

— THE STANFORD SCHOOL OF BUSINESS

Responsible Energy Management for the 21st Century

By Bob Malone

February 2002

CBEP Conference

**“Responsible Energy Management
for the 21st Century”**

**Bob Malone
Regional President
BP America**

**CBEP Conference
Denver, Colorado
February 11, 2002**

Good Morning and thank you for that kind introduction.

It's a real pleasure to be here with you this morning and to participate in this meeting of the *Colorado Business Energy Partnership*.

Let me start by congratulating this group on its excellent work.. I believe that meetings like this – as well as your policy forums and work with international, national and state governments, businesses and NGO leaders – are the best way to find solutions for the future.

Responsible Energy Management in the 21st Century – which is to say, economically viable and environmentally safe energy – will require *all* of our best efforts.

Before I begin discussing my topic of “*Responsible Energy Management in the 21st Century*” let me take a few minutes and tell you about my company, BP, and our operations in Colorado:

- **First, you probably know us by the companies that have come together to form BP: British Petroleum, Amoco, Arco, and Burmah Castrol**
- **BP is the third largest energy company in the world with 100,000 employees working in 100 different countries.**
- **In the United States we have over 45,000 employees and almost half of BP's worldwide assets. In fact, we are the largest private foreign investor in the U.S.**

- **We are the Nation's largest producer of oil and natural gas and one of the largest retail marketers.**
- **Our history of doing business in Colorado began over 20 years ago.**
- **The state represents 23 % of BP's U.S. gas production**
- **And is the largest source of coal bed methane in the world**
- **We operate over 850 gas wells in La Plata County, and produce over 600 MMCF/day of natural gas**
- **Just east of Denver we operate the Watenberg Natural Gas Processing Plant**
- **BP's "Amoco" branded service stations provide quality fuels all over the state at competitive prices 24 hours a day.**
- **In fact, you've probably noticed we're giving our Amoco service stations a new look, converting them to BP. We will also be building new, state-of-the-art BP Connect service stations. Our BP Connect stations include numerous technological improvements which make them the most modern, efficient, and convenient in the industry. Many of these stations include solar panels manufactured by BP, providing an important supply of electricity from the sun.**
- **These service stations are also part of BP's ongoing investments in Colorado, to meet the needs of our customers while enhancing the environment. We will be making additional announcements in the next few months.**
- **Over the next 5 years, we will invest \$200 million in Colorado to step up production an additional 160 MMCF/d of natural gas.**

- **These investments, of course, are only part of our commitment to the State of Colorado.**
- **BP actively supports our community organizations where we operate,**
- **Since 1995 we have committed some \$500 million in foundation grants, sponsorships and programs to the LaPlata County community.**
- **A recent example is the National Energy Education Development program to help teach kids about all energy sources so they can be more informed consumers.**
- **We encourage our employees to be active members of the communities where they live and work,**
- **The Community Advisory Panel (CAP) program in Durango is a good example. The panel facilitates monthly meetings with a diverse group of residents, and provide feedback on our operations so we can better understand the expectations of the community, and work together to promote economic growth and ensure safe, responsible operations.**

This morning I'd like to talk to you about one of the most important aspects of BP's energy management – the actions we've taken to address climate change, and our emissions trading system for global greenhouse gases.

First, a little background to provide context.

The world's population is expected to grow 160 percent in our lifetime. That's 90 million more people a year – or roughly equivalent to a city the size of Denver springing up every 48 hours. These people will demand energy that's reliable, affordable, and environmentally safe.

Our job, and our challenge, is to provide that energy.

We are often asked the question – “is it possible to explore for, produce, refine, distribute and use hydrocarbons in ways that don't damage the environment?” The answer is yes. We think it is possible to have economic growth and a clean environment.

One area where BP has been an industry leader is on the issue of Climate Change. Though the science is unproven and provisional, the evidence is too serious to ignore, and we feel there is a powerful case for sensible preventative action.

Four years ago – here in Denver – a conversation took place between BP's Chief Executive, Lord Browne, and Tim Wirth, then Undersecretary of State, which led to a position of constructive engagement.

That engagement is based on the belief that:

- the harsh tradeoff between economic growth and protection of the environment is unacceptable. We can have both.**

- **that today's technological advances can help solve many problems in this area, and...**
- **and that precautionary action is necessary and appropriate, even though uncertainty persists in the scientific community.**

In 1998, BP set a target of reducing its greenhouse gas emissions to 10 percent below 1990 levels by 2010.

It's important to note that BP's resolve has teeth. In Lord Browne's words, "...that target will now sit alongside our financial targets...it is a promise and, as with our financial targets, a promise is a personal commitment."

It's a commitment made by a global organization and held by our 100,000 employees, and the majority of our shareholders, who number about a million.

As Peter Drucker once reminded us, "Long range planning does not deal with future decisions, but with the future of present decisions." We remain convinced that our commitment to constructive engagement is not only sensible – but that it is the right thing to do.

Briefly, then, here is a recap of some of the steps we've taken –

- Throughout the company we've moved to conserve energy in our refineries, chemical plants and hydrocarbon production and transportation facilities.
- We've cut waste and reduced the flaring of gas from offshore oil and gas operations.
- Methane venting has all but been eliminated – down by 98% world-wide.
- We've reduced our greenhouse emissions by 5% overall, and we're on track to meet our 10% target a few years early.
- What we didn't realize at the outset was the value added from these reductions.
- These reductions have added some \$650M in net present value over the past four years – evidence that reducing greenhouse gases is more than about cost. It's about value as well.

In addition to our operations, BP has also adopted a corporate strategy that meets growing energy needs in more environmentally friendly ways. For example:

- We have changed our portfolio of production, with natural gas taking a much greater share.
- A few years ago, only 15 % of our daily production was gas. Now it's over 40 percent, a great part of which, as I mentioned, comes from here in Colorado.
- We have focused on upgrading our refining technology worldwide.

- In 1998, we committed \$1 billion over seven years improve product quality.
- By 2005, nearly half of *all* the products we sell will be cleaner.
- We've launched a program that lets us give customers a choice of cleaner burning fuels, with BP's "Clean Cities Program"
- The program offers gasoline and diesel without lead and with lower levels of sulphur and benzene
- Now available in more than 60 cities around the world.

In addition to improvements in our internal operations and products, we are allocating resources to new technologies and building new businesses in renewable and alternative energies.

- **Photovoltaics and the development of solar power have grown—and continue to expand at the rate of 30 percent a year.**
- **BP Solar is the largest producer of PV cells in the world.**
- **We are a member of the California Fuel Cell Partnership where we are working with other energy and automotive companies to demonstrate fuel cell vehicles and infrastructure technology**
- **We are partnering with BMW as they develop their hydrogen-powered internal combustion vehicles.**
- **And, we have invested in hydrogen refueling stations for fleets of hydrogen-powered buses in the UK, Portugal, Spain, Germany and Australia.**

But it's not all about investment and research, it's also knowledge sharing and skills transfer. Again, with our commitment to proactive climate change programs, we enjoy sharing what we've learned and are willing to share with anyone who is willing to listen. We participate in public debate and policy forums whenever we have the chance. We're an active member of the World Business Council for Sustainable Development and the Pew Center on Global Climate Change, and we're working with the British government to develop and deploy the UK trading system for greenhouse gases.

I've recently been appointed to the Board of the California Climate Action Registry. The Registry is a public-private partnership set up to help businesses and organizations get a better handle on their carbon emissions. It's designed to develop protocols for measuring carbon emission levels and act as a record keeper, hence facilitating and encouraging positive action. The concept is excellent, I think, and it's a good model for state-wide support of responsible energy management.

So what are the results of the actions we've taken to address climate change? As I mentioned, we're half way to meeting the goals we set in 1998 – well ahead of our 10-year timetable and we have added \$ 650 million to the Company's bottom line. What's more important is that the lessons we've learned give us the means to achieve the remaining 5% years ahead of our target.

Now, let me turn to the heart of that program – BP’s emissions trading system.

It does three things:

- ensures efficiency and cost effectiveness;**
- facilitates participation across the many different businesses that comprise BP;**
- and it offers incentives for aggressively working to reduce greenhouse gas emissions.**

Why emissions trading works for BP: The trading concept is a good fit with BP’s operating model which includes about 160 individual business units.

- Our BU’s are all distinctive operations with focus on activities as diverse as exploration and production operations, transportation of oil and gas, refining and marketing, chemical operations, power production and solar cell production, and each has its own individual performance contract with group headquarters.**
- The differences among the units are conducive to trading – and, with operations in more than 100 nations, economies of scale allow us to manage some 80 to 90 million metric tons of carbon dioxide equivalent emissions worldwide.**

Other nations such as the U.K., Norway, Australia, New Zealand and Canada are considering similar models.

- In general, 3 factors which support trading to meet emissions reduction goals –
 - Economic theory suggests trading is the most cost-effective approach.
 - trading results in flexibility and fosters innovation which delivers lower costs of abatement...and,
 - trading sends the appropriate price signal for emissions abatement – and therefore is an incentive to invest in technology that accelerates the process.

Now, let's turn to the specifics of BP's emission trading system.

When we set out on this mission, we established a consistent methodology [*protocol*] and decided to work with outside auditors to ensure accuracy of inventory tracking, to accurately estimate emissions across BP's global operations.

Before launching it company-wide, we partnered with Environmental Defense [*Fund*] to develop a six-month pilot. That proved to be an excellent working relationship and now, we've formed a new "Partnership for Climate Action" which other major companies from a variety of industries have joined.

In January 2000, BP launched its company-wide trading system. Here's how it works –

- The system is based on a cap and trade concept

- **Emission limits are set annually on a company-wide and business unit basis.**
- **Each of our business units must stay within its allocation of allowances.**
- **Each unit has a trader who executes buy and sell orders through an individual account, and all trades are registered and executed through a central broker.**
- **BP's emissions trading system functions through our Intranet. A databank centralizes vital information – such as latest bids and offers – as the program tracks transactions and account balances.**
- **Every BP employee can view it.**

Throughout the year, business units trade their “allowances,” reporting their progress side-by-side with their financial performance. Let me stress that it's the performance contract – the compliance mechanism – that really makes the system work.

Reporting protocols have been developed and data audit and verification is done by a group of external partners. Individual business unit leaders and managers are accountable for meeting their targets annually – and for reporting progress alongside their reports on balance sheet and P&L activities.

Here's an example of how the system works –

Last year, a deepwater offshore unit's plans to increase production put its emissions above its allocation of allowances. On-site cost of reducing them was not an option, nor was slowing production. In another part of the country, a chemicals business unit had fast-tracked a furnace upgrade project, allowing the shutdown of a second furnace and giving it spare allowances. A trade took place, and the result was win-win: BP continued its offshore production rate while accelerating a project that improved our environmental performance.

The BP emissions trading system has operated successfully for about two years now. We've swapped the equivalent of over 5 million tons of carbon dioxide since January 2000, and it's already changing our decision-making process.

We have learned a lot; the most important lessons are –

- First; keep it simple**
- maximize learning with a pilot system, which also helps scale up to company-wide operations**
- set clear guidelines, and design them for the 90% of “good actors” (rather than focusing on potential problems)...and most critically,**
- link compliance to managerial performance**

Let me summarize by saying that we continue to evaluate our system for improvement – and, that we’re pleased with its contribution to reducing greenhouse gas emissions in all of our operations. In fact, we’re looking at the possibility of extending the BP system to include third parties.

Pew Center research shows that emissions trading could lower the costs of meeting the sort of targets agreed on at Kyoto by \$20 billion a year.

Let me add that none of this includes the considerable value of facilitating free exchange of new energy technologies.

I believe that Denver and the state of Colorado could fast-track its own greenhouse gas reduction by promoting a voluntary statewide program for businesses – including a “registry” similar to California’s.

BP believes that working together is the best way to achieve common goals – and we stand ready to share our experiences – and learn from others – be they business or government leaders, policy makers or NGOs. Anyone who is serious about confronting the critical issue of greenhouse gas emissions and climate change gets my attention.

President Eisenhower once said that “Neither a wise man nor a brave man lies down on the tracks of history to wait for the train of the future to run over him.” We’re now moving into the 21st century with the advantage of technology hardly dreamed of in the 1950s. That – plus a wealth of experiences we can learn from and share -- holds great promise for shaping that future.

This makes responsible energy management a duty we cannot afford to shirk – and an opportunity we ignore at considerable risk to our children and to generations yet unborn.

#

BP positioning and general information on Coal in the US:

Coal will play a continuing and significant role in the fuel mix in the USA.

- **Post Sept 11th the US is re-thinking energy security and the need for a balance in energy/fuel mix between coal/gas/oil/renewable**
- **Also a possible move from globalization to Nationalization with emphasis on energy security, jobs/economy/national pride, independence, security, etc.**

Politics of Coal:

- **US. Coal has a very strong lobbying machine in the USA with lots of allies in key places.**
- **Could strengthen further this year, given changes like Senator Bird taking over chairmanship of the appropriations committee.**
- **Coal can play an important role in the move towards Nationalization.**

Coal and Climate Change:

- **The coal industry is acutely aware of climate and the impact of reducing GHG emissions.**
- **When we deal with the DOE in the USA, it is the fossil fuel department, but it soon becomes clear it is fundamentally a group of coal people.**
- **Fortunately there is a group that we have now formed very strong relationships with that are interested in working and supporting the oil and gas industry in this department.**
- **While seeking funding support for the BP lead CCP project, we had to be very careful to include technology that would also apply to coal and not be seen as competing, otherwise we might have not received the funding we were seeking and achieved.**
- **Bob Beck, the chairman of the Coal Council,**
- **Sequestration is an important option for the coal industry and power utilities.**
- **Substantial "Clean Coal" project in the USA, heavily funded by the DOE.**
- **Their work on clean coal focuses on Gasification Technology, which can provide CO₂ capture at very competitive costs.**

- The one area they have little experience is in geologic sequestration and this is something BP is looking to form a constructive and positive relationship around.

BP Connect Offering:

- There is a concern with overplaying the BP Connect offering in Colorado. BP has more "rebuilt" BP stations in the area now than we have "Connects", and we haven't made any announcement regarding "clean fuels" in Denver to date.
- The concern is over pre-empting (detracting from) our upcoming statements on clean fuels.

BP's Carbon Trading Program – The Basics:

- BP's Carbon Trading Program is a "cap and trade" program.
- Group targets were established from a 1990 emissions baseline minus 10% by the year 2010.
- BU's were given emission baselines based on 1998 operations.
- BU's 2010 target was their 1998 baseline minus 10% (independent of baseline efficiency). There are some adjustments based on audits and interpretations, but these have been minor.
- Annual limits are based on a declining straight line between 1998 and 2010.
- BU's must comply with emission targets annually by purchasing credits or making changes in their operations.
- No cash is transferred from BU to BU.
- Purchases made through the BP broker are recorded as a line item on the BU's books (everyone refers to this as "funny money", but note it's not below the line).
- There are no penalties for non-compliance because BU just buy at any price.
- Prices are determined by matching up buyers and sellers.
- Growth must be absorbed by the BU,
- There are no allowances for organic growth.