

EEnergy Informer

The International Energy Newsletter

"It ain't what you don't know that hurts you. It's what you know for sure that just ain't so."

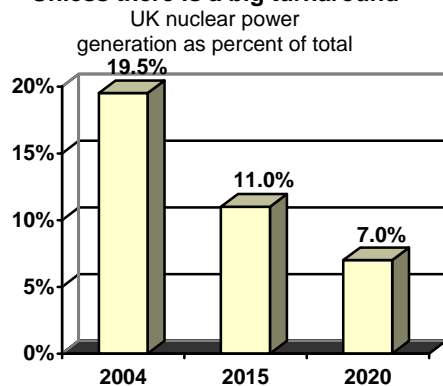
— Mark Twain

Carbon Or Content Free: UK White Paper On Nukes

Like the current US administration, the government of late Prime Minister Tony Blair was staunchly pro-nuclear. Policy statements, however, do not generate power

Like the US, the current generation of nuclear reactors in the UK are aging, and unless they are replaced, their contribution to the country's electricity generation is going to dwindle fast. And like the current US administration, the government of late Prime Minister **Tony Blair** has been trying to revive the nuclear power sector for some time – but with little progress to date.

Unless there is a big turnaround



In late May, **Alistair Darling**, the UK's Trade & Industry Minister, released a white paper that, once again, reaffirmed the government's pro-nuclear inclinations. Mr. Darling told the Parliament that the government had reached – surprise, surprise – the “preliminary view that it would be in the public interest to

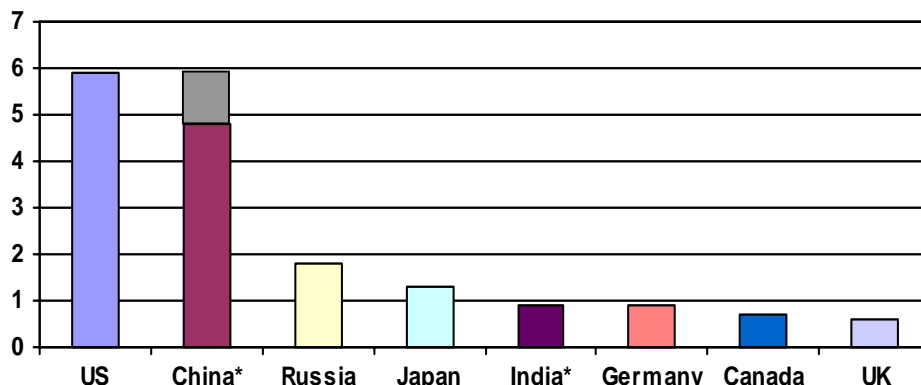
See **Nukes** on Page 3

Bush Climate Change U-Turn: Step In The Right Direction?

President Bush's apparent softening on climate change may not be as helpful as it appears

Facing increased international isolation as well as being out of synch with the changing domestic public sentiment on global climate change prompted **President Bush** to make a rather significant shift in US policy a week prior to the G8 summit in Germany. Stating that, "The US takes this issue seriously," Mr. Bush announced, "The US will work with other nations to establish a new framework for greenhouse gas emissions for when the Kyoto Protocol expires in 2012."

The other G8 – in terms of emissions
CO2 emissions from fossil fuels, in billion metric tons, 2004 data



* It is estimated that China has surpassed US in emissions in 2007. India's emissions are also growing at a rapid rate
Source: Energy Information Administration

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Bush *Continued from Page 1*

In a prepared statement Mr. Bush said, "By the end of next year, America and other nations will set a long-term global goal for reducing greenhouse gases. To develop this goal, the US will convene a series of meetings of nations that produce the most greenhouse gasses, including nations with rapidly growing economies like India and China." Under Mr. Bush's plan, "Each country would establish midterm management targets and programs that reflect their own mix of energy sources and future energy needs. In the course of the next 18 months, our nations will bring together industry leaders from different sectors of our economies, such as power generation, and alternative fuels and transportation."

On surface, this sounds reassuring and sensible, a step in the right direction. Closer examination of Bush proposal, however, reveals that his idea lacks specificity on a number of key issues and may be interpreted as creating a parallel – perhaps competing – path to the UN-endorsed scheme favored by the Europeans. Writing in **Financial Times** (2 June 07), **Finoa Harvey** observed that Mr. Bush's proposals "leave the most important questions unanswered," namely:

- The extent of emission cuts that will be agreed;
- The deadline for those cuts;
- The mechanisms by which they will be achieved; and
- How the burden will be shared between the rich and poor countries.

White House skeptics immediately identified that the President's proposal was missing virtually *all* the critical elements of a mandatory scheme with a specific deadline. By contrast, Germany, which holds the European Union presidency and was hosting the **Group of Eight** (G8) meeting in June, had proposed a target to limit global temperature rise to no more than 2 degrees Celsius (3.6 F). This could be achieved if concentration of CO₂ in the atmosphere were capped at 550 parts per million in the 2015-20 time-frame. Working backwards from these targets would require reductions in global emissions of 50% below 1990 levels by 2050. To top it off, Germany proposed a 20% improvement in energy efficiency by 2020.

Another critical item unclear under Bush proposal is who would monitor and enforce the scheme. Europeans favor the **United Nations** (UN) to handle this task. "One thing is clear," German Chancellor **Angela Merkel** told the weekly **Der Spiegel** on the eve of the G8 summit, "We must agree on a successor to the **Kyoto Protocol**, which expires in 2012, as part of a process led by the UN. This is non-negotiable." Under Mr. Bush's proposal each nation would have to decide on how to achieve the goals agreed and by when – a sure recipe for delays, disputes and non-compliance.

Not surprisingly, criticism of Bush's proposal was immediate, ranging from polite to not-so-polite. **Stavros Dimas**, the EU's **Environmental Commissioner** said, "The declaration by President Bush basically restates the US classic line on climate change. No mandatory reductions, no carbon trading and vaguely expressed objectives."

See Bush on Page 3

Trying his best to sound conciliatory, Dr. **Rajendra Pachauri**, the head of the UN's **Intergovernmental Panel on Climate Change** (IPCC), said, "I regard President Bush's statement as very encouraging, and frankly I don't see it conflicting with the process of negotiations under the UNFCCC (Framework Convention on Climate Change) and the Kyoto protocol." He, however, emphasized the significance of setting *strict emissions targets* based on a *specific goal* of limiting global temperature rise, the approach proposed by Merkel. UN's secretary general **Ban Ki-moon** also welcomed "the positive engagement by President Bush." What did you expect him to say?

Environmentalists were not generally impressed. **Friends of the Earth** president **Brent Blackwelder** called the proposal "a complete charade. It is an attempt to make the Bush administration look like it takes global warming seriously without actually doing anything to curb emissions." **National Environmental Trust** president **Philip Clapp** said, "This is a transparent effort to divert attention from the president's refusal to accept any emissions reductions proposals at the G8 summit. After sitting out talks on global warming for years, the Bush administration doesn't have very much credibility with other governments on the issue." **Daniel J. Weiss**, climate strategy director for the **Center for American Progress**, said the Bush administration has a "do-nothing" policy on global warming despite U.S. allies' best efforts to spur U.S. reductions.

Other cynics observed that the President's proposal would essentially take heat off his back

Continued in next column

during his remaining term in office, leaving the issue for the next president to tackle. On the positive side, US now appears engaged in the debate and there are signs that the Congress may make the next move, perhaps before the next election. ■

Nukes Continued from Page 1

allow energy companies to invest in nuclear power." The documents released emphasize that "nuclear energy alone cannot tackle climate change but ... it could make an important contribution as part of a balanced energy policy."

The opposition Conservatives declared the white paper content free, not carbon free, and observed that it contained nothing new. **Alan Duncan**, a critic, said, "There is nothing in this white paper that will guarantee that a single nuclear power station will ever be built." The pro-nuclear people were more generous in their support of the government's reaffirmed position on nuclear but also complained of the lack of details.

UK has set a highly ambitious goal to cut its greenhouse gas emissions (see related article in this issue). Most observers are convinced that without a significant contribution from nuclear power, the country would be nowhere near reaching its goal. ■

California Policymakers Ponder How To Get More Response From DR

Having established lofty goals for demand response and renewable energy, policy makers want to know why they are not being met

Following the electricity blackouts of 2000-01 and perennial shortages of capacity during the peak summer season, policymakers in California established rather ambitious – and arbitrary – targets for **demand response** (DR) programs for the three investor-owned utilities. The targets started at specific numerical levels in the beginning and were switched to a percentage of the peak demand of each utility, increasing by a percentage each year (*California Embarks On Dynamic Pricing*, July 05). The utilities considered the targets challenging, to say the least, and complained that they would be hard pressed to achieve them within the deadlines given (*Setting Targets Is Easy, Getting Results Is Not*, Nov 06). Now, with the 2007 peak summer season approaching, it is clear that the utilities are nowhere near achieving the targets.

The **California Energy Commission** (CEC) wants to know why the established DR targets have not been met and what can be done about it. On 5 June, the agency held a workshop and asked a few experts, including Dr. **Ahmad Faruqi**, a Principal at the **Brattle Group**, to provide options on ways to get more response from DR programs.

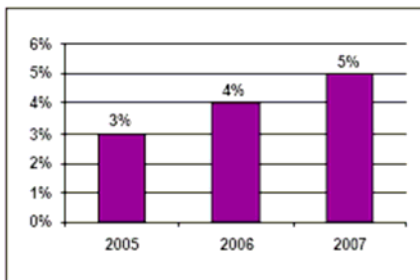
To put things in perspective and based on previous studies (*Energy Efficiency: How Much Is Really There?* Aug 06) the **technical potential** for DR in

See California on Page 4

California is estimated around 25% of the peak load – representing the most that can be technically achieved regardless of the cost or cost-effectiveness. This is clearly an upper limit on what can be done but would not be feasible or economic. The **economic potential** is estimated around 12% of peak demand, representing deployment of all cost-effective technologies. By contrast, **market potential** for DR is estimated around 5%, representing the likely deployment of cost-effective technologies consistent with existing practices. Assuming a 5% reduction in peak demand would result in cost savings of \$240 million per annum or \$3 billion over a 20-year horizon.

What do you mean you cannot meet the DR goals?

Demand response goals established by California policy makers for the 3 investor-owned utilities



Source: CPUC Order D.03-06-032

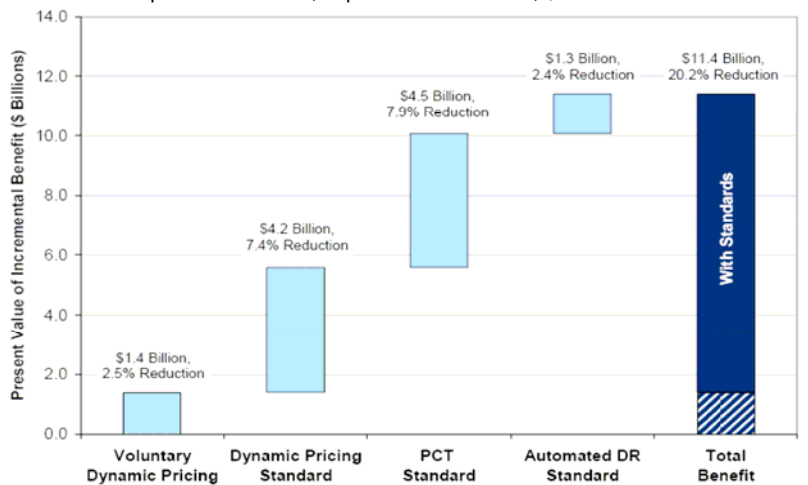
The Brattle study points out that without a major change in the policy or new standards, California would be hard pressed to reach a 3% drop in peak demand, far short of the higher targets set by the policy makers. This would be the case if **dynamic pricing** were offered to customers but only as a voluntary option. Under this scenario, only 20% or fewer customers may decide to participate in dynamic pricing – hence the limited effect on peak demand.

Continued in next column

The Brattle study examined different alternatives to increase the penetration of DR in California. The first and most obvious option would be to make **dynamic pricing** the default option for all customers – that is unless consumers specifically choose to opt out. Since the state is investing heavily in **advanced metering infrastructure** (AMI), this would be feasible on a wide scale in the near future (*PG&E Gets \$1.74 Billion Green Light On Smart Meters*, Sep 06). In this case, 80% of customers can be expected to participate in dynamic pricing, resulting in peak load reduction of around 10%.

If higher levels of peak load reduction are desired, the state could make **programmable communicating thermostats** (PCTs) mandatory in all residential units, resulting in an incremental increase in peak demand reduction of 8%. Finally, the state could require the installation of **automated demand response software** (Automated DR), which works with energy management and control systems in medium and large commercial and industrial buildings. This may further reduce peak demand by as much as 2%. Combining all three may clip peak demand by as much as 20% with commensurate net benefits to California consumers. The accompanying graph identifies the estimated effect and potential net benefits of the various options over a 20-year horizon.

Higher standards, more drop in peak demand, higher benefits
Incremental effects of alternative load management standards and their potential benefits, in present value terms, \$ billion



Source: California's next generation of load management standards, Prepared for CEC by the Brattle Group, May 2007

In short, more needs to be done – including widespread introduction of dynamic pricing and smart technology – to get more DR. It is not enough to set high targets and wish the problem to simply go away.

It is not just in the DR area that the state has fallen behind its lofty goals. The deadline for reaching California's ambitious **renewable portfolio standard** (RPS), originally to deliver 20% by 2017 was moved forward to 2010 with a strike of a pen. Now the utilities are having a hard time meeting these goals at a reasonable cost. Making matters worse, the Governor has suggested a goal of achieving 33% by 2020. The language of this is a bit ambiguous, leaving room for the industry to say we tried but could not quite get there. ■

E.ON To Cut Carbon In Half. Don't Ask Why And How

Flush with cash, Germany's largest energy group has decided to become clean and green

On the eve of the G8 Summit, E.ON, the biggest power player in Germany, announced plans to reduce its carbon emissions to half of their 1990 levels by 2030. In making the unilateral commitment, apparently without any coercion, the CEO **Wulf Bernotat** said, "Our ambitious target is to reduce our CO₂ emissions to roughly 0.36 tons per megawatt-hour by 2030, 50% less than in 1990," adding that this can be accomplished through a "massive expansion of our renewables capacity," and "making significantly higher investments in new technologies."

The company announced it was planning to invest €60 billion (US\$81 billion) through the end of 2010 "to expand our business and achieve targeted growth in our core European markets" About €12 billion has been earmarked for the construction of technologically advanced, climate-friendly power plants, E.ON said, with another €3 billion for renewable energy, "particularly new wind power plants." It is hard to believe but E.ON is planning to do this while increasing its generating capacity by 50% by 2010.

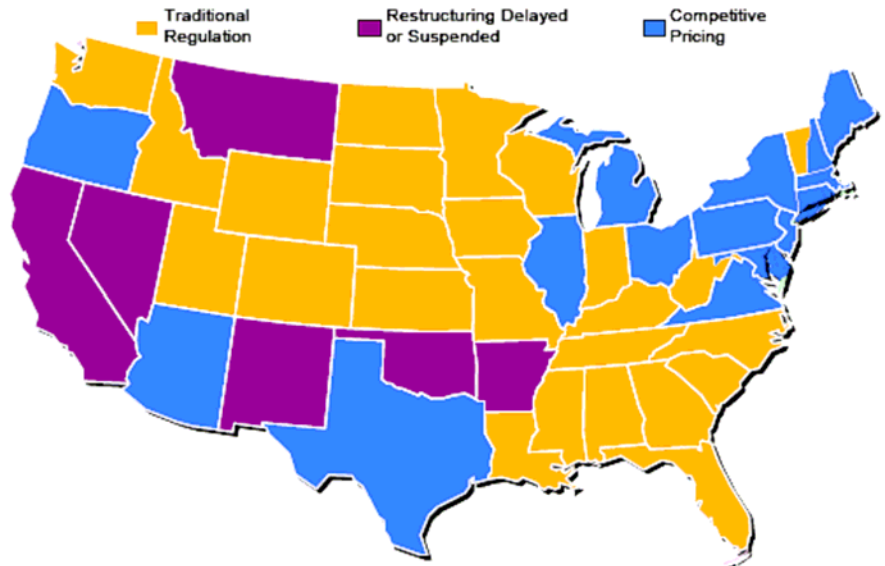
The company, which was unsuccessful to acquire **Endesa** after a protracted battle with regulators, governments and competing investors, is loaded with cash. E.ON said it is also planned to invest €6 billion in its gas business and some €6 billion "for growth initiatives in the Russian power market, Turkey, and south eastern Europe." ■

Retail Competition: Good, Bad Or Otherwise?

Restructuring and retail competition – favored in high costs states – was intended to reduce costs. It has not done so, but neither has it resulted in higher prices.

The debate about whether restructuring of the electric power sector, particularly the introduction of retail competition in a number of states, has resulted in a net benefit continues unabated. The discussion, however, tends to be sensationalized by the press, who do not necessarily know the facts, and frequently taken out of context by politicians, who don't necessarily wish to be bothered by the facts.

Are we better off now that we have restructured the power sector?



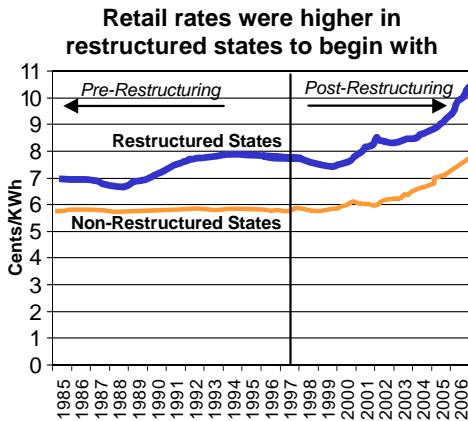
Source: Energy Information System

A recent study by the **Brattle Group**, a consultancy, published in the June issue of **Public Utilities Fortnightly** concludes that there has been no significant difference in average retail rates between restructured and non-restructured states. The average rates have increased roughly 31% over the past decade in the 20 states and the District of Columbia (DC), about the same as the trend in states that did not bother to introduce retail competition.

The study suggests that restructuring and the introduction of retail competition, which were intended to reduce prices in high cost states, have *not* delivered as were promised. But it also suggests that the current political uproar in states such as **Maryland, Connecticut, Delaware, Virginia** and **Illinois** is prompted by the fact that the retail rates were rolled back and legislatively frozen for a decade – and *not* caused by restructuring.

True, restructured states tend to be higher cost states, but that was true prior to restructuring as shown in figure on page 6. "The perception that the average rates in restructured states are significantly higher than the rates in non-restructured states is correct, but that was already the case in the mid 1990s before these states restructured their electricity markets," according to **Johannes Pfeifenberger**, one of the study authors.

See **Competition** on Page 6



Source: J. Pfeifenberger et al in Restructuring Revisited: What We Can Learn from Retail Rate Increases in Restructured and Non-Restructured States, Public Utility Fortnightly, June 07

The basic conclusion of the study is that restructuring has failed to reduce the rate differentials that existed in the mid 1990s – but neither did it make them worse. "It also means that the available facts do not support a conclusion that the average customer in restructured states would have been better off under traditional cost-of-service regulation, nor that customers would necessarily benefit from re-regulation of the industry," according to Pfeifenberger.

There has been a number of other studies, generally reaching similar conclusions. Some authors interpret the results – the fact that the introduction of retail competition has not resulted in significant lowering of costs in high cost states – as negative and in some cases have suggested that we may be better off by returning to re-regulation. Others are not so sure if the fact that prices have not fallen tremendously can be blamed on retail competition and do not favor a return to the status quo. It is the proverbial glass is half full or half empty, depending on one's point of view and expectations.

Among recent studies on the subject the **Alliance for Retail Choice (ARC)** examined the experience of 28 states and 2 Canadian provinces concluding

that retail choice has been successful in **Texas** and **New York** because the electricity market has advanced sufficiently for competition to work effectively. The study found that more than 3.7 million residential customers are served by competitive suppliers in these two states alone. Ten other states, including **Massachusetts, Connecticut, Illinois, Maryland, and Pennsylvania**, are classified as achieving *medium progress*. The situation may be characterized as *less successful* in the remaining cases.

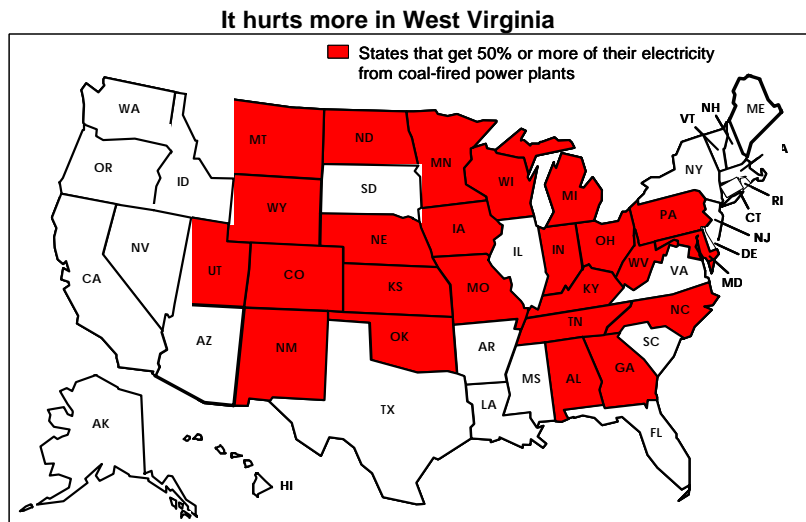
Nat Treadway of **Distributed Energy Financial Group** who conducted the study, **Baseline Assessment of Choice in the US (ABACUS)**, says that 41% of electricity usage in NY is currently provided by competitive suppliers including 625,000 or 11% of residential consumers. In one utility service area, residential customers have 37 different offerings including a variety of fixed, indexed, blended, and green power.

NY and TX are generally regarded as successful retail markets in the US suggesting that retail competition can work given correct circumstances. The fact that it has not been so in some states should not be interpreted as a failure of competitive electricity markets, nor can it be used as justification to return to re-regulation. ■

Hard To Please The Haves And Have Nots

Passing legislation to limit carbon emissions is going to be tricky at best, pitting state against state and utility against utility

There are currently numerous energy bills before the US Congress on different ways to improve energy efficiency of cars and appliances, increase domestic supplies, increase reliance on renewable energy and limit emissions of greenhouse gases, to name a few. But reaching a consensus is difficult. The reasons are obvious once one begins to look at the complexity of the issues and how even a simple piece of legislation may produce winners and losers among the states, industries, companies and end use customers depending on where they are and what they use. For example, take the coal-intensity of electricity generated in various states and regions. Clearly what may seem like a relatively painless law in **California** – prohibiting use of coal unless it meets extremely high standards – is going to be painful in **West Virginia** or **Wyoming** – both major coal producing and using states.



Source: US Dept. of Energy

See **Have Nots** on Page 7-right column

Continued in next column

California Dreaming: Being Green Comes At A Cost

California's law to curb CO2 emissions statewide can be implemented and may not be overly burdensome on the state's economy

An overused adage favored by economists is that there is no such thing as a free lunch. And it certainly applies to becoming cleaner and greener, as California has decided to become. The state's **Assembly Bill 32** (AB 32) has vowed to reduce the states' total emissions to the 1990 level by 2020 – the question is at what cost?

A recent study by the **Electric Power Research Institute (EPRI)** puts the price tag somewhere between \$100-511 billion through 2050 – quite a wide range depending on the assumptions made and how the measures are implemented. That amounts to 0.2 to 1.2% of the state's GDP, California being the 6th largest economy in the world.

To arrive at these estimates, researchers at EPRI used many assumptions, as one would expect, and considered numerous implementation scenarios, including economy-wide **cap-and-trade systems** as well as more rigid **command and control** mechanisms targeted at individual sectors and/or companies. Not surprisingly, they found that broadly-based trading schemes produce the best results, as economic theory would predict. Still, the range of the potential impact on the state's economy is considerable.

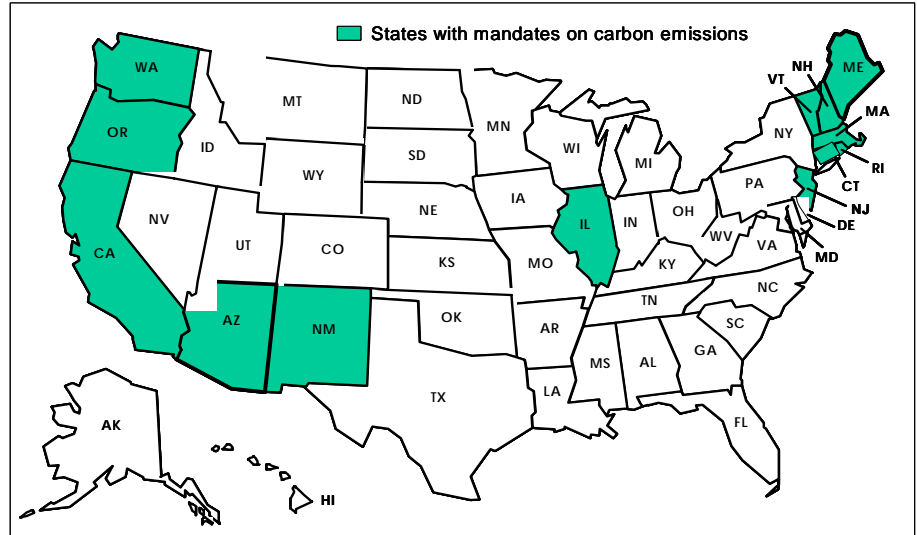
Among the major problems facing California policymakers is how to account for the inevitable *leakages*

See **Dreaming** on Page 8

Have Nots *Continued from Page 6*

Or take the public sentiment for putting caps on emissions of greenhouse gases. What may be popular in California – **Assembly Bill 32** that caps state-wide emissions and is intended to roll them back to 1990 levels by 2020 – is not going to receive too many votes in the **Midwest**.

Green vs. brown states?



Source: Pew Center on Global Climate Change

As if these problems were not bad enough, take a look at how individual utilities may be affected by a potential change in emissions regulations. The accompanying table, reproduced from a recent issue of **The Economist** (2 June 07) shows how selected utilities could be affected by a hypothetical law requiring a 25% reduction in greenhouse gas emissions. While a green utility such as **Pacific Gas & Electric Company (PG&E)** would be hit with a trivial \$3 million annual cost burden, assuming CO2 at \$22.50 a tonne, **American Electric Power's (AEP)** would be hit with a price tag of \$826 million. That amounts to a negligible 0.03% of revenues for the former vs. nearly 7% for the latter.

Does not hurt as much if you are already squeaky clean

	Emissions disclosed tones, m	Cost of 25% cut in emissions at \$22.57 \$/m	% of turnover
Constellation Energy	22.09	124.64	0.73
Exelon	12.61	71.15	0.46
Southern Company	137.00	773.02	5.70
Public Service Energy Group	24.81	139.97	1.13
American Electric Power	146.47	826.43	6.82
FirstEnergy	45.55	255.94	2.13
FPL Group	47.35	267.17	2.26
PG&E	0.54	3.02	0.03
TXU	50.00	282.13	2.70
Progress Energy	58.06	327.60	3.24

Source: The Economist, 2 June 07

See **Have Nots** on Page 8 – right column

that will inevitably take place if neighboring states do not enact similar curbs on carbon emissions resulting in shifting of polluting plants or sectors to other states with little net reduction in overall emissions. This, however, may become a mute point as other states, or if the Federal government, adopts similar curbs on CO₂ in the coming years, as many experts hope.

Larry J. Williams who was involved in the study said, "We believe these results provide new insight to guide the state as it weighs its policy implementation options to reduce greenhouse gases." The **California Environmental Protection Agency (CAEPA)** and the **California Air Resources Board (CARB)** are currently working with the industry and other stakeholders to produce an inventory of sources and amounts of emissions state-wide and coming up with specific rules by 2011. The new law will go into effect starting in 2012 and is to produce the expected results by 2020 target. ■

Carbon: The World's Biggest Market

If current efforts to establish global limits on emissions succeed, carbon could become the world's biggest market within a decade

Regardless of what the skeptics may think about the merits of the scientific evidence on the subject, an enormous market is gradually evolving to trade carbon, driven by wide-spread belief that mankind must begin to limit atmospheric CO₂ emissions.

The market for carbon trading, which did not exist a mere decade ago, is

Continued in next column

Another example is the case of a 15% federal **renewable portfolio standard** by 2020, recently debated and defeated in the Congress. Senator **Pete Domenici**, a Republican from NM, argued that 27 states in the US would not have enough wind to meet the standard – since wind is the most likely source of renewables with current technology. Some lawmakers favor a **clean portfolio standard** – where non-emitting sources of electricity including new nuclear power plants would be qualified. But no matter how you cut it, there will be distinct winners and losers – which explains why it is going to be tough to agree on federal legislation that everyone would agree to abide by. ■

Continued from previous column

now worth around \$30 billion. But that is a drop in the bucket compared to the eventual size of the market within a decade, perhaps as big as a \$ trillion. **Louis Redshaw**, a trader at **Barclays Capital** is convinced that "Carbon will be the world's biggest commodity market, and it could become the world's biggest market overall," he told **International Herald Tribune** (22 June 07). Why so big? World currently generates some 38 billion tons of CO₂ annually, which will become the commodity that will be traded as more countries adopt rules for emission caps and trading schemes. ■

Reliability Is Now Mandatory

Opportunistic free riders spoiled the effectiveness of voluntary reliability standards that served the industry well up to now

A new industry milestone was reached in June in North America. Reliability of the grid, which had been *voluntary* up to then and had worked remarkably well became *mandatory*. "The North American electricity industry has operated one of the world's most reliable electricity networks under voluntary guidelines for decades," said **Rick Sergel**, CEO of the **North American Electric Reliability Council (NERC)**, adding, "Voluntary guidelines worked very well to a point, but they were not enough. The electricity industry is no stronger than its weakest link, and a mistake by one entity can affect customers hundreds of miles away, as we saw with the **August 2003 blackout** that affected 50 million people in the US and Canada."

The widespread blackout of 2003 prompted Congress to make grid reliability standards obligatory and enforceable as spelled out in the **Energy Policy Act**, which passed in August 2005. The new standards cover the planning, operation, coordination and communication among over 1,400 participants that make up the US bulk power system and includes specific rules regarding real-time load balancing, emergency operations, cyber security, vegetation management and disturbance reporting.

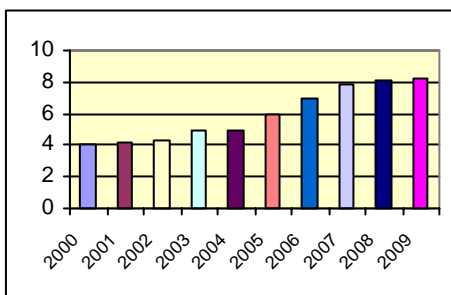
The new standards are monitored and enforced by the **Electric Reliability Organization (ERO)** a new organization within NERC (*As ERO, Toothless Tiger NERC Gets Sharp Fangs*, Nov 06). With the blessing of the **Federal**

See Reliability on Page 9

Energy Regulatory Commission (FERC), ERO can propose new reliability standards and/or operational rules, can mediate disputes among parties, order corrective actions and impose fines of up to \$1 million a day for non-compliance.

Most industry observers believe that the mandatory reliability standards were sorely needed due to the gradual breakdown of vertically integrated utilities in many parts of the country and the emergence of new opportunistic players who were essentially free-riding on the reliability provided by others. A second, and perhaps more alarming issue, is the fact that investment in transmission grid has been lagging behind generation and growth in load for some time. The **National Transmission Grid Study** released not long ago, predicts that the demand on the grid, as measured by the volume of transmission handled, will grow by 20% in the coming decade while the capacity of the grid will grow by a mere 6%.

Making transmission investment more profitable



Source: Edison Electric Institute

FERC has recently taken specific steps to alleviate this shortfall, making investments in transmission lines more profitable. A recent survey by the **Edison**

Continued in next column

Electric Institute (EEI) suggests that more investment may be going into transmission lines now (*After Years Of Neglect Transmission investment On The Rise*, May 07). ■

Upstream Or Downstream? Who Should Bear The Costs?

No one disputes that carbon constraints will impose higher costs on consumers. The question is where should the constraints be applied

While many are still debating if global warming is for real and what, if anything can or should be done about it, others are moving ahead devising ways to accommodate life in a carbon-constrained world. Among the intriguing ideas to surface recently is a scheme to keep track of carbon emissions at a rather personal level based on individual purchases made using the ubiquitous credit card.

According to **Design Stream**, a British upstart, the technology to develop an electronically advanced credit card that can assign a carbon footprint to purchases we make – or a reasonable guess thereof – and keep track of the total is not far fetched. The carbon content of filling up the car with petrol or buying an airline ticket can, in principle, be tracked and tallied. Combined with a personal annual carbon quota, the scheme can remind card holders when they exceed their allotted quota, in which case they can buy allowances from less polluting fellow citizens who have not exceeded their quota.

Chaz Sandra of Design Stream believes that such a scheme may be within reach in five years or so, administered by the same credit card companies who keep track of our dollar purchases. The question is not so much *whether* something like this can be done, but rather would that be a sensible way to control carbon emissions.

Current schemes to reduce emissions generally put the burden upstream, on countries who in turn assign it to industries – typically large companies who manufacture, distribute or wholesale the products and services rather than the retailers or individuals who buy and use them. It certainly is easier to measure and monitor emissions at a major power plant or at a big multi-state utility company than at individual households who use electricity. The extra costs flow to ultimate consumers regardless of where monitoring and control is applied. But which scheme would be more effective?

Behaviorally speaking, it may be preferable to let individuals know their carbon footprint, because individuals ultimately determine what products are used and how much are paid for them. And since in capitalistic economies individuals decide what products are produced and consumed, bringing price transparency to the consumer level may be supreme. But administratively, it is simpler to monitor and control upstream. The ultra smart carbon cards may have to wait their day in the market. ■

Exxon Not Public Enemy No. 1 As GM And Conoco Join USCAP

Exxon continues to resist environmental pressures as more US energy intensive companies turn green

Disgruntled environmentalists scored a point at the recent **ExxonMobil** annual shareholder's meeting when Mr. **Rex Tillerson**, the company's CEO had to publicly state that the company "was not against climate change policies," but merely "wished to debate them first, given the massive impact some (policies) would have on the world." He went further, saying, "Let me assure you, we never set out for the company to be public enemy No. 1. What I find perplexing is why people feel so threatened by the fact that we want to have a discussion about it."

Environmentalists want Exxon to follow the lead of smaller **ConocoPhillips** who recently joined the **US Climate Action Partnership (USCAP)**, supporting national legislation requiring "significant reductions of greenhouse gas emissions" through a combination of mandatory caps and flexible, market-based incentives such as emissions trading schemes. USCAP, which includes a growing number of Fortune 500 US companies including **GE**, **Dow Chemical**, and **DuPont**, is talking about CO2 emission reductions of the order of 60-80% by 2050.

In joining USCAP in May, Conoco's CEO, Mr. **Jim Mulva** said, "We believe that the science is quite compelling and that the climate change is certainly attributed to human activity and to the substantial use of fossil fuels." Mr. **Rick Wagoner**, the CEO of **General Motors** – so far the only major US auto maker to join the group – said, "GM is very pleased to join USCAP in proactively addressing the concerns posed by climate change." ■

UK Defines New Role For Suppliers In Energy Constrained World

Consumers do not really want kWhs of electricity, therms of natural gas or gallons of petrol

In May, UK environment and climate change minister Mr. **Ian Pearson** released a white paper titled *Household Energy Supplier Obligation from 2011: A Call for Evidence*, in which he spells out a new set of responsibilities for regional distribution companies. The new requirements, quite sensible, are radical only in the sense that they deviate from what the industry has done for decades. "We want to see a shift from selling units of energy to increasingly providing energy services, such as energy efficient lighting or solar water heating," Mr. Pearson said.

This is precisely what proponents of **energy services** have been saying for a long time, that consumers do not really want or need kWhs of electricity or therms of natural gas or gallons of petrol. What they want are the services that are delivered, cold beer and a hot shower, using the famous words of energy efficiency guru, **Amory Lovins**.

What, of course, is newsworthy is not that Mr. Pearson has discovered something new but is proposing to codify it as the new *raison d'etre* of the distribution companies in the UK. The white paper suggests that the future role of regional distribution companies is as much about helping consumers to cut energy use and carbon emissions as about supplying energy. This could result in boosting the energy efficiency of the residential sector while reducing emissions by 10% by 2020. Since households account for roughly a quarter of UK's carbon emissions, that would go a long way to meet the country's ambitious global warming goals which are to cut CO2 emissions by 60% by 2050.

The white paper reckons that the proposed supplier obligations for the period starting 2011 could save up to 4 m tonnes of carbon by 2020. Mr. Pearson said, "Tackling the effect of their customers' energy use on climate change must become a key part of the business of energy suppliers. The shape of energy companies in the future could be radically different from today - as their focus shifts from selling more and more energy to playing a central role in helping people cut their energy use and lead greener lives." ■

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