carbon dioxide (CO₂) emissions.

What's more, we've started an innovative energy conservation plan through new, cost-effective building designs, retrofit projects and process improvements. Last year, our retail stores and factories reduced energy consumption by more than 125 million kilowatt-hours.

We've embraced renewable energy.
It's the right thing to do.

Bill Whitton, EPA Acting Assistant Administrator for Air and Radiation

Fighting climate change is not our business. It's the business of our children, grandchildren, great-grandchildren, and generations to come. So we're making it our business. When we take steps to use renewable energy sources and reduce fossil fuel consumption, we're leading the way to a green, healthy, sustainable future. For everyone.

Are You a Green Geek?
Test Your Knowledge

Greenhouse gases get a bad rap in normal quantities, the gases that make up the earth's atmosphere — water vapor, carbon dioxide, methane, and ozone — are actually quite harmless. The problem occurs when these gases build up in the atmosphere too fast. Result? The sun's heat gets trapped, causing a greenhouse effect.

Scientists are looking toward renewable energy to help us break our addiction to fossil fuels, without hurting the environment.

Renewable energy (or "green" power) is electricity generated by resources that can be easily restored and produce zero-to-little pollution. Wind, solar, biomass, and low-impact hydro are just a few examples of green power.

Running with the Wind

Since 2005, we've supported wind energy to offset the power used by all of our fuel stations, corporate offices, and San Francisco, CA and Boulder, CO stores. This totals 823,000,000 kilowatt hours (823M) of Green-e® Renewable Energy Certificates (RECs) each year—the equivalent of 45,500 carbon-storing acres of pine trees. We are the fourth-largest retail purchaser of renewable energy in the U.S., according to the EPA's April 2007 report.

YOU CAN HELP FIGHT CLIMATE CHANGE

{ ONE SIP AT A TIME... }

Preserving Trees Has Helped Us Become the First Carbon Neutral Winery in the U.S.

Parducci

Minidoka Wine Company, in partnership with 3Degrees and the Pacific Forest Trust (PFT), has purchased 188 metric tons of carbon dioxide (CO₂) emissions reductions generated from the sustainable management of 2,150 acres of working reforested forest in Humboldt County, CA.

PFT has 84 acres in the forest reserve and is replanting the "Forest Reserve" of California's redwood forests. The first 40 acres of PFT's forest reserve were planted in 1971. The remaining 44 acres were planted in 1991. The forest reserve is currently managed as a pine plantation and is expected to be harvested in 2015.

Parducci's commitment to environmental stewardship is a key part of its business strategy. The winery's commitment to environmental stewardship is a key part of its business strategy. The winery's commitment to environmental stewardship is a key part of its business strategy.

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