# **Green Mountain Energy Company**

2001 ENVIRONMENTAL REPORT



Prepared in 2002 for CERES (Coalition for Environmentally Responsible Economies)

## Green Mountain Energy Company 2002 CERES Report (2001 operational year)

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Green Mountain Energy Company has chosen to use the Global Reporting Initiative (GRI) sustainability reporting guidelines pertaining to environmental performance for this environmental report. Green Mountain Energy Company is not a publicly held company. In some instances, specific economic information requested by the GRI Guidelines is confidential corporate information. Where possible this report substitutes such confidential data with related publicly available information.

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#### Units of Measure

For the ease of our stakeholders, we have quantified our environmental information in English units. Below are the factors for converting English to metric units.

1 pound	=	0.454 kilograms
1 gallon	=	3.78 liters
1 kilowatt-hour	=	3,600 kilojoules
1 ton (US)	=	0.9072 metric tons

This report is printed on Badger Envirographic 100 paper 100% recycled (100% post-consumer waste and 100% processed chlorine free) It meets our commitment to use paper free of virgin fiber derived from old-growth forests. **CERES** (Coalition for Environmentally Responsible Economies) is the leading U.S. coalition of environmental, investor, and advocacy groups working together for a sustainable future. The network includes companies that have committed to continuous environmental improvement by endorsing the CERES Principles, a ten-point code of environmental conduct. By our endorsement of the CERES Principles, Green Mountain Energy Company made a commitment to conduct an annual self-evaluation of our progress in implementing the CERES Principles. This report is a product of that self-evaluation.

#### The CERES Principles

**Endorsing Company Statement** By adopting these Principles, we publicly affirm our belief that corporations have a responsibility for the environment, and must conduct all aspects of their business as responsible stewards of the environment by operating in a manner that protects the Earth. We believe that corporations must not compromise the ability of future generations to sustain themselves.

We will update our practices constantly in light of advances in technology and new understandings in health and environmental science. In collaboration with CERES, we will promote a dynamic process to ensure that the Principles are interpreted in a way that accommodates changing technologies and environmental realities. We intend to make consistent, measurable progress in implementing these Principles and to apply them to all aspects of our operations throughout the world.

**Protection of the Biosphere** We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water, or the earth or its inhabitants. We will safeguard all habitats affected by our operations and will protect open spaces and wilderness, while preserving biodiversity.

**Sustainable Use of Natural Resources** We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning.

**Risk Reduction** We will strive to minimize the environmental, health and safety risks to our employees and the communities in which we operate through safe technologies, facilities and operating procedures, and by being prepared for emergencies.

Safe Products and Services We will reduce and where possible eliminate the use, manufacture or sale of products and services that cause environmental damage or health or safety hazards. We will inform our customers of the environmental impacts of our products or services and try to correct unsafe use.

**Environmental Restoration** We will promptly and responsibly correct conditions we have caused that endanger health, safety or the environment. To the extent feasible, we will redress injuries we have caused to persons or damage we have caused to the environment and will restore the environment.

**Informing the Public** We will inform in a timely manner everyone who may be affected by conditions caused by our company that might endanger health, safety or the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities. We will not take any action against employees for reporting dangerous incidents or conditions to management or to appropriate authorities.

**Management Commitment** We will implement these Principles and sustain a process that ensures that the Board of Directors and Chief Executive Officer are fully informed about pertinent environmental issues and are fully responsible for environmental policy. In selecting our Board of Directors, we will consider demonstrated environmental commitment as a factor.

Audits and Reports We will conduct an annual self-evaluation of our progress in implementing these Principles. We will support the timely creation of generally accepted environmental audit procedures. We will annually complete the CERES Report, which will be made available to the public.

**Disclaimer** These Principles establish an environmental ethic with criteria by which investors and others can assess the environmental performance of companies. Companies that endorse these Principles pledge to go voluntarily beyond the requirements of the law. The terms "may" and "might" in Principles one and eight are not meant to encompass every imaginable consequence, no matter how remote. Rather, these Principles obligate endorsers to behave as prudent persons who are not governed by conflicting interests and who possess a strong commitment to environmental excellence and to human health and safety. These Principles are not intended to create new legal liabilities, expand existing rights or obligations, waive legal defenses, or otherwise affect the legal position of any endorsing company, and are not intended to be used against an endorser in any legal proceeding for any purpose.

## **Executive Summary**

BusinessFounded in 1997 as a provider of cleaner electricity service, Green Mountain<br/>Energy Company is currently the leading retail provider of cleaner electricity in<br/>the nation. [Also p. 15]MarketsGreen Mountain Energy<sup>sm</sup> electricity is currently available in 8 states: California,<br/>Connecticut, New Jersey, Ohio, Oregon, Pennsylvania, and Texas. Recently, the<br/>company launched operations in its eighth state - - New York. Customers can<br/>choose Green Mountain Energy<sup>sm</sup> electricity as a result of deregulated electricity<br/>markets, municipal aggregations, and utility partnerships. [Also p. 17, 30]ProductsWhen customers choose Green Mountain Energy<sup>SM</sup> electricity, they are selecting<br/>the type of electricity that is put on the power grid on their behalf, and are

When customers choose Green Mountain Energy<sup>SM</sup> electricity, they are selecting the type of electricity that is put on the power grid on their behalf, and are supporting the development and operation of new cleaner generation in their region. Our residential electricity service is generated by renewable resources, such as hydro, biomass, geothermal, wind, and solar, as well as the cleanest burning fossil fuel, natural gas. Our electricity offerings vary from region to region, but all of power products that are dramatically cleaner than typical system power. [Also p. 17,30-35]

#### Comparing Emission Rates of 2001 Green Mountain Energy<sup>sm</sup> Electricity Products (Actual Supply) to Respective Regional System Power



Green Mountain Energy(sm) Electricity Products by Region

**Mission** To change the way power is made.

Making electricity causes more air pollution than any other industry in the United States, emitting billions of tons of carbon dioxide and other pollutants annually. [Also p. 36-38]

When new renewable facilities are brought online, they reduce our reliance on traditional forms of generation. As a result, pollution is avoided. Green Mountain Energy<sup>SM</sup> electricity customers help clean the air by supporting new renewable facilities and reducing their households' share of the pollution that comes from making electricity. [Also p. 36-39]



#### 2001 Green Mountain Energy "Electricity: Actual Supply

#### Do you know your power?

More than half the electricity in the United States is generated by burning coal.

Each year, electric utilities burn 900 million tons of coal - three tons for every man, woman, and child in the United States. Also, 18 percent of our nation's electricity is produced by nuclear generation.

Renewable resources are used to generate only 11 percent of our nation's electricity. Among renewable resources, hydroelectric generation is used 8 times more than wind and solar combined.

Coal's Use and Share of Pollution from Making Electricity				
Region	Regional Region (% of	Percentage generation	of region's ele emissions caus	ctric ed by coal
	system mix)	CO2	NOx	SO2
Connecticut	18%	34%	43%	44%
California	16%	32%	48%	96%
New Jersey/ Pennsylvania	47%	84%	89%	92%
Ohio	89%	98%	98%	99%
Oregon	48%	80%	89%	97%
Texas	38%	60%	58%	97%
United States	52%	82%	86%	91%

#### US Electricity Generation by Resource



Making electricity is the leading cause of industrial air pollution in the United States. Carbon dioxide, sulfur dioxide, and nitrogen oxides from coal-burning power plants are largely responsible for pressing environmental problems such as acid rain, smog, and global warming. The table below illustrates the role of electricity generation in national air pollution.

Pollutant	Electricity Generation's Share of Total US Pollution	Environmental Effect of Pollutant	Amount of Pollutant Resulting from Average Household's Electricity Use
Sulfur Dioxide	67% of all US emissions	Contributes to acid rain, asthma, and respiratory illness; can aggravate existing cardiovascular disease.	78 pounds
Nitrogen Oxides	23% of all US emissions	Contribute to acid rain, smog, asthma, and respiratory illness	37 pounds
Carbon Dioxide	41% of all energy related activities (including transportation)	Greenhouse gas that contributes to global warming	14,760 pounds
Mercury	33% of all US emissions	Heavy metal that builds up on human and animal tissue and damages nervous systems	0.11 grams
<ul> <li>United States Energy Information Administration/ Emissions of Greenhouse Gases in the United States 2000</li> <li>United States Environmental Protection Agency- National Emission Inventory (NEI) Air Pollutant Emissions Trends, Average Annual Emissions, All Criteria Pollutants Year 1999.</li> <li>1997 Mercury Report to Congress. Table 5-1</li> </ul>			

		% New Renewable		Estimated Avoided	
State	Product	2001 Promised	2001 Delivered	Carbon dioxide Avoided (pounds)	Miles not driven needed to avoid equivalent CO2
CA	Breathe Easy	10%	17.9%	942	1,046
PA	EnviroBlend	10%	10%	1,083	1,204
	Nature's Choice	10%	20.5%	2,221	2,468
	Eco Smart	1%	1.4%	152	169
	PECO CDS	1%	1.4%	152	169
NJ	EnviroBlend	5%	5%	468	520
	Eco Smart	1%	1%	94	104
СТ	Green Mountain Energy <sup>sm</sup> electricity	5.6%	12.4%	1,183	1,315
Ohio	Green Mountain Energy <sup>sm</sup> electricity	2.0%	25.1%	5,051	5,612
Texas	100% Wind	100.0%	100%	20,597	22,885
	Multi Family Housing	25%	100%	10,700	11,888

#### The Power for Change

There are cleaner ways to generate electricity than coal and nuclear power. We can tap into naturally occurring flows of energy—like wind, water, sunshine, organic material, and the heat of the earth itself.

#### Renewable Electricity: Cleaner, Natural, and Limitless

There are many benefits to renewable resources. Unlike traditional forms of generation, they emit little to no air pollution. Unlike nuclear energy, renewable resources produce no radioactive waste.

Because renewable resources are supplied by natural processes, we are assured of future supply. We have an inexhaustible supply of wind and sunlight. Other energy sources like moving water and biomass can replenish themselves naturally over a short period of time. [Also p. 24-27]



\*Geothermal formations naturally emit gases, including carbon dioxide and sulfur oxides. The emission rates shown above do not distinguish between these natural emissions and emissions from geothermal development.

Resource Type

Wind

Solar

Hydro

Nitrogen Oxides

Geothermal\*

Landfill

Gas

Coal

Oil

Natural

Gas

Sulfur Dioxide

**Most renewable energy comes directly or indirectly from the sun-**According to the United States National Renewable Energy Laboratories, if we could harness all the energy from the sun that falls to the earth in one day, we could supply the entire world's energy needs for 27 years



**Geothermal:** The only renewable resource that doesn't draw energy directly from the sun. Geothermal generation taps into the heat stored within the earth's crust—the same kind of heat that is displayed in volcanic activity and geysers. At geothermal fields, steam and hot water trapped underground are brought to the surface to generate electricity.

#### Spurring the Development of New Renewable Generation

We are the only retail energy marketer that makes long term commitments to enable construction of new renewable facilities in order to serve its customers. To date we have helped develop 11 new renewable facilities to help serve the demand from Green Mountain Energy<sup>sm</sup> electricity customers.

Development of new renewables is critical to environmental improvement. When electricity from new renewable plants goes onto the regional grid to meet customer demand, we begin to reduce our reliance on more-polluting forms of generation. In doing so, we take steps to eliminate public health and safety risks resulting from traditional forms of generation.

Every year in the U.S., making electricity causes billions of tons of carbon dioxide and millions of tons of sulfur dioxide and nitrogen oxides to be emitted into the air. Last year alone, the Green Mountain Energy<sup>SM</sup> new renewable facilities that served our customers kept 9,675 tons of CO2 out of the air. The facilities' operations also avoided 10 tons of  $NO_x$ , and 28 tons of  $SO_2$ . These are important steps toward achieving our mission to change the way power is made.



#### Green Mountain New Renewable Facilities

Facility Name	Dedicated	Location	Size
BJ's Solar	Spring 1999	Conshohoken, PA	43 kW
San Gorgonio Wind	Summer 1999	Palm Springs, CA	2.1 MW
Solar 2000 Mendocino	Fall 1999	Hopland, CA	100 kW
Green Mountain Wind Farm	Spring 2000	Garrett, PA	10.4 MW
Green Mountain Solar – Berkeley	Winter 2000	Berkeley, CA	100 kW
Green Mountain Solar – Pittsburgh	Fall 2001	Pittsburgh, PA	30 kW
Green Mountain Solar – Winston School	Spring 2002	Dallas, TX	58 kW
Green Mountain Solar- Houston	Pending	Houston, TX	43 kW
Green Mountain Solar-Kirtland	Spring 2002	Kirtland, OH	26 kW
Green Mountain Solar- Deptford	Spring 2002	Deptford, NJ	52 kW
Green Mountain Solar—Discovery Museum	Pending	Bridgeport, CT	19 kW



The first utility scale project in Pennsylvania, the Green Mountain Wind Farm at Garret began operation on May 20, 2000 as a direct result of demand from Green Mountain Energy<sup>sm</sup> electricity customers



# **2001- Present Operations Highlights**

#### General:

Began serving Connecticut, Ohio, Texas, and Oregon (2002) customers with Green Mountain Energy<sup>sm</sup> electricity, bringing total customer count to nearly half a million customers.

#### **Electricity Products:**

- First renewable product generated exclusively by new renewable facilities -100% new wind product in Texas. [Also p. 35]
- Only marketer to offer Green-e certified electricity in multiple markets. [Also p. 28-35]

#### **Development of New Renewable Generation Facilities**

- We are the only retail energy marketer that makes long term commitments to enable construction of new renewable facilities in order to serve its customers. We initiated the development of 6 new renewable facilities since the beginning of 2001.

  - Green Mountain Energy<sup>sm</sup> Solar—Pittsburgh: 30 kW, PA Green Mountain Energy<sup>sm</sup> Solar—Winston School: 58 kW, TX
  - Green Mountain Energy<sup>sm</sup> Solar—Upper Kirby 43, kW, TX •
  - . Green Mountain Energy<sup>sm</sup> Solar—Kirtland: 26 kW, OH
  - Green Mountain Energy<sup>sm</sup> Solar—Southern New Jersey: 52 kW, NJ.
  - Green Mountain Energy<sup>sm</sup> Solar—Bridgeport: 19kW, CT.

#### Pollution Avoided [Also p. 36-38]

In 2001 customers choosing Green Mountain Energy<sup>sm</sup> electricity, rather than system power, <u>prevented</u>:

- 136,942 tons of carbon dioxide. Preventing 516% more pollution than in 2000.
- 335 tons of nitrogen oxides. Preventing 610% more pollution than in 2000.





#### **Internal Business Practices Advancements**

- Established sustainability standard for non-energy products. [Also p. 49]
- Exceeded minimum post-consumer content required by corporate-wide environmental standard for paper. [Also p. 46]
- Offset 50% of annual CO<sub>2</sub> resulting from business operations. [Also p. 42]



#### **Community Involvement**

- In 2001 alone, planted over 30,000 trees on behalf of Green Mountain Energy Company customers in revitalization projects throughout the country in co-operation with American Forests. [Also p. 47]
- Announced our intention to install eight Solar Powered Schools projects in northern Ohio. [Also p. 22]
- Donated a total of \$10,906 to Earthshare, a program that provides financial support to leading environmental organizations, (\$8,210.50 through employee contributions and \$2,695.50 through our corporate matching policy). [Also p. 22]

#### Awards

- American Forests Global ReLeaf Award for Environmental Leadership
- Green Energy Ohio's "Ohio Business of The Year 2001"

# **Environmental Report**

## **Introductory Statement**

#### Message from the Chief Environmental Officer

#### Give Choice a Chance



As a nation, we trust our citizens to choose our lawmakers and our President. We can make weighty personal and financial decisions such as choosing the houses we live in and the cars we drive. You can even decide which parts of your body you want converted to an artful canvas or studded with decorative metals. At Green Mountain Energy Company, we think it also makes sense for people to be able to choose their electricity provider. We see the purpose of so-called deregulation as making the supply of electricity more democratic. It lets everyday citizens decide how their electricity is generated, and consequently, the effect that generation has on the environment.

In the aftermath of problems with the electricity market in California, some critics dismiss "deregulation" as unworkable. We steadfastly maintain our belief in the simple value of customer choice. Choice is not "deregulation." In fact, choice brings a whole host of new regulations. And, choice can also bring opportunities for renewable electricity.

Green Mountain Energy Company has been contributing to cleaner and renewable energy through the power of choice from the day deregulation started. Our progress hasn't always gone smoothly. Every decision plants the seed for the next challenge. We're like pilgrims, determinedly making our way on our mission: to change the way power is made. As a result of our work, some 200 megawatts of new renewable supply are being supported by customers who made the choice for cleaner electricity. They've chosen to do their part for a healthier future by fighting global warming. It's a positive choice that inexplicably isn't available to everyone.

About half a million customers are now buying electricity that is substantially cleaner than the typical generating mix in their region. As a result of their choices, 11 new renewable facilities in six states have been developed specifically to serve their demand. By choosing cleaner power, these customers are significantly reducing their contribution to global warming. In Texas, where we offer 100 percent wind power, each of our customers avoids contributing 10 tons of carbon dioxide to the atmosphere each year. That's a significant reduction in the average household's annual carbon pollution, and it's also a powerful statement.

At Green Mountain Energy Company, we're not dreaming the impossible dream. We wake up every day and get cracking on what's possible. Do a good thing today. Do something better tomorrow. And don't wait until you can do better to begin doing good. We remain enduringly optimistic. In a world where many talk about the marriage of the economy and the environment: we're working to have the happy couple thrive – and giving people the opportunity to throw confetti in celebration.

We need every tool we can get to address our environmental problems. We need to use governmental policy. But all of us should be doing more to enlist the power of the consumer marketplace. Making electricity can be dirty. We're trying to make it cleaner. And we're giving ordinary citizens a simple opportunity to make a profound difference. That is a good idea whose time is now.

Thomas H. Rawls Vice President and Chief Environmental Officer Green Mountain Energy Company

## **Corporate Profile**

#### Our Corporate Mission: To Change the Way Power is Made

**G** reen Mountain Energy Company is a retail marketer of Green Mountain Energy<sup>sm</sup> brand – electricity service for residential customers featuring electricity derived from cleaner renewable resources like sun, wind, water, biomass, and geothermal heat and cleaner non-renewable generation resources like natural gas. Green Mountain Energy Company's corporate mission is *to change the way power is made*. We work to accomplish that mission by stimulating the demand for environmentally preferable electricity made from cleaner and renewable resources. Put simply, when customers choose Green Mountain Energy Company to provide their electricity, they have the ability to choose the type of generation used to produce the electricity that is put onto the power grid on their behalf.



#### **Deregulation is empowering customers**

In order to understand our business, it's necessary to be familiar with the effect that deregulation has had on the electric industry. The industry includes three basic functions: the generation of electricity, transmission and distribution of electricity, and retail sales to the end user.

In the United States, regulated electric utilities have traditionally provided bundled electricity service, whichincludes generation, transportation, and retail sales, within exclusive franchise service territories. Federal legislation in 1992 initiated measures to allow competition in the generation, wholesale, and retail sectors. One by one, several states have elected to deregulate. Each state develops its own unique deregulation plan. The one common element that deregulation plans share is that they separate making power (generation) and selling power (retail) from delivering power (distribution), which remains regulated.



Within this deregulated framework, Green Mountain Energy Company operates as a retail marketer of electricity, working with wholesale energy providers to offer electricity service to customers. We do not own transmission or distribution systems. These functions remain in the hands of utilities. In 2001, we offered Green Mountain Energy<sup>sm</sup> electricity exclusively to customers in California, Connecticut, New Jersey, Ohio, Pennsylvania and Texas, states that had effectively opened their residential electricity markets to competition. To date, in 2002 we have begun operations in Oregon and New York.

Green Mountain Energy<sup>sm</sup> Electricity differs in renewable content and price from region to region. All of our products are dramatically cleaner than the power mix that typically serves a region. Our line of Green Mountain Energy<sup>sm</sup> electricity is dynamic, and we take the opportunity to improve these products from year to year. The tables on the following page show the products we offered to residential customers in 2001. [Also p. 22, 28-35]

	Green Mountain Energy <sup>sm</sup> Electricity Products Marketed in 2001			
Region	Product(s)	Product Description		
СА	Breath Easy <sup>sm</sup>	100% renewable: 10% new renewable, 90% existing renewable		
CT Green Mountain Energy <sup>sm</sup> electricity 100% Pollution-free: 6% new renewable (wind), 50% large hydro, 44% small hydro,		100% Pollution-free: 6% new renewable (wind), 50% large hydro, 44% small hydro,		
NU	EcoSmart <sup>sm</sup>	1% new renewable, 1.5% existing renewable, >50% large hydro, <47.5 natural gas		
INJ	EnviroBlend <sup>sm</sup>	5% new renewable, 45% existing renewable 50% large hydro		
ОН	Green Mountain Energy <sup>sm</sup> electricity	2% new renewable, 98% natural gas		
	EcoSmart <sup>sm</sup>	1% new renewable, 99% mix of natural gas and/or large hydro		
PA	EnviroBlend <sup>sm</sup>	10% new renewable, 40% existing renewable, 50% combination of large hydro and/or natural gas		
	Nature's Choice <sup>sm</sup>	100% renewable: 10% new renewable, 90% existing renewable		
тх	Green Mountain Energy <sup>sm</sup> electricity	100% Pollution-free: 100% new renewable (wind)		

The power blend information provided in the accompanying tables describes the purchases of Green Mountain Energy<sup>sm</sup> products over the course of a calendar year. For each calendar year or portion thereof that a customer purchases Green Mountain Energy<sup>sm</sup>, we will deliver to the grid enough power from our energy blend resources to match that customer's energy usage during that period. These deliveries will be subject to verification in accordance with the requirements of the Green-e Renewable Electricity Branding Program.

Renewable and hydroelectric resource availability varies from hour to hour and from season to season, as does our customers' use. At any specific time, we will be putting more or less of these energy sources in to the grid than our customers use. We will put system power into the grid to serve our customers' minute-by-minute consumption, but will always match our customers' annual electricity use by delivering our energy blend resources into the grid. At all times our customers' electricity needs will be served.

In California, "new renewable resources" means that these facilities began commercial operations on or after January 1, 1997. In Pennsylvania, Connecticut, Ohio, and New Jersey, "new renewable resources" means that these facilities began commercial operation on or after January 1, 1998. In Texas, "new renewable resources" means that these facilities began commercial operation on or after September 1, 1999. A facility designated as small-scale hydro is less than or equal to 30MW in size.

"Pollution-free" means the generation resources do not cause air pollution.

#### Fast Facts about Green Mountain Energy Company

- Green Mountain Energy Company is a privately held company.
- As of December 31<sup>st</sup> of 2001, we had 121 employees nationwide. At that point, we had two full time personnel exclusively assigned to environmental management responsibilities (ie, environmental policy matters, sustainability initiatives, stakeholder engagement). However, given the nature of Green Mountain Energy Company's business, every employee spends time on environmental matters in the course of his or her responsibilities.
- Green Mountain Energy Company is headquartered in Austin, Texas. As of this writing, the company has regional offices located in: Mt. Laurel, NJ; Dublin, OH; Wayne, PA; Houston, TX; and South Burlington, VT.

	Sales Revenue by Sector				
Sector Measure of Scale		Amount	Revenue		
Electricity	Average customers served per month in 2001*	158,703	>99%		
Rooftop Solar Pilot Program Number of Installations		confidential	<1%		
Natural Gas Pilot Program Program Program Program Program Program Program Program Program Program Program Pilot Program Pilot Program		750	<1%		
CERES suggests that utilities disclose sales information in terms of total MWh sold, MWh peak demand, and ccf of natural gas sold. As a privately held non-utility operating in competitive retail markets, Green Mountain Energy Company regards that information as confidential. Therefore, we are reporting our total 2001 sales in terms of customers served and percent of revenue.					
* Represents monthly average over the course of entire year. By 2001 year-end the company was serving nearly half a million customers					
** Natural gas pilot program was discontinued in 2002					

- Revenues for our 2001 -operating year were in the range of \$50 to \$100 million. More than 99% of our revenues come from the sale of our Green Mountain Energy<sup>sm</sup> electricity. Information pertaining to breakdown between sales regions is proprietary and confidential.
- Green Mountain Energy Company has completed three prior environmental reports using the CERES format. They can be obtained by contacting the environmental affairs department at 75 Green Mountain Drive, South Burlington, Vermont 05403.
- For more information on Green Mountain Energy Company's activities go to <u>www.greenmountain.com</u>

## **Vision and Strategy**

## How does sustainability apply to our nation's electricity industry?

- The electric industry operates *unsustainably*.
- Half of our nation's electricity is made by burning coal.
- A third of our nation's electricity is generated with radioactive waste as a by-product.
- Making electricity is a major contributor to a legacy of environmental problems like global warming, acid rain, and smog. It causes billions of tons of carbon dioxide alone to be released annually.
- Its health impacts weigh most heavily on poor communities and communities of color.
- The price of electricity does not reflect its cost on our environment and our health.

# How does Green Mountain Energy Company contribute to sustainable development?

- Our corporate mission is to change the way power is made.
- Our electricity is generated using cleaner and renewable generation.
- Our electricity is dramatically cleaner than typical system power.
- Our corporate practices reflect our commitment to be an environmentally responsible business, engaging in daily practices that promote a healthy planet and a sustainable economy.
- Engaging in policy work on energy issues, concentrating on developing competitive markets for energy sales.

## How are we making progress toward sustainability?

- Raising awareness about traditional electricity generation's role in causing air pollution.
- Supporting the development of new renewable generation facilities through our energy products. Causing the development of eleven new renewable facilities specifically to meet Green Mountain Energy<sup>sm</sup> electricity purchaser's demand since 1999.
- Providing cleaner energy featuring electricity from new renewable projects. Purchasers of Green Mountain Energy<sup>sm</sup> electricity have prevented 168,906 tons of carbon dioxide since 1999. We'd have to take about 30,000 cars off the road for an entire year to avoid that much CO2 pollution.
- One customer at a time.

## Policies, Organization, and Management System

#### Policies

The environment is a corporate value of Green Mountain Energy Company (pictured at right). That's why we've developed environmental policies to guide our work, and an organizational structure and management systems aimed at making sure that these policies are implemented.

Our environmental charter is a roadmap of our mission to change the way power is made. The charter lays out Green Mountain Energy Company's objectives for environmental performance. Written in broad strokes, it serves as the root for more specific policies and standards, such as our paper standard, our old growth commitment, and our purchasing guidelines.



Listen, Promise, & Deliver!

Policy	Issue Date	Latest Revision	Geographic Scope	Publicly Available
Environmental Charter	Fall, 1997	Summer 1999	Company wide	Yes (1,2)
CERES Principles	Spring, 1999		Company wide	Yes (1,2)
Green Mountain Values	Fall, 1997	Spring 2000	Company wide	Yes (1,2)
Commitment Regarding Old Growth Fiber	Winter, 2000		Company wide	Yes (1)
Recycling Policy	Fall 1997	Spring 1999	Company wide	Yes (1)
Paper Standard	Winter 1999	Summer 2000	Company wide	Yes (1)
Non-Energy Product Standard	Winter 2001		Company wide	Yes (1)
1. Available by contacting Green Mountain Energy Company's Environmental Affairs Department.				

2. Available in this report.

#### Green Mountain Energy Company Environmental Charter

1. Green Mountain Energy Company will use the marketplace to promote the sale of clean electricity to individual consumers and corporations

2. Green Mountain Energy Company will engage in policy work on energy issues, concentrating on developing competitive markets for energy sales.

3. Green Mountain Energy Company will be an environmentally responsible business, engaging in daily practices that promote a healthier planet and sustainable economy. These practices include working with partners to encourage them to adopt sustainable business practices.

4. Green Mountain Energy Company will encourage individual consumers and corporations to use energy resources wisely and efficiently

5. Green Mountain Energy Company will be an educator; helping people to understand the environmental consequences of their energy choices and empowering people to choose clean electricity.

# Environmental Management and Organization

Of course, it's not enough to simply *create* policies to accomplish environmental improvement. To be meaningful, policies need to be put into practice.

Typically, environmental policies are pilot tested with specific departments or regions. During pilot testing we receive comments and suggestions from employees and have the opportunity to improve and refine the proposal

Once the policy has demonstrated its effectiveness in pilot testing, it is implemented across the organization by approval of senior management.



We are organized for responsibility in oversight and implementation of environmental initiatives:

Environmental Integrity Committee of our Board of Directors is responsible for reviewing our effect on the environment and our adherence to our environmental principles and making recommendations to the full board of directors as to how we can improve our environmental performance.

One full-time staff person works under the leadership of the company's Chief Environmental Officer to assist the rest of the organization in following the company's principles as set out in the environmental charter.

Our Environmental Network Team consists of regional and departmental representatives. This group meets to coordinate environmental efforts and facilitate communication on environmental matters throughout the organization.

Our Environmental Advisory Board provides input from external stakeholders. See following page for more information.

![](_page_22_Figure_10.jpeg)

#### **Building Communities**

At Green Mountain Energy Company we have the opportunity to build and engage many different types of communities: our customers, our neighbors, our employees, and the environmental community.

- We sponsor and participate in community focused environmental events as a way of informing the public about the environmental consequences of traditional generation and giving them the option to choose renewable electricity.
- We also have the opportunity to give back to the community, through our Solar Powered Schools Program. To date we have awarded three solar systems. These awards included a 1-2kW solar system, a companion curriculum, and a "Solar Powered School Celebration" day to dedicate the system and provide hands-on workshops for local community members on renewable electricity. In 2001, we announced our expansion of the program to eight schools in northern Ohio.
- We educate our employees on the environmental purpose of our business, as well as the day-to-day effects that our operations have on the environment. Last year, we used our corporate-wide intranet, several internal publications, and numerous company-wide presentations and updates to educate our employees about environmental issues and performance.
- As a way to foster dialogue with the national environmental community, we assembled an Environmental Advisory Board as a forum to receive expert advice on environmental issues. The Board also encourages dialogue between the Company and other members of the environmental community. Board members serve in their individual capacity.
- Green Mountain Energy Company has a program to encourage employees to make individual contributions to local environmental organizations. In 2001, we donated \$8,210.50 through employee contributions and \$2,695.50 through our corporate matching policy to Earthshare, a program that provides financial support to leading environmental organizations.

Environmental Advisory Board Members					
Ralph Cavanagh	Natural Resources Defense Council	Co-Director Energy Program			
Elizabeth Cook	World Resources Institute	Co-Director of Management Institute for Environment and Business			
Christopher Flavin	Worldwatch Institute	President			
Hunter Lovins	Natural Capital Academy	Director			
Lewis Milford	Clean Energy Group	President			

	Business and Environmental Relations	
CERES (Coalition for Environmentally Responsible Economies)	Clean Power Campaign	World Resources Institute
Green-e Renewable Electricity Branding	American Wind Energy Association	Clean Texas Program
Program	Mid Atlantic Renewable Energy Coalition	Texas Renewable Energy Industries Association
National Wind Coordinating Committee	Center for Energy Efficiency and Renewable Technologies	

## **Environmental Performance—Electricity Products**

ur power blends include less-polluting renewable energy. All of our blends include new renewable content – energy from facilities that have come on line after a state deregulates. By supporting new renewable generation, customers help us to change the way power is made. When electricity from new renewable generation goes onto the grid to meet customer demand, it decreases reliance on electricity generated from conventional sources. Over the long term, supporting new renewable generation means less of the environmental harm posed by coal and risks posed by nuclear energy.

This section begins with an overview of renewable generation. It then details the environmental performance of our products with the following considerations:

#### **About Renewable Technologies**

According to the United States National Renewable Energy Laboratories, the amount of energy from the sun that falls to the earth *in one day* could supply the entire world's energy needs for 27 years. The challenge is harnessing that energy to do useful work. Most renewable energy comes either directly or indirectly from the sun.

**Solar-** Energy from the sun can be used to generate electricity. Photovoltaic (PV) panels directly convert sunlight itself into electricity. Contrast that with solar-thermal systems. They use the sun's heat to create electricity indirectly, for example by creating steam to power a turbine. Solar is a promising form of electricity generation. While still expensive, its cost is decreasing.

**Wind-** Turbines are mounted on tall towers to harness the wind. This pollution-free form of generation is now the fastest-growing renewable energy source in the world. The wind farms of today are constructed after studies conclude that the turbines will have little or no effect on the surrounding ecosystem, including birds.

**Hydroelectric-** Uses the energy of moving water to generate electricity. Even the best hydro plants can affect fish and wildlife habitats. For that reason, energy from smaller and well-managed facilities is preferable to electricity from large facilities that harm surrounding ecosystems.

**Biomass-** Biomass, made up of plant and other organic matter, can be harnessed to generate electricity. Landfill gas is one of the most widely used forms of biomass generation. As organic wastes in a landfill decompose, they give off significant amounts of methane. This methane can be collected and burned to generate electricity. While biomass-based generation is renewable, it is not entirely pollution-free. However, burning biomass creates less pollution than using fossil fuels, and it does not contribute to global warming. Plus, unlike wind and solar power, biomass fuel can be stored and used as needed.

**Geothermal-** Geothermal generation relies on heat trapped within the earth's crust, the same kind of heat that evident in volcanic activity and geysers. Geothermal power plants tap steam and hot water trapped underground to convert that energy into electricity.

![](_page_25_Figure_7.jpeg)

United State's Electricity Generation by Resource

#### More About Hydroelectric Generation

Just the company worked with American Rivers and dam owners and operators to develop criteria that support the use of water resources, while at the same time ensuring that they are not exploited thoughtlessly. This comprehensive screening process identifies "low-impact hydroelectric" facilities. By developing a means of certification, the collaborators hope to identify and spur demand for hydroelectric facilities that operate with less harm to the environment.

Large hydroelectric facilities are often associated with serious environmental problems, and all hydroelectric plants can affect fish and wildlife habitats and water quality. Despite these issues, hydroelectric generation is an environmentally preferable alternative to fossil fuels.

Under the current Green-e standard small-scale hydroelectric facilities (plants 30 megawatts in capacity or less) are considered renewable; large-scale generation (greater than 30 megawatts) is not. Under the more comprehensive low-impact-hydro standard, screening criteria will include: fish protection; satisfactory river flow, preservation of water quality, mitigation of inundated lands, threatened or endangered species protection, protection of cultural resources, facilities removal recommendations, and availability of recreational opportunities.

The demand for facilities certified by the Low Impact Hydro Institute remains uncertain. As of yet, none of the hydroelectric generation that Green Mountain Energy Company supplies comes from Low-Impact Hydroelectric Institute-certified facilities.

![](_page_26_Picture_5.jpeg)

#### **More About Wind Energy**

Wind is produced from the uneven heating of the earth's surface under certain weather conditions, which causes lighter hot air to be replaced with denser cooler air. This energy is captured with wind turbines. Because ground level objects cause turbulence and loss of energy, substantially stronger winds are present at heights above surrounding obstructions. As such, wind turbines are placed on towers at heights of 40 meters or greater. The best wind resources are located on mountain ridge tops, at shorelines, or under curtain situations conducive to high winds. In California, for example, cool ocean air displaces hot desert heat and is funneled through mountain passes.

Electricity from wind is becoming one of the least expensive forms of renewable energy, and is expected to be competitive with generic system power in the near future. Wind plants are fabricated of conventional materials and their mechanical systems are fairly predictable. Although wind facilities require a large amount of land, the actual footprint of each turbine tower is small, and the land can usually continue to be used for farming and other similar land uses.

#### **About Wind Generation and Birds**

The common misconception that all wind generation turbines are dangerous to birds came from isolated problems with one of the earliest large-scale wind sites develop in the US—California's Altamont Pass.

Developers began constructing turbines in Altamont in 1982 to harness the area's wind resources. Unfortunately, in addition to possessing significant wind resources, the pass served as a migratory route for birds, including raptors and eagles. These birds used the lattice towers of the turbines as roosting and hunting perches, and collided with the fast spinning turbines when entering or leaving these roosts. The most frequent collision occurred when the birds left the towers chasing prey.

In all, the American Wind Energy Association states that Altamont has killed approximately 1,500 raptors in the last decade. There is growing evidence that Altamont is an isolated case.<sup>1</sup> In fact, today at wind facilities, it is estimated that the average collision rate is 1-2 birds per turbine per year.<sup>2</sup> Many sites studied have had zero bird deaths.

Wind turbines today are carefully sited to avoid harm to birds. Furthermore, the wind industry has largely eliminated construction of lattice towers—replacing them with tubular towers—and significantly reduced the speed of the rotating blades. Each of these efforts has greatly reduced avian mortality. To provide perspective, each year 100 million to 900 million birds are killed by glass windows, 100 million by house cats, 50 million to 100 million killed by automobiles, and 4 million to 10 million are killed by telecommunication towers.<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> For more information, see: http://www.currykerlinger.com/windpower.htm.

<sup>&</sup>lt;sup>2</sup> For more information, http://www.awea.org/pubs/factsheets/WEandBirds.pdf

<sup>&</sup>lt;sup>3</sup> For more information, see: http://www.currykerlinger.com/birds.htm

#### **More About Biomass Generation**

Some of the electricity marketed by Green Mountain Energy is generated from renewable biomass. Biomass generation technologies use plants and organic matter to generate electricity. These resources may be burned directly or converted into another fuel before being used.

Green Mountain Energy Company purchases electricity generated from only two sources of biomass: wood and landfill gas. We do not purchase electricity derived from burning municipal solid waste for any of our energy products.

As things like food, yard clippings, wood, and other organic wastes decompose they give off methane, water vapor, and other trace gases. Referred to collectively as landfill gas, this combination of gases can be collected and burned to generate electricity.

There are big differences between burning landfill gas and burning municipal solid waste (MSW). Municipal solid waste involves burning the solid waste itself, which can be problematic because the waste often contains contaminants. Using landfill gas, on the other hand, involves burning the gas *byproduct* of decomposing organic matter sitting in landfills.

For Pennsylvania and New Jersey electricity blends that contained biomass, 100% of that biomass supply came from landfill gas facilities. In California, the biomass electricity we purchased was derived from a combination of landfill gas and wood biomass facilities.

Because biomass involves combustion, there are air emissions from its use. As a result of these air emissions, biomass is an imperfect renewable resource compared to pollution-free resources like wind and solar. However, biomass generation is significantly better than generation that relies on fossil fuel. (see comparison of biomass and fossil fuel air emissions.) It can also provide "baseload" power, electricity on demand 24 hours a day. Unlike wind and solar resources, biomass fuel can be stored and used as needed. Green Mountain Energy Company uses biomass from facilities that meet Green-e standards for air emissions.

## Why Does Burning Biomass Result in No Net Carbon Dioxide Emissions?

As plants grow, they absorb atmospheric  $CO_2$  and store it in their mass. As these plants die and decompose naturally, they release this carbon back into the atmosphere in the form of carbon dioxide and methane. When they decompose there is no *net* release of  $CO_2$  –these plants are merely releasing what they already absorbed from the atmosphere. By using biomass to generate electricity, no more  $CO_2$  is being released than if the plant had decomposed naturally. Therefore, assuming a sustainable level of harvest, the fuel source has no net carbon dioxide emission and is  $CO_2$ neutral.

Contrast the  $CO_2$  impact of using biomass with burning fossil fuels. As fossil fuels form, natural processes lock carbon deep within the earth's surface. It would remain there but for human interference. By mining and drilling for that carbon, bringing it to the surface, and burning it, we release additional  $CO_2$  into the atmosphere. These *additional*  $CO_2$ emissions are observed as increased gas concentrations in our atmosphere. These additional carbon dioxide emissions are causing global warming.

This rationale is consistent with the US Energy Information Administration / Emissions of Greenhouse Gases in the United States 2000 (Appendix D Emissions Sources Excluded).

Comparison of Biomass and Fossil Fuel Air Emissions						
	Net air emissions (lbs/MWh)					
Resource	CO <sub>2</sub>	NO <sub>x</sub>	SO <sub>2</sub>			
Landfill Gas	0.0	<2.9	0.1			
Coal	2,248.9	5.9	13.2			
Oil	1,672.1	4.2	11.7			
Natural Gas	1118.9	1.7	0.1			

## **Electricity Products: Our Standard**

e stake our reputation on the environmental soundness of our products. Through our Environmental Charter, we have formally committed ourselves to offering only electricity products that:

- are cleaner than the current energy mix serving that region
- feature energy from new renewable resources

We have also been guided by the Green-e Renewable Electricity Program (Green-e) in developing our electricity products. A majority of our products Green-e certified. We offered these products CA, CT, NJ, PA, and TX. In order for an electricity product to be certified by Green-e, it must satisfy the following criteria:

- At least 50% of the product must come from specified renewable sources.
- Emissions of sulfur dioxide, nitrogen oxides, and carbon dioxide from the non-renewable generation component of the product must not exceed average emissions rates of fossil fuel in the region's system mix.
- Total fossil-fuel emissions of the product cannot exceed the average system power emissions rate.
- One year after deregulation, the product must contain at least 5% "new renewable" electricity. This requirement increases to 10% the next year.
- The product does not include nuclear power other than what is contained in any system power purchased for this product.
- The product must be offered by a company committed to following the Green-e Code of Conduct on ethical treatment of customers, including the use of simple contracts and disclosure labels.

In OH, NJ, and PA, we also offered a handful of cost-competitive electricity products that had lower new renewable content than what was required by Green-e.

![](_page_29_Picture_12.jpeg)

The Green-e Renewable Electricity Program was developed by the Center for Resource Solutions (CRS) as part of its mission to preserve and protect the environment by promoting sustainable energy technologies. Working with environmentalists, consumer advocates, and renewable energy experts, CRS formed Green-e to provide a simple way for the public to understand the benefits of renewable electricity and to establish confidence by certifying renewable power from credible companies. Green-e also ensures that retail suppliers of Green-e certified electricity actually deliver the renewable energy promised to their customers. Under the program, annual independent audits of the delivery of certified products are conducted. For more information on Green-e, go to www.green-e.org or call 1-800-63-GREEN.

#### **Electricity Products: Our Energy Supply and Suppliers**

e create electricity products that must meet specific requirements for generation source and vintage. We are committed to offering electricity blends that are dramatically cleaner than a region's system mix. We are also committed to including electricity from new renewable facilities in our products, to support incremental environmental improvement. Therefore, in order to design our power products, we examine the generation source, vintage, and air emissions of generation facilities supplying our energy. We stipulate specific environmental criteria for generating facility performance in our contracts with our wholesale energy providers.

The Green-e standard guides our supplier decisions, especially for those products that we will have certified in the Green-e program. Green-e excludes certain generation technologies sometimes considered renewable from their definition of renewable resources (e.g. municipal solid waste). Green-e also limits the use of coal or nuclear power within a certified product, and sets air emissions requirements for various generation sources.

The tables on the following pages summarize the projected and actual electricity energy supply mix purchased in California, Connecticut, New Jersey, Ohio, Pennsylvania, and Texas in 2001.

Green Mountain Energy<sup>sm</sup> electricity information provided in the accompanying tables describes the purchases of Green Mountain Energy<sup>sm</sup> electricity over the course of a calendar year. For each calendar year or portion thereof that a customer purchases Green Mountain Energy<sup>sm</sup>, we will deliver to the grid enough power from our energy blend resources to match that customer's energy usage during that period. These deliveries will be subject to verification in accordance with the requirements of the Green-e Renewable Electricity Branding Program. Renewable and hydroelectric resource availability varies from hour to hour and from season to season, as does our customer's use. At any specific time, we will be putting more or less of these energy sources in to the grid than our customers' use. We will put system power into the grid to serve our customers' minute-by-minute consumption, but will always match our customer's annual electricity use by delivering our energy blend resources into the grid. At all times our customer's electricity needs will be served.

	Annual CO <sub>2</sub> Prevented by Average Household Using Green Mountain Energy <sup>sm</sup> Electricity						
State	Product	% New Renewables	Emissions Avoided per Household	Miles not driven needed to avoid same amount of CO2			
			CO2	Miles			
CA	Breathe Easy	10.0%	492	547			
PA	EnviroBlend	10.0%	1,083	1,203			
	Nature's Choice	10.0%	1,083	1,203			
	Eco Smart	1%	108	120			
	PECO CDS	1%	108	120			
NJ	EnviroBlend	10%	935	1,039			
	Eco Smart	1%	94	104			
CT	Green Mountain Energy <sup>sm</sup> Electricity	10.87%	1,037	1,153			
Ohio	Green Mountain Energy <sup>sm</sup> electricity	2.0%	402	447			
Texas	100% Wind	100.0%	20,597	22,886			
	Multi Family Housing	25%	2,675	2,972			

#### **Electricity Supply: California**

alifornia has abundant renewable energy resources. These include wind, solar, hydroelectric, biomass, and geothermal resources sufficient for electricity generation. Because of the exceptional renewable resource availability in California and surrounding regions, we were able to offer 100% renewable electricity. Nearly 20% of our Breathe Easy<sup>sm</sup> electricity came from new renewable facilities--almost twice the amount that we promised our customers. Geothermal, small-scale hydro, and wind were predominant resources. The table below details the promised power content of Green Mountain Energy<sup>sm</sup> electricity we marketed in California last year, as well as the content of the actual supply we delivered to the grid on behalf of our customers.

We were one of the first companies to enter the deregulated electric market in California. We are still serving customers in the state; but unfortunately, due to regulatory changes, we can no longer sign up new customers.

California Electricity Supply Mix for 2001 Promised vs. Actual Supply					
	Breathe Easy <sup>sm</sup> electricity California Generic System <sup>4</sup>				
Generation Resource	Promised Supply <sup>1</sup>	Actual Supply <sup>1</sup>	(For Comparison)		
Eligible Renewable	100%	100%	12.5%		
Biomass	-	5.0%	2.6%		
Geothermal	-	61.3%	5.1%		
Small Hydroelectric <sup>2</sup>	-	19.6%	2.9%		
Solar (PV)	-	0.55%	0.4%		
Wind	-	13.5%	1.5%		
Coal	-	-	11.0%		
Large Hydroelectric <sup>2</sup>	-	-	10.2%		
Natural Gas	-	-	50.3%		
Nuclear	-	-	15.6%		
Other	-	-	0.4%		
TOTAL	-	-	100%		
% New Renewable <sup>3</sup>	10%	17.9%			

Columns may not sum to 100% due to rounding.

(1) Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resource mix of the electricity that a customer purchases during the year.

(2) Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size.

(3) In California, "new renewable resource" means that these facilities began commercial operation on or after January 1, 1997.

(4) Average CA system power mix is derived from 2001 California Energy Commission generation data and EPA EGRID 2000 emission rates for the State of California.

## **Electricity Supply: Connecticut**

coording to EIA, wind and biomass have the best potential for development in Connecticut. Connecticut has good wind sources, which if fully developed could power 22% of the state's electricity consumption. Thirteen percent of the state's electricity demand could be met with biomass power resources. The state has low potential for hydroelectric, mid-range solar resources, and no geothermal resources suitable for generating electricity.

The table below details the promised power content of the electricity blends we marketed in Connecticut last year, as well as the content of the actual supply we delivered to the grid on behalf of our customers.

n Mounta electric nised oply <sup>1</sup>	in Energy <sup>sm</sup> city Actual Supply <sup>1</sup>	Connecticut Generic System <sup>4</sup> (For Comparison)
nised pply <sup>1</sup> 0%	Actual Supply <sup>1</sup>	(For Comparison)
)%		
	100%	<13.3%
	-	6.7%
	-	-
44%	87.6%	<6.6%
	-	-
6%	12.4%	-
	-	17.9%
)%	-	<6.6%
	-	20.1%
	-	20.1%
	-	1.5%
0%	100%	100%
%	12.4%	
	0% 0% %	-       -       -       -       0%       100%       %       12.4%

(1) Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resource mix of the electricity that a customer purchases during the year.

(2) Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size.

(3) In Connecticut, "new renewable resource" means that these facilities began commercial operation on or after January 1, 1998.

(4) Average CT system power mix is derived from EPA EGRID 2000 emission rates for the New England ISO / PCA.

#### **Electricity Supply: New Jersey**

coording to EIA, wind and biomass resources offer the best potential for renewable electricity generation within New Jersey. Portions of the state are characterized as having "good" wind resources. Biomass also offers a promising form of renewable generation. The state has a relatively few hydropower resources. Less than 1% of New Jersey's electricity needs could come from hydropower located within its borders. EIA characterizes New Jersey's solar resources as useful or marginally useful depending on the type of solar technology employed. The state has no geothermal resources capable of generating electricity.

In 2001, we used landfill gas and wind resources to meet our renewable electricity requirements. The table below details the promised power content of Green Mountain Energy<sup>sm</sup> electricity marketed in New Jersey last year and our deliveries to the grid for our customers.

New Jersey Electricity Supply Mix for 2001 Promised vs. Actual Supply							
	EcoSi	mart <sup>sm</sup>	EnviroBlend <sup>sm</sup>		New Jersey System Power⁵		
	Promised Supply <sup>1</sup>	Actual Supply	Promised Supply <sup>1</sup>	Actual Supply	(for comparison)		
Eligible Renewable	2.0%	2.0%	50%	50%	<1%		
Biomass		1.4%		47.5%	-		
Geothermal				-	-		
Small Hydroelectric <sup>2</sup>				-	<1%		
Solar (PV)				<1%	-		
Wind		0.6%		2.5%	-		
Coal				-	47%		
Large Hydroelectric <sup>2</sup>	07.59/ Mix <sup>4</sup>	50.0%	50%	50%	<1%		
Natural Gas	97.5% WIX	48.0%		-	9%		
Nuclear				-	37%		
Oil				-	4%		
Other				-	2%		
TOTAL			100%	100%	100%		
% New Renewable <sup>3</sup>	1%	1%	5%	5.0%			

Columns may not sum to 100% due to rounding.

- (1) Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resource mix of the electricity that a customer purchases during the year.
- (2) Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size.
- (3) In New Jersey, "new renewable resource" means that these facilities began commercial operation on our after January 1, 1998.
- (4) Our power supply agreements required that 99% of EcoSmart<sup>sm</sup> and 50% of EnviroBlend<sup>sm</sup> provided in Pennsylvania would consist of large hydroelectric and/or natural gas. To the extent available, renewable resources would be substituted
- (5) Average NJ system power mix is derived from 1998 Environmental Protection Agency EGRID Generation Resource Mix data, Pennsylvania-Jersey-Maryland ISO power control area.

\* Promised Supply included an unspecified mix of eligible renewable resources dependant upon resource availability.

#### **Electricity Supply: Ohio**

hio has marginal wind resources according to EIA. Studies indicate that Ohio has good resources for generating electricity from biomass. If fully developed, they could supply 64% of the state's residential electricity demand.

The table below details the promised power content of the electricity blends we marketed in Ohio last year, as well as the content of the actual supply we delivered to the grid on behalf of our customers. In 2001 we delivered over 12 times the new renewable content promised to our Ohio customers. As a group, they prevented over 98,000 tons of carbon dioxide from being emitted into the atmosphere over the course of 2001—32% of the total carbon dioxide avoided by Green Mountain Energy<sup>sm</sup> electricity purchases that year. That is as much carbon dioxide as would be avoided by taking over 17,400 cars off the road for a year

Ohio Electricity Supply Mix for 2001 Promised vs. Actual Supply					
	Green Mountain Energy <sup>sm</sup> electricity		Ohio Generic System <sup>4</sup>		
Generation Resource	Promised Supply <sup>1</sup>	Actual Supply <sup>1</sup>	(For Comparison)		
Eligible Renewable	2%	25.1%	<1%		
Biomass		-	<1%		
Geothermal		-	-		
Small Hydroelectric <sup>2</sup>		25.1%	<1%		
Solar (PV)		-	-		
Wind		-	-		
Coal		-	89%		
Large Hydroelectric <sup>2</sup>		49.7%	<1%		
Natural Gas	98%	25.2%	3.1%		
Nuclear		-	5.9%		
Other		-	0.5%		
TOTAL	100%	100%	100%		
% New Renewable <sup>3</sup>	2%	25.1%			
Columns may not sum to 100% due to rounding.					

(1) Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resou mix of the electricity that a customer purchases during the year.

(2) Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size.

- (3) In Ohio, "new renewable resource" means that these facilities began commercial operation on or after January 1, 1997.
- (4) Average OH system power mix is derived from EPA EGRID 2000 emission rates for the ECAR NERC region.

#### **Electricity Supply: Pennsylvania**

ccording to EIA, biomass and wind resources offer the best potential for electricity generation within Pennsylvania. The state also has some useful solar generation resources. Our renewable supply was generated with landfill gas, hydroelectric resources, wind resources, and modest amounts of solar.

In 2001, we offered three Green Mountain Energy<sup>sm</sup> electricity products to Pennsylvanian's. EcoSmart<sup>sm</sup> featured a mix of large hydro, natural gas, biomass, and wind. EnviroBlend<sup>sm</sup> featured a mix of renewable and cleaner, nonrenewable resources. Nature's Choice<sup>sm</sup> is a generated using 100% renewable resources. We supplied over twice the amount of new renewable generation promised to our Nature's Choice<sup>sm</sup> customers. Biomass, wind, and large hydro were the most-used resources used in our Pennsylvania products. The table below details the promised power content of the electricity blends we marketed in Pennsylvania in 2001 compared to what we actually delivered to the grid for our customers.

Promised vs. Actual Supply							
	EcoSmart <sup>sm</sup>		EnviroBlend <sup>sm</sup>		Nature's Choice <sup>sm</sup>		Pennsylvania System Mix
	Promised Supply	Actual Supply	Promised Supply	Actual Supply	Promised Supply	Actual Supply	(for comparison)
Eligible Renewable	1%	1%	50%	75%	100%	100%	<1%
Biomass (landfill gas)		0.5%		69.5%		90.4%	-
Geothermal				-		-	-
Small Hydroelectric <sup>2</sup>				-		-	<1%
Solar (PV)				<0.1%		<0.1%	-
Wind		0.5%		5.5%		9.5%	-
Coal				-		-	47%
Large Hydroelectric <sup>2</sup>	00% Mix	76.0%	50% Mix <sup>3</sup>	20.4%		-	<1%
Natural Gas	9976 WIX	22.9%	50 % WIX	4.5%		-	9%
Nuclear				-		-	37%
Oil				-		-	4%
Other				-		-	2%
TOTAL	100%	100%	100%	100%	100%	100%	100%
% New Renewable <sup>4</sup>	1%	1%	10%	13.8%	10%	28.3%	

Pennsylvania Electricity Supply Mix for 2001

Columns may not sum to 100% due to rounding.

(1)Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resource mix of the electricity that a customer purchases during the year.

Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less (2)

than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size. Our power supply agreements required that 99% of EcoSmart<sup>sm</sup> and 50% of EnviroBlend<sup>sm</sup> provided in Pennsylvania would consist of large hydroelectric and/or natural gas. To the extent available, renewable resources would be substituted. (3)

In Pennsylvania, "new renewable resource" means that these facilities began commercial operation on our after January 1, 1998. (4)Average PA system power mix is derived from 1998 Environmental Protection Agency EGRID Generation Resource Mix data, (5) Pennsylvania-Jersey-Maryland ISO power control area.

Promised Supply included an unspecified mix of eligible renewable resources dependant upon resource availability.

### **Electricity Supply: Texas**

Exas has tremendous wind resources and solar resources, as well as high temperature geothermal resources capable of electricity generation. If all of Texas's potential for wind was developed, excluding lands in urban development, accounting for land-use conflicts, and environmentally sensitive areas, the power produced could supply 421% of the state's annual electricity consumption!

Given the phenomenal wind resources in the state, Green Mountain Energy Company could offer a first of it's kind product in Texas—100% new renewable wind. The average TX household can prevent the emission of over 20,000 pounds of CO2 annually by purchasing this product- a significant portion of their household's CO2 footprint. The table below details the promised power content of the electricity blends we marketed in Texas in 2001compared to the content of the actual supply we delivered to the grid on behalf of our customers.

Texas Electricity Supply Mix for 2001 Promised vs. Actual Supply							
	Green Mountain Energy <sup>sm</sup> electricity Texas Generic System						
Generation Resource	Promised Supply <sup>1</sup>	Actual Supply <sup>1</sup>	(For Comparison)				
Eligible Renewable	100%	100%	<1%				
Biomass	-	-	0.3%				
Geothermal	-	-	-				
Small Hydroelectric <sup>2</sup>	-	-	<1%				
Solar (PV)	-	-	-				
Wind	100%	100%	-				
Coal			38.1%				
Large Hydroelectric <sup>2</sup>			<1%				
Natural Gas	s		48.5%				
Nuclear	ear -		10.9%				
Other	· ·		1.2%				
TOTAL	100% 100%		100%				
% New Renewable <sup>3</sup> 100% 100%							
<ol> <li>Promised Supply refers to power that we contracted to provide. Actual Supply refers to the actual resource mix of the electricity that a customer purchases during the year.</li> <li>Small hydroelectric facilities are defined by the Green-e Renewable Electricity Branding Program as hydroelectric power plants less than or equal to 30 MW in size. Large hydroelectric facilities are defined as greater than 30MW in size.</li> <li>In Texas, "new renewable resource" means that these facilities began commercial operation on or after September 1, 1999.</li> <li>Average TX system power mix is derived from EPA EGRID 2000 emission rates for the State of Texas.</li> </ol>							

### **Electricity Products: Air Emissions**

A sulfur dioxide, and nitrogen oxides from coal burning power plants are in large part responsible for pressing environmental problems like acid rain, smog, and global warming. The charts below show the role of electricity generation in our nation's air pollution problem and the role of coal in creating those emissions.

New renewable generation poses a solution to the environmental problems posed by traditional methods of generation. Renewable resources can be harnessed to generate electricity, emitting little to no air pollution in the process. When new renewable generation facilities come online, they help to reduce our society's reliance on pollution intensive fossil fuels. Because demand is met with new cleaner facilities rather than typical fossil facilities, pollution is avoided. In short, new renewables are critical to incremental environmental improvement over time. For that reason, we make sure that every Green Mountain Energy<sup>sm</sup> electricity product is generated in part from new renewable facilities.

Region	Regional Coal Use (% of system mix)	Percentage of region's electric generation emissions caused by coal			
		CO2	NOx	SO2	
Connecticut	18%	34%	43%	44%	
California	16%	32%	48%	96%	
New Jersey/ Pennsylvania	47%	84%	89%	92%	
Ohio	89%	98%	98%	99%	
Oregon	48%	80%	89%	97%	
Texas	38%	60%	58%	97%	
United States	52%	82%	86%	91%	

Pollutant	Electricity Generation's Share of Total US Pollution	Environmental Effect of Pollutant	Amount of Pollutant that the Average US Household is Responsible for Annually by Electricity Use.
Sulfur Dioxide	67% of all US emissions	Contribute to acid rain, asthma, and respiratory illness, & aggravate existing cardiovascular disease.	78 pounds
Nitrogen Oxides	23% of all US emissions	Contribute to acid rain, smog, asthma, and respiratory illness	37 pounds
Carbon Dioxide	41% of all energy related activities (including transportation)	Greenhouse gas that contributes to global warming	14,760 pounds
Mercury	33% of all US emissions	Heavy metal that builds up on human and animal tissue and damages nervous systems	0.11 grams

United States Energy Information Administration/ Emissions of Greenhouse Gases in the United States 2000

 United States Environmental Protection Agency- National Emission Inventory (NEI) Air Pollutant Emissions Trends, Average Annual Emissions, All Criteria Pollutants Year 1999.

1997 Mercury Report to Congress. Table 5-1

"We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water, or the earth or its inhabitants."

CERES Principle, Protection of the Biosphere

#### **Global Warming**

In the United States, making electricity accounts for billions of tons of carbon dioxide pollution—more than one-third of total national carbon dioxide emissions each year.

Though not a regulated pollutant, emissions of carbon dioxide and other greenhouse gases are the focus of international concern and the target of the Kyoto Protocol. Human-induced emissions of these greenhouse gases are upsetting the Earth's natural balance of greenhouse gases and altering the global climate.

These changes in global climate are expected to cause more severe weather patterns, increased precipitation, melting of the polar ice caps, and rising sea levels. The disruptions to human settlements around the globe and the threat to natural eco-systems are potentially enormous.

Based on Environmental Protection Agency studies, choosing renewable electricity is one of most significant steps and individual can take to fight global warming.

![](_page_38_Figure_5.jpeg)

#### Global Warming Facts

- Since the industrial revolution,  $CO_2$  levels have increased by 30%.
- Global mean surface temperatures have increased 0.6 to 1.2 degrees Fahrenheit over the past 100 years
- Sea level has risen 4 to 10 inches over the past 100 years.
- By 2100, global mean surface temperatures are expected to rise 2-10 degrees F. For comparison, temperatures during the last ice age were only 9 degrees cooler than today. This brought ice sheets as far south as New York City.

Carbon Dioxide Avoided by Green Mountain Energy Company Customers			
Year	Carbon Dioxide (tons)		
1998	0		
1999	9,689		
2000	22,251		
2001	136,966		
2002 (Projecte	181,890		

#### Acid Rain and Smog

Making electricity is a source of the pollution that causes acid rain and smog. In fact, in the United States, electricity generation accounts for 67% of our nation's sulfur dioxide (SO2) emissions and 25% of nitrogen oxides emissions (NOx). Every year, millions of tons of these pollutants are emitted nationally from electricity generation.

Acid rain is one environmental problem caused by pollution from electricity generation. Acid rain forms when SO2 and NOx react with water vapor in the atmosphere to form acidic compounds. Eventually the acidic compounds fall to the earth in precipitation and or as dry gases or in combination with dust particles. This acid rain damages sensitive forests and bodies of water, and threatens populations of species that rely on these areas for habitat.

Ground level ozone is another environmental problem caused by traditional methods of electricity generation. "Smog" consists mainly of ground level ozone. Ground level ozone comes about when nitrogen oxides (NOx) react in the presence of sunlight with volatile organic compounds (VOC's).

Ozone is a compound that exists to our benefit in the upper atmosphere. This upper atmospheric, naturally occurring, ozone helps protects us from the sun's ultraviolet radiation. On the other hand, ground level ozone is an environmental problem. Smog damages the lungs and can impair a person's ability to breath. It also increases susceptibility to infection, and decreases the ability of otherwise healthy individuals to exercise. Studies show that emergency room visits and hospital visits for respiratory causes to increase with elevated smog levels.

![](_page_39_Figure_5.jpeg)

#### Acid Rain Facts

- In some lakes and streams, acidification has completely extirpated sensitive fish species.
- Temporary acidification from acidic snowmelts or heavy downpours can cause large "fish kills" in sensitive species.
- Certain regions in the United States are more susceptible to acid rain damage than others. These regions include the Adirondacks, the mid-Appalachian highlands, the upper Midwest, and the high elevation West
- The Adirondacks have 3000 lakes and ponds, 350 of which have acid levels so high that they can no longer sustain life.

#### How does Ozone effect the Environment?

"Ground level ozone can have several environmental impacts:

- Ozone impairs the ability of plants to produce and store food. This inhibits plant growth and reproduction and diminishes plant health, which in turn weakens the ability of plants to survive disease, insect attacks, and extreme weather
- Ozone can have long-term impacts on forests and ecosystems including disruption of ecological functions (such as water movement and mineral nutrient cycling) and adverse impacts on the natural habitats of plants and animals."

Nitrogen Oxide Pollution Avoided by Green Mountain Energy Company Customers			
Year	Nitrogen Oxides (tons)		
1998	0		
1999	16		
2000	46		
2001	328		
2002 (Projected)	380		

#### **Our Direct Support of New Renewable Generation**

All Green Mountain Energy<sup>sm</sup> electricity products feature energy from new renewable resources. A select few of these new renewable resources have been constructed specifically in response to Green Mountain Energy<sup>sm</sup> electricity customer demand. In fact, since 1999, this demand has led the development of 11 new renewable generation facilities. These new renewable facilities are among the first in the nation to be constructed as a direct result of deregulation of the electric industry.

Green Mountain Energy Company does not own or operate any generation facilities. The facilities below were developed in partnership with third parties, including Sun Power Electric, Pacificorp, GPU Solar, National Wind Power, and Nuon.

Facilit	y Name	Dedicated	Location	Size
BJ's Solar		Spring 1999	Conshohoken, PA	43 kW
San Gorgonio Wind		Summer 1999	Palm Springs, CA	2.1 MW
Solar 2000 Mendocino		Fall 1999	Hopland, CA	100 kW
Green Mountain Energy <sup>sm</sup>	Wind Farm	Spring 2000	Garrett, PA	10.4 MW
Green Mountain Energy <sup>sm</sup>	Solar – Berkeley	Winter 2000	Berkeley, CA	100 kW
Green Mountain Energy <sup>sm</sup>	Solar – Pittsburgh	Fall 2001	Pittsburgh, PA	30 kW
Green Mountain Energy <sup>sm</sup>	Solar – Winston School	Spring 2002	Dallas, TX	58 kW
Green Mountain Energy <sup>sm</sup>	Solar– Houston	Pending	Houston, TX	43 kW
Green Mountain Energy <sup>sm</sup>	Solar-Kirtland	Spring 2002	Kirtland, OH	26 kW
Green Mountain Energy <sup>sm</sup>	Solar- Deptford	Spring 2002	Deptford, NJ	52 kW
Green Mountain Energy <sup>sm</sup>	Solar—Discovery Museum	Pending	Bridgeport, CT	19 KW

Development of new renewable generation is necessary for positive change. Put simply, when electricity from new renewable plants goes onto the grid to meet customer demand, we reduce our reliance on more polluting forms of generation. In so doing, we take steps to eliminate public health and safety risks resulting from these forms of generation. These facilities are important steps in our mission to change the way power is made.

"We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning."

CERES Principle, Sustainable Use of Natural Resources

Making electricity emits billions of tons of carbon dioxide and millions of pounds of nitrogen oxides into the air every year. In 2001 alone, our Green Mountain Energy Company new renewable facilities kept 9,675 tons of CO2 out of the air. To put that in perspective, the facilities prevented as much CO2 as 1.3 million trees would sequester annually. The facilities' operations also avoided 20.5 tons of NO<sub>x</sub>.

#### New Renewable Development, Land Use, and Biodiversity

In our endorsement of the CERES principles, we affirmed to safeguard all habitats affected by our operations and will protect open spaces and wilderness, while preserving biodiversity. We recognize the potential for land-use consequences when new renewable facilities are developed. Working with our development partners we ensure that these facilities are sited to avoid significant negative affect on their surroundings. To learn more about the review that accompanied the Green Mountain Wind Farm at Garrett, reference our 1999 and 2000 CERES reports.

#### **Electricity Products: Customer Energy Use**

Green Mountain Energy Company presents information through our website and our customer newsletter, Cleaner Times, designed to educate our customers on how they can become more energy efficient. Over the past year we have expanded efforts for increasing customer energy efficiency by offering a variety of energy efficient products.

#### **Energy Efficient Products**

In 2001, we conducted a successful pilot program to sell energy efficient compact fluorescent bulbs to our electricity customers in Pennsylvania and New Jersey. When Californians turned their attention to energy efficiency in the midst of summertime energy shortages, we distributed compact fluorescent bulbs free-of-charge to our California customers to help in their efforts to conserve energy.

Most recently we've begun to expand the portfolio of energy efficiency products we offer, through our Power Perks<sup>tm</sup> Products Program. Power Perks<sup>tm</sup> products help our customers save energy. In fact, many of the offerings are certified by the Energy STAR program. Some Power Perks<sup>tm</sup> Products are priced below national retailer's prices for the same or comparable items. We offer these products in partnership with Energy Federation Incorporated, one of the nation's largest distributors of energy efficient products.

## **Environmental Performance—Business Practices**

This section details the environmental performance of our business operations, considering the following:

Office Environmental Heath and Safety	41
Carbon Dioxide Emissions	
Energy Use	
Transportation	45
Natural Resource Use	46
Office Waste	
Non-Energy Suppliers and Partners	
Water Use	

Information about our environmental performance is presented in the Global Reporting Initiative's Sustainability Reporting Guidelines framework for environmental reporting during the 2001-operating year. Where possible, we have provided information on prior years for the reader's comparison. Unless otherwise indicated, this information covers the activities of Green Mountain Energy Company's Corporate Headquarters, located in South Burlington, Vermont prior to October of 2000, and presently located in Austin, Texas. Where noted, the information also incorporates activities of our smaller regional offices in California, Pennsylvania, New Jersey, and Vermont.

## Business Practices: Environmental, Health, and Safety

e do not own generation or energy distribution operations. Rather, we engage in retail electricity marketing. Consequently, the environmental, health, and safety considerations of our business operations are comparable to those of an office environment, rather than those of a traditional utility.

#### Compliance

CERES asks endorsing companies to complete the accompanying chart, indicating if their operations in any way require compliance with environmental, health, or safety regulations at either the national, sub-national or supra-national level, in key environmental categories.

At our offices, we are subject to regulation in workplace health and safety. We are also subject to local regulations prohibiting introduction of the nickel cadmium batteries we use in some portable electronic devices into the waste stream. No enforcement action in any environmental, health, and safety regulation has been raised against Green Mountain Energy Company.

Category	Compliance Required?	
Air Quality	No	
Water Quality	No	
Drinking Water	No	
Chemical Certification	No	
Hazardous Waste*	Yes	
Emergency Response	No	
Workplace Health & Safety	Yes	
Radioactive Materials	No	
Habitat Protection	No	
* Nickel cadmium batteries used in pagers		

## **Business Practices: Carbon Dioxide Emissions**

Because of the threat of global warming from increased CO2 concentrations in the air, we estimate the CO2 emissions from our key business activities and act to reduce or offset them. We calculate our emissions from activities like: corporate air travel, manufacturing of the paper we purchase, employee commuting, and our office energy use.

![](_page_43_Figure_2.jpeg)

In 1998, we set out to identify the major components of our company's CO2 footprint. Since then, we have developed a method to estimate the amount of carbon dioxide emitted to the atmosphere as a result of our business operations.

Over the past four years, we've incrementally increased the scope of our estimated footprint. In 1998, our accounting included only the carbon dioxide emissions from energy use in our corporate headquarters. In 1999, we expanded our estimate to include the majority of our air travel, embodied emissions in paper used, and employee commuting. In 2000, we further expanded our metric to include energy estimate for our regional offices' energy use.

We estimate that the bulk of our direct and indirect CO2 emissions from business practices come from our corporate air travel (48%). The embodied emissions from our paper use contribute to 11% of our footprint. Corporate energy use and employee commuting contribute 25% and 16% respectively of our carbon dioxide footprint. The table below details our carbon dioxide emissions by source for 2000 and 2001.

![](_page_43_Figure_6.jpeg)

![](_page_44_Figure_0.jpeg)

#### **Our Carbon Dioxide Mitigation Program**

While we have not formally adopted a climate change policy, we developed an interim commitment to annually mitigate 50% of our global warming impact from carbon dioxide emissions resulting from our business operations. Since 1999, we have offset 50 percent of our estimated carbon dioxide footprint each year. Prior projects included supporting the ecological restoration of old-growth forest areas in Northern California.

In 2001 we also engaged the Oregon Climate Trust for carbon dioxide offsets, and invested in a program that helps low income Oregon residents implement energy efficiency measures in their homes. By using less energy, these Oregonians help prevent the emission of thousands of tons of carbon dioxide.

"We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water, or the earth or its inhabitants."

**CERES** Principle, Protection of the Biosphere

## Business Practices: Corporate Energy Use

Treen Mountain Energy Company's primary energy use is the electricity necessary to operate the company's offices. We've taken steps to decrease the environmental consequences of our energy use by demand side management in our offices and by purchasing renewable electricity when possible.

Office Electricity Use				
	1998 <sup>a</sup>	1999 <sup>a</sup>	2000 <sup>b</sup>	2001 <sup>b</sup>
Electricity (kWh)	214,560	240,800	605,016	751,989
Note(s)				

Electricity use in 1998 - 1999 is based on actual meter readings

estimated based on percentage of space shared in multi-tenant building without sub-metering. Electricity use also includes

Electricity use in 2000 for our TX corporate headquarters is

consumption in regional offices in CA, PA, and VT.

for our VT corporate headquarters only.

![](_page_45_Figure_3.jpeg)

In 2001, Green Mountain Energy Company opened regional offices in Dublin, OH. As tenants moving into an unfinished commercial space, we had the opportunity to make improvements beyond the steps taken by our landlord for energy efficiency. We selected selecting materials and appliances that were aimed at reducing our energy use. These selections included:

- Energy efficient lighting including fluorescent and compact fluorescent lights
- Ceiling tiles with high light reflectance. These not only save energy, by reducing the amount of light needed, but also reduce occupant eye strain
- Energy STAR rated appliances in our break room
- Motion sensitive light switches in intermittently used rooms.
- Floor space and design to maximize the use of natural light.

A variety of factors have presented obstacles to using Green Mountain Energy to power all or our offices: an inability to sub-meter leased office space and location of some offices in areas without electric competition. Currently, only our offices in Wayne, PA purchase Green Mountain Energy<sup>sm</sup> electricity. By purchasing Nature's Choice to cover the demand of that office, we will avoid an estimated 600 pounds of carbon dioxide annually.

In early 2001, we began operating a modest photovoltaic generation system atop our corporate headquarters in Austin, TX.

- The project will consist of 60 individual BP Millennia series solar panels. Each panel uses "thin film" technology, a promising low-cost source of solar energy.
- The system's estimated annual energy output is about 3,500 kWh per year. The system will displace approximately 1% of our overall energy use in the office.

#### Annual Electricity Use per Employee

![](_page_45_Figure_15.jpeg)

"We will conserve energy and improve the energy efficiency of our internal operations and of the goods and services we sell. We will make every effort to use environmentally safe and sustainable energy sources"

CERES Principle, Energy Conservation

a.

b

## **Business Practices: Corporate Transportation**

e recognize the impact that our corporate transportation has on our environment. We estimate that CO2 emissions from air travel and employee commuting constituted 63% of our corporate CO2 footprint in 2001.

As a growing company that is expanding into several regions, we rely on commercial air transportation to meet with each other and attend key sessions with stakeholders.

Our annual CO2 mitigation program is designed to offset half of the carbon dioxide emissions from our employee commuting and air travel. We are challenged to find effective ways to reduce the damage at the source.

#### 2001 CO2 Emissions by Source

![](_page_46_Figure_5.jpeg)

Transportation Data				
	1998	1999	2000	2001
Air Travel <sup>a</sup> (miles)	N/a	1,787,056	2,214,140	2,396,024
Car Travel <sup>♭</sup> (miles)	N/a	486,696	698,162	808,023
a Corporate air travel is derived through monthly mileage reports from our travel agencies				

b- Commuting patterns of employees is estimated through bi-annual commuting surveys

![](_page_46_Figure_8.jpeg)

## **Business Practices: Natural Resource Use**

s a retailer, our use of materials and water is similar to that of any company operating in any office environment. Paper constitutes the most substantial portion of our materials footprint. We've taken steps to reduce the environmental harm from our paper use by setting clear environmental guidelines for the paper we buy.

n/a

![](_page_47_Figure_2.jpeg)

#### Paper Use

In the past, we've relied more heavily on direct-mail educational efforts to inform potential customers about electricity generation and the benefits of supporting renewable technologies. These undertakings required a considerable amount of forest fiber. Subsequently, we scaled back our direct-mail efforts in 2000 and 2001

We've taken several initiatives to reduce the environmental consequences of the paper use:

- In 2000, our management approved a policy to (1) inform our suppliers that it is our policy not to purchase forest products that contain old-growth fiber; (2) actively work with our suppliers to verify that the forest products we purchase do not contain old-growth fiber; (3) ask our suppliers to verify the companies and regions from which virgin fiber content is derived; and (4) measure and benchmark the amount of forest products we use, as well as their content of post-post consumer waste. We achieve compliance with this policy by selecting paper made with recycled fiber content (preferably post-consumer recycled content) and by requiring written statements from our manufacturers disclosing the origins of virgin fiber.
- A formal standard addressing fiber content and chlorine processing has guided our paper purchases since 1999. Under our current standard, paper must contain at least 30% post-consumer waste recycled content. The paper must be processed using process chlorine free or elemental chlorine free technologies. Lastly, any virgin fiber within the paper should not be derived from old-growth forests. We also use soy-based inks for printing. Our paper selections meet, and often exceed, the requirements of the standard. For example, in 2001 90% of the paper we used came from post-consumer recycled content.

#### Contributing to the Welfare of Forests

Since 1999, we've worked with American Forests, the nation's oldest non-profit conservation organization to contribute to the welfare of forest ecosystems across the country. Through its three centers – Global ReLeaf, Urban Forest and Forest Policy – American Forests mobilizes people and organizations around the world to improve the environment by planting and caring for trees.

![](_page_48_Picture_2.jpeg)

Green Mountain Energy Company and American Forests have worked together for the last two years to plant more than 100,000 trees through environmental revitalization projects in areas throughout the country, including Pennsylvania, Connecticut and California. These projects were part of promotional efforts aligned with our corporate values.

Most recently, we've begun an exclusive restoration project the, a project with American Forests—the *Green Mountain Energy* Forest. The *Green* 

"We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning."

CERES Principle, Sustainable Use of Natural Resources

*Mountain Energy* Forest, located along two miles of the Red River in Texas, will consist of hardwood trees to help restore 730 acres of degraded wetlands and adjacent wildlife habitat to bottomlands and forest. Prior to restoration, the floodplain had been drained and farmed, threatening the ecosystem and the animals that call it home. These animals include threatened and endangered species, including the bald eagle and the interior least tern. This multi-year project calls for planting willows, pecans, southern red oaks, cherrybark oaks, Shumard oaks, bur oaks and bald cypress trees to help restore the Red River ecosystem.

In October of 2001, Green Mountain Energy Company received the Global ReLeaf Award for Environmental Leadership from American Forests. The award recognized our support in the struggle to maintain healthy forest ecosystems in the US and around the world.

## **Business Practices: Office Waste**

Our waste stream is typical of most office environments. In 1999 and 2000 we implemented direct monitoring programs comparing the amount of recyclable vs. non-recyclable waste, concluding that the bulk of our waste is recyclable material. In keeping with our companywide recycling policy, we have taken actions to reduce the amount of waste attributable to our operation and mitigate its consequence on our environment:

- We have well organized waste and recycling collection areas for paper, glass, and plastics. We educate our employees on the importance of proper recycling.
- We have instituted a program for the secured recycling of confidential business documents
- We encourage our employees to use electronic communication in lieu of paper and encourage double side copying and printing
- The only hazardous waste generated in our facilities is expended batteries for electronic devices and spent fluorescent light bulbs. As a matter of policy, these wastes are segregated for disposal at local hazardous waste depots.
- We request that recipients of our customer communications recycle them after use.

![](_page_49_Figure_7.jpeg)

Working with our recycling partners and maintenance staff, we are able to estimate the amount of material recycled in our corporate headquarters. The chart above summarizes the recycled waste from the operation of our corporate headquarters. The graph to the right shows recycled waste normalized by employee.

"We will reduce and where possible eliminate waste through source reduction and recycling. All waste will be handled and disposed of through safe and responsible methods."

CERES Principle, Reduction and Disposal of Wastes

![](_page_49_Figure_11.jpeg)

## **Business Practices: Non-Energy Suppliers and Partners**

As an electricity retailer, most of our effort in supply chain management has focused on energy supply issues. For more information about our work with energy suppliers, refer to page 29.

In our business operations, we've begun to address supplier issues in marketing activities, focusing particularly on the paper that we use and promotional products that we offer customers.

#### **Durable Product Standards**

In 1999, we began the process of developing environmental standards to guide the selection of durable products. In 2000, we began pilot testing the standard with specific product offerings. We are currently working with the manufacturers of our Power Perks Products to ensure that all products meet our standard.

Our standard is aimed to promote products that are environmentally superior to others in the same category. To accomplish that, we work with the product's manufacturer or supplier to ensure that each product excels in durability, recycled content, natural content, or energy or water efficiency. We also received written assurances from our suppliers and manufacturers to ensure that those products: (1) didn't contain old growth forest fiber, (2) didn't contain substances that damage the ozone layer, (3) had emission-free operation, and (4) were made free of child labor.

"Green Mountain Energy Company will be an environmentally responsible business, engaging in daily practices that promote a healthier planet and sustainable economy. These practices include working with partners to encourage them to adopt sustainable business practices."

Green Mountain Energy Company, Environmental Charter

## **Business Practices: Water Use**

*ur corporate* water use is limited to that drawn by our 150 or so employees in our corporate offices. Green Mountain Energy Company operates in office environments and does not engage in water intensive or manufacturing processes.

Early in our business operations, we tracked our water use in our corporate headquarters. After gathering a year's worth of data, we concluded that our water use was of relatively little significance compared to other aspects of our environmental footprint. That said, we make an effort to be efficient with our water use. Where possible, we've ensured that our offices are equipped with low-flow water fixtures to promote water conservation.