

## Carbon markets— *Buying and selling the right to pollute*

### Wheeling and dealing in pollution with your health — and the health of the planet — as the stakes

Carbon pollution markets, where governments give companies the right to pollute and allow them to buy and sell such rights (a “cap and trade” system), are being widely adopted as one of the largest—and most controversial—tools for limiting global climate change.

In the basic “cap-and-trade” system, the government annually grants to each business a certain number of pollution allowances, each worth one metric ton of carbon dioxide. The allowances are handed out free of charge. The number of allowances is capped for the entire trading system, and decreases each year. If a business pollutes less than its allotment, it can sell extra credits to other companies. If a business pollutes more than its number of allowances, then it must buy extra allowances from other companies that reduced their pollution. Companies that don’t comply face steep fines.

Businesses are supposed to respond to market pressure by finding cost-effective ways to lower emissions.

A business that requires expensive retrofits or replacement of factories will find it cheaper to buy allowances, paying another business that can reduce its emissions at less cost. A pollution market is supposed to be more efficient than government mandates that might not be sensitive to costs and benefits.

Theoretical analysis of supply and demand curves predicts that carbon markets will lead to a least-cost reduction in carbon pollution. Since market participants don’t always make ethical or even rational choices, though, it’s an open question whether they will obey mathematical equations.

Cap-and-trade systems do have potential problems. They give little incentive to reduce carbon faster than the declining caps, since that leads to a surplus of allowances and falling carbon prices. Participants may also face unpredictable prices, which will depend on decisions by government regulators, economic cycles, and even the weather. Prices can also be influenced by speculation; under the European Climate Exchange, a secondary market has developed in derivatives, such as carbon futures and carbon options. Buying a carbon option would give someone a right to buy or sell a pollution allowance at a future date at a preset price. In theory that is supposed to be a way

to control price risk, but in practice it can lead to higher risk.

The basic “cap and trade” approach is subject to several major criticisms:

—It allows many businesses to buy their way out of reducing emissions;

—It provides an incentive to limit total pollution to the cap, but not to do better than that;

—It provides no revenue for government programs that reduce carbon emissions;

—It violates the ethical principle that the “polluter pays”.

Another complication in a carbon market is the “offset”, where businesses can pay for carbon reductions outside the trading system. Many critics con-

*Please see CARBON, Page 2*

## When spring comes can the autumn Big Bend camping/backpacking trip be far behind?

With Earth Day having come and gone, it’s time to start thinking about the annual camping/hiking/backpacking trip to Big Bend National Park.

If you haven’t done so already, break out the ol’ backpack, shine up your favorite hiking boots, and dust off your best designer bandana because you’ll be needing them before you know it.

But, if you’re like most of us and tend to procrastinate, you could wait until the last minute — like August or September, maybe.

But at least mark your calendars for November 11-15 because those are the dates a hardy group of adventurers from the Fort Worth Group of the Sierra Club will spend in one of the nation’s most beautiful national parks.

Participants will be able to choose from at least two trip levels.

There will be a base camping option in the Chisos Basin with daily hiking opportunities to some of the high

points in the park (The Window, Emory Peak, Lost Mine Trail, the South Rim, and other day hikes are possibilities).

For the more hardy souls, there will also be a backpacking option on the Marufa Vega Trail, one of the prettiest in the park. And, according to that trip leader, one of the easiest. The trail is downhill both ways, has absolutely no thorns on the cactus, and features coffee shops every three miles.

Of course, trail conditions are subject to change and some participants may not necessarily agree with that trail assessment, he cautions.

The group will leave early Wednesday morning, Nov. 11, in a 15-passenger van and return to Fort Worth late Sunday, Nov. 15.

Cost for the trip is \$175.

For more information, contact Todd Nichols at 817-937-5217 or James Moody at 817-688-3656.

Greater Fort Worth

# Sierra Club

P.O. Box 1874, Burleson, TX 76097-1874  
<http://sierraclub.org/chapters/tx/fortworth/index.html>  
Change of address: [address.changes@sierraclub.org](mailto:address.changes@sierraclub.org)

## Executive Committee

Chair Don Young 817-437-0175

[fw.sierra.chair@gmail.com](mailto:fw.sierra.chair@gmail.com)

Vice-chair Nancy McVean 817-596-5209

[fw.sierra.vice.chair@gmail.com](mailto:fw.sierra.vice.chair@gmail.com)

Treasurer Bonnie Bowman 817-266-8569

[fw.sierra.treasurer@gmail.com](mailto:fw.sierra.treasurer@gmail.com)

Secretary Scott Carpenter 817-253-0158

[fw.sierra.secretary@gmail.com](mailto:fw.sierra.secretary@gmail.com)

Bonnie Bowmann 817-266-8569

[fw.sierra.discussion@gmail.com](mailto:fw.sierra.discussion@gmail.com)

Dewayne Quertermous 214-558-1407

[fw.sierra.conservations@gmail.com](mailto:fw.sierra.conservations@gmail.com)

Mark Peters 817-937-9696

[fw.sierra.programs@gmail.com](mailto:fw.sierra.programs@gmail.com)

Barry O'Neal 817-483-4315

[fw.sierra.excom1@gmail.com](mailto:fw.sierra.excom1@gmail.com)

## Conservation Contacts

Chair Dewayne Quertermous 214-558-1407

Air Glen Ford 817-731-8382

[fw.sierra.air@gmail.com](mailto:fw.sierra.air@gmail.com)

Water Bob Scott 817-282-1372

Sustainability Terry Jensen 817-545-0870

[fw.sierra.sustainability@gmail.com](mailto:fw.sierra.sustainability@gmail.com)

Cool Cities VACANT

## Outings Contacts

Chair Nancy McVean 817-596-5209

[fw.sierra.outings@gmail.com](mailto:fw.sierra.outings@gmail.com)

Canoeing Marilyn Turnage

[fw.sierra.canoe@gmail.com](mailto:fw.sierra.canoe@gmail.com)

Bicycling Dan Smith 817-361-8131

[fw.sierra.bicycle@gmail.com](mailto:fw.sierra.bicycle@gmail.com)

Day hikes, Car camps Claudia Blalock 817-924-6242

[claudia.blalock@att.net](mailto:claudia.blalock@att.net)

Backpacking VACANT

## Administrative Contacts

Membership Claudia Blalock 817-924-6242

[fw.sierra.membership@gmail.com](mailto:fw.sierra.membership@gmail.com)

Programs Mark Peters 817-937-9696

[fw.sierra.program@gmail.com](mailto:fw.sierra.program@gmail.com)

Fundraising Dewayne Quertermous 214-558-1407

[fw.sierra.fundraising@gmail.com](mailto:fw.sierra.fundraising@gmail.com)

Mid-Suburban Group Terry Jensen 817-545-0870

[fw.sierra/midsuburban@gmail.com](mailto:fw.sierra/midsuburban@gmail.com)

Sierra Singles VACANT

## Newsletter Contacts

Editor James Moody 817-295-1623

[fw.sierra.newsletter.editor@gmail.com](mailto:fw.sierra.newsletter.editor@gmail.com)

Circulation Steve Turner 817-457-7131

[fw.sierra.newsletter.circulation@gmail.com](mailto:fw.sierra.newsletter.circulation@gmail.com)

Circulation Party Glenn Ford 817-731-8382

[fw.sierra.newsletter.party@gmail.com](mailto:fw.sierra.newsletter.party@gmail.com)

## Cyber Space Contacts

Webmasters Dewayne Quertermous, Scott Carpenter

[fw.sierra.webmasterr@gmail.com](mailto:fw.sierra.webmasterr@gmail.com)

KistServ Coordinator Todd Nichols 817-937-5217

[fw.sierra.listserv@gmail.com](mailto:fw.sierra.listserv@gmail.com)

## -Carbon tax might motivate businesses

*Continued from Page 1*

sider offsets to be “leaks” that remove the market pressure of the gradually tightening caps and that thus can undermine the market system.

In response to such problems, policy-makers are moving toward an auction system, where polluters have to bid for all allowances. To make sure that revenues are generated beyond the cost of holding the auction, government may set a minimum bid price. President Obama has recently stated that he favors an auction to create an effective program for reducing carbon emissions, and to limit gaming of the system.

Others, however, believe it may be more efficient to impose a carbon fee or tax, as was recently recommended by Rex Tillerson, the CEO of Exxon-Mobil, a company that for years denied that climate change exists. A tax eliminates the price uncertainty of a pollution market, and lowers transaction costs. While cap-and-trade is usually limited to large industrial polluters, a tax can be distributed across the whole economy. A given amount of revenue is generated at a lower cost per ton of carbon, which reduces the burden on businesses.

There has been speculation about how high a carbon cost (whether through cap-and-trade, auction, or a tax) would motivate businesses or consumers to change their habits. There may, however, be significantly less expensive ways to transform our energy system. A \$25 per ton tax on the nation's six billion tons of carbon dioxide would generate \$150 billion of revenue per year. That could pay for efficiency programs, subsidies for renewable energy, conversion to cleaner transportation, and redesigning our infrastructure. It is unlikely that the equivalent tax of 28 cents per gallon of gas could achieve a similar transformation through a penalty effect.

### Real carbon markets

The European Union created the first major carbon market, the European Climate Exchange, in 2005. At first, the EU issued too many allowances. Most companies could easily meet the cap, and the price of carbon plummeted. This resulted in little incentive to cut emissions. In spite of challenges, the market has grown dramatically. In 2005, 94 million tons of carbon permits

traded hands; in 2008 the trading volume was 20 times larger, equivalent to about half of all the carbon emissions in the EU. Prices have ranged from 10 to 30 euros per metric ton (about \$15 to \$45 per English ton), with 2007 sales of \$64 billion and the value more than doubling every year.

Despite years of stonewalling by the U.S. government and the oil industry, discussion and action on climate protection are rapidly moving ahead in this country. The Regional Greenhouse Gas Initiative (RGGI) is a group of 10 states that created a “northeastern climate confederacy” with Kyoto-style regulations. Nearly all carbon allowances under the system are auctioned, and offsets are minimized; currently only power plants are covered.

The three auctions held since the market began in September 2008 have raised a hefty \$260 million—to be spent by states for efficiency, renewables, and other climate-protection programs. The caps are designed to reduce regional emissions 10% by 2018.

The next region to bolt from under the Bush regime of climate inaction was the West. In 2007 five states (California, Oregon, New Mexico, Arizona, and Washington) formed the Western Climate Initiative (WCI). Two more states and four Canadian provinces have since joined, and a few Mexican states sit in as observers. While still in the planning stage, WCI will cover nearly all sectors including transportation, residential, commercial, and industrial carbon pollution. It aims for a 15% reduction in carbon emissions by 2020.

California has developed its own climate agenda through AB 32 (Nuñez and Pavley), the Global Warming Solutions Act of 2006. California has focused strongly on programs, planning, and regulations to achieve greenhouse-gas reductions. These include requirements to increase renewable energy to 33% of the state's electricity supply (see article, page xxx), to reduce the carbon content of transportation fuel, to reduce methane emissions from waste, and to improve local planning and land use. A pollution market will account for 21% of the reductions. The trading scheme will probably involve auctions, after a phase-in when initial allowances may be handed out for free. This is a contentious issue, with environmental-

*Please see NEW, Page 4*

# Upcoming Sierra Club Events

## May 14-17, Thursday-Sunday

Canoe a section of the Buffalo River in central Arkansas on Fri and Sat for a total distance of < 20 miles over 2 days on this national wild and scenic river where no motorized boats are allowed. A celebratory dinner at the Riverside Inn is planned Saturday night and a potluck Friday evening. Camp each night at Tyler Bend Park located at the midpoint of the canoe trail. You must leave on Thursday by noon due to the 7-hour drive to the campsite. Shuttle service and canoe rental must be arranged in advance by contacting the outfitter at 870-439-2888 or 870-439-2386. Number of canoes available is very limited. Website is [www.gilbertstore.com](http://www.gilbertstore.com). Shuttles for personal canoes may be provided by the contacting the canoe outfitter. Trip is open to experienced canoeists and requires approval of trip leader. This is not a technical river, but there is a current and prior canoeing skills are needed. Leader: Marchilyn Turnage, 214-533-2481 or [Marchilynturnage@att.net](mailto:Marchilynturnage@att.net) or Tolbert Greenwood, 817-737-8698 or [tol@greentol.com](mailto:tol@greentol.com).

## June 6, Saturday

Celebrate National Trails with the Sierra Club by hiking trails in the Fort

*This is an all-inclusive list of activities of the Greater Fort Worth Group of the Sierra Club. Check the group website for updates. Most activities are free and open to all. No pets, firearms, or radios are allowed on Sierra Club outings. All children (17 years or less) must be accompanied by a parent on any outing. All overnight trips require pre-registration with the trip leader. A donation of \$5 per person to the Fort Worth Sierra Club is requested for all overnight trips.*

Worth Nature Center. Meet at 7:45 a.m. at the Fort Worth Nature Center Service Center. After you enter the refuge and pass the entrance booth where you pay, take the first right onto Broadview Dr. Service Center is first building on your right. The park opens it gates at 7 a.m. so be there promptly. We will hike a 4-5 mile section of trails. Bring water, snacks, and raingear. In celebration of National Trails Day, a drawing for camping equipment and related gear will be held after the hike. Nature Center is located in NW Tarrant County on Lake Worth. Take Hiway 199 exit west toward Azle off 820 West on western edge of Fort Worth. Leader: Claudia Blalock, 817-924-6242. For more information on Nature Center, visit [www.fwnaturecenter.org](http://www.fwnaturecenter.org). In the event of rain, hike is cancelled.

## June 13-14, Saturday-Sunday

Birds, Bats, and a beautiful river. Car

Camp at the South Llano River State Park near Junction, Texas. The South Llano River is spring-fed, flowing over limestone rocks, with great scenery. The river is great for swimming or tubing, or for just keeping cool. We will camp in the walk-in area, and reservations should be made well in advance for this heavily used park. The park is 250 miles from Fort Worth, down Hwy. 377, and should take about 4-5 hours of driving. We will tube the river on Saturday morning, and go to Mason for the Bat flight at the Nature Conservancy's Eckert James River Preserve in the evening. This is an incredible experience. The scenic drive to bat caves does require high clearance for fording the rivers, but we can car pool as needed. More tubing on Sunday morning or hiking the great trails. There are some of the finest bird blinds in Texas (or the country) at South Llano. Website: [www.tpwd.state.tx](http://www.tpwd.state.tx) to access the South Llano River SP site and Contact Marilyn Turnage at 214-533-2481 or [marilynturnage@att.net](mailto:marilynturnage@att.net) to sign up for trip or for more info.

## November 11-15, Wednesday-Sunday

Annual van trip to Big Bend National Park. Day hiking and backpacking options. See trip description on Page 1.

## Texas Legislature will consider 76 energy efficiency bills

Texas lawmakers have put 76 Energy Efficiency bills in the hopper and are beginning to debate them.

The Environmental lobby is hold-

ing up the December study by the Public Utilities Commission of Texas which found that utilities in Texas can greatly reduce electricity de-

mand through efficiency measures. The Energy Efficiency bills include requirements to:

1. Raise the Goal for Utility-Funded Efficiency Incentive Programs;
2. Expand the Texas LoanSTAR program to \$300 million to provide low-interest loans for energy efficient retrofits of public buildings;
3. Add to the list of energy efficient appliances;
4. Utilize funds already designated for low-income homes weatherization;
5. Improve building code standards.

Some of this legislation, plus bills that call for funding of green jobs training programs, must be put in place for Texas to benefit from stimulus funds planned for such activities.

Passing this legislation will take the political agreement and will power

*Please see CLEAN, Page 5*

## Two for one June program—

### June meeting on lalw Royal trip, inner city outings

The Wednesday, June 17 General Meeting of the Greater Fort Worth Sierra Club will feature a two-pronged program that ranges from a wilderness backpack to the very heart of the city.

Following a brief business meeting at 7 p.m., Liz Wheelan, outings leader and Chair of Dallas ICO will present two brief programs. The first will give us a brief insight into Inner City Outings, the Club's outreach program which provides wilderness experiences for disadvantaged kids, helping them become better stewards of our environment.

Then we'll take a pictorial journey of her adventures backpacking Isle Royale National Park, one of the most beautiful, unique, and remote of our national parks. International Biosphere, Wolf/Moose Study, day trips to weeks of wilderness backpacking, canoeing, this island has it all. Voted one of the most serene of all national parks, it's the only one to completely close for winter months, yet it has the most repeat visitors. Come learn what makes this place so special.

# Sierra Club picnic is Saturday, June 13

The annual picnic of the Greater Fort Worth Group of the Sierra Club will be Saturday, June 13, from 2 p.m. to 7 p.m. at River Legacy Park in Arlington.

Please bring a covered dish that will serve your family and four other people. Bring your own plates, cups and utensils. Ice tea, soda, water, and ice will be provided.

From 2-4:30 p.m. there will be games, crafts for the children, and a reptile presentation by Dan, not to mention conversation and music.

At 4:30 p.m. we'll set out pot luck dishes and have dinner, then from 6:30-7 p.m. we'll clean up the area and depart for .home.

## **-New infrastructure**

*Continued from Page 2*

ists wanting to minimize, or ideally to eliminate, free allowances.

It is too early to judge the effectiveness of carbon pollution markets. The market systems that have achieved significant reductions in other pollutants, such as sulfur dioxide and nitrogen oxides, have been mixed with regulatory structure, and have operated largely through retrofitting existing facilities. In contrast, controlling carbon emissions will require replacement of entire power plants, factories, transportation systems, and other infrastructure.

It is almost certain that pollution markets will not be able to achieve all the necessary reductions in greenhouse gases. Much of our infrastructure—such as roads, planned urban environments\*, transit systems, passenger rail, airports, electric utilities, and vast portions of the nation's real estate—is immune to market incentives because it is owned or heavily regulated by government. Government plays a key role in research and development of new technologies and controls about 40% of the U.S. economy through the power of taxation. Governments also set laws and regulations, and can design climate policies, programs, and plans. These are things that few people expect or want the "free market" to do. Government and markets both have critical roles to play in protecting the world's climate; the challenge will be to integrate them into effective and timely solutions.

## ***Fort Worth Group Annual Fund Drive***

# **Buddy, can you spare a buck?**

Spring is here, the birds are chirping; the rains have come and the grass is green; trees are sprouting leaves; flowers are blooming; and all seems well. Best of all, due to changes in our political atmosphere, answers to environmental challenges for us and our children are more promising than last year. Even at that, we still have an uphill struggle, as the negative impact we cause to our one and only environment seems to be accumulating and overwhelming.

To offset this, your local Greater Fort Worth Sierra Club with its many hard-working volunteers is striving to do everything it can to protect our immediate environment. Our Club must have local donations to continue this work to protect the air we breathe, the water we drink, and the ground on which we live. Your donations are needed to educate the public, develop grassroots organizing, and do our part in protecting the local environment.

Although our work will never be completed, it is essential that we work diligently to protect and pass on what we inherited by:

- Protecting the air we breathe.
- Protecting our water sources.
- Considering sustainability in everything we do.
- Demanding clean energy.

That's what the Sierra Club does for you. With your support we will be able to continue. It is our responsibility to protect what we inherited and to pass it on in the best condition we can for those who those who will be coming after us. It is the only environment that they will have to live, work and play.

Because you are already a member of the Sierra Club, I know you care and will do what you can by helping us do what we can. This is the only time this year that we will be asking for your monetary support which allows us to continue operating.

Please, will you make a donation of \$25, \$50, \$100, \$500 or more now, and mail it today?

Thank you,  
Don Young  
Chair, Greater Fort Worth Sierra Club

P.S. All the money will be used in this area of Texas, and there is plenty of work to be done.

---

Yes, Don, I want to further the work of the Sierra Club in this area of Texas to protect our local environment. I have enclosed:

\$25  \$50  \$100  \$500  \$ \_\_\_\_\_

Mail to Fort Worth Sierra Club, P.O. Box 1874, Burleson, TX 76097  
*Contributions and gifts to the Sierra Club are not tax deductible; they support our effective citizen-based advocacy and lobbying efforts.*

# National Parks nearing 100th birthday

In 2016, the National Park Service will celebrate its 100th birthday.

The Sierra Club's National Parks and Monuments Team wants to share with you our exciting vision for the second century of the National Park Service. Our vision focuses on three major concerns that people didn't have 100 years ago -- but that today are prevalent in our society: natural areas disappearing, people separated

from nature, and the onset of global climate change.

First, the disappearance of our natural areas -- it used to be that development occurred as islands in a sea of nature, but today national parks are the natural islands in a sea of development. We see that national parks are needed to preserve important representative places of our natural environment. We envision a signifi-

cant expansion of our National Park system -- so that every major natural ecoregion in our country will be represented by at least one national park or equivalent reserve.

Large areas of the country are presently left out. A preliminary gap analysis shows that we must create 38 new National Parks or similar areas, and expand or change designation in 28 others. This will protect habitat for the biodiversity of our flora and fauna that make up our natural world, as ecosystems evolve and adapt to global climate change.

An expanded network of parks is also needed to provide nearby places to visit for more people -- both to lessen generation of greenhouse gases from flying and driving to parks and to provide convenient close to home places for people to appreciate their natural and cultural heritage.

After reaching its peak 20 years ago per capita visitation to our national parks is down about 20 percent.

*Please see NATIONAL, Page 6*

## **-Clean green jobs for Texas** *Continued from Page 4*

of the combined Legislature. Right now would be a great time to phone and speak to your Representative and Senator about the important need for Clean Power and Green Jobs for Texas.

Please phone your Legislators today and ask your legislators to:

1. Vote for bills that increase energy efficiency at utilities and in homes and businesses in Texas, and

2. Vote for bills that increase solar power in a Renewable Portfolio

Standard.

You can find your legislators' numbers here -- <http://www.legis.state.tx.us/>.

Please call them today and help address the problem of global warming by supporting Clean Power and Green Jobs for Texas.

For background information, check out our websites -- <http://www.texas.sierraclub.org/> and <http://www.acttexas.org/> or call the Sierra Club, 512-477-1729.

Patagonia  
The North Face  
Garmin  
Merrell  
Royal Robbins  
Eagle Creek  
Prana  
Vasque  
Chaco  
Smartwool  
Keen  
Osprey

Live Boldly \* Travel \* Climb \* Hike \* Camp \* Trek \* Fly Fish \* Go Outside

**We know the Adventures.  
We know the Equipment.  
We know the Outdoors.**

Your source for outdoor gear, clothing and adventures since 1973.

BACKWOODS  


2725 W. 7th \* Fort Worth, TX  
817.332.2423 \* [www.backwoods.com](http://www.backwoods.com)

Backpacking • Kayaking • Climbing

**Mountain  
Sports**

**BEST Service  
BEST Selection  
BEST Prices**

2025 W. Pioneer Parkway • Arlington  
METRO (817) 461-4503

**We will match any advertised price  
including mail order or sale price!  
[www.mountainsports.com](http://www.mountainsports.com)**



Greater Fort Worth Sierra Club  
 P.O. Box 1874  
 Burleson, Texas 76097-1874

Return Service requested

Nonprofit Organization  
 U.S. POSTAGE PAID  
 Permit No. 714  
 Fort Worth, TX 76101

**Membership**

Yes, I want to join the Sierra Club! My check is enclosed

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Zip \_\_\_\_\_ Email \_\_\_\_\_

Phone (optional) \_\_\_\_\_

Individual (\$39)  Joint (\$49)  Senior/Student (\$25)

Annual dues include subscription to Sierra (\$7.50) and chapter publications (\$1.00). Dues are not tax deductible.

**F94QT19002**  
F94Q W99901

-1 Entity Code

Mail to Sierra Club Member Services, 85 Second St.  
 2nd Floor, San Francisco, Calif. 94105-3441

### Mission statement

The purposes of the Sierra are: To explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment and to use all lawful means to carry out these objectives.

# -National parks provide varying opportunities

Varying gasoline costs, economic constraints, and public awareness that traveling long distances to visit national parks generates greenhouse gases will aggravate this phenomenon.

Second, connecting people with national parks. Our heavily urbanized society is losing its connection to nature. A generation of children is growing up mostly indoors with a great problem of obese youth. Experience of nature becomes more virtual, less direct. We see national parks able to coax people, especially young people, out into nature.

We need to expand education programs in national parks. The education programs should relate to all courses of study, academic and non-academic, and should be connected to the Internet so national parks can be learned all the time. Classrooms should be linked to parks though the internet during the academic year.

We should consider reducing park entrance fees, not raising them. Entrance fees discourage use, aggravat-

ing an already significant decline in visitation, and they disproportionately affect people with lower income. Entrance fees contribute but a nickel to the National Park Service budget dollar.

Third, fighting global climate change. Not only was this not around 100 years ago – even 10 years ago, it wasn't a big concern for many. We envision parks addressing global warming in at least three ways:

1. By educating visitors on the problems and how they, as individuals can help out in their daily lives,

2. By using national parks to do scientific research on changes that are happening so that we can see what nature is doing – and learn what we must not do - to mitigate the effects of climate change; and by assuring the wild areas in parks will stay wild so that national parks can form the core of broad protected areas to make wildlife habitat more resilient.

3. By making the parks themselves a model of zero emissions in their energy systems and particularly in

transportation. We see all our national parks vigorously promoting public transportation, so that people will be able to appreciate our natural world without a car.

The United States played the pioneering role in inventing the National Park idea and using parks to bring nature closer to life's critical needs. But today we lag behind other countries in using national parks to learn about, protect and perpetuate our natural world. National parks are ideal places to learn how our natural world reacts and adapts to change.

As the potential consequences and the need to react to global climate change become more and more apparent, these natural areas will assume a critical role.

Expanding our system of parks should be the prime goal of our Second Century of our National Park System. Help us fulfill this goal so that national parks can play an instrumental role in making a better world for all of us, our children, and our grandchildren.