

EEnergy Informer

The International Energy Newsletter

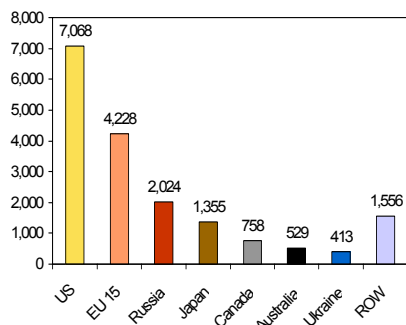
Will Stern's Report Change Any Minds?

Key words: Stern Report; UK, global climate change, Nairobi

On October 30th, Sir **Nicholas Stern**, former World Bank chief economist, released *The Economics of Climate Change*, a 600-page report commissioned by **Gordon Brown**, Britain's finance minister. Amidst a lot of fanfare the report was praised by the likes of British Prime Minister **Tony Blair** who called it "the most important report on the future, which I have received since becoming prime minister." He said the report's conclusions were *unequivocal*, adding that, "We are heading towards catastrophic tipping points in our climate unless we act."

Who is to blame?

Emissions of greenhouse gases, 2004, million of tones



Source: UN Framework Convention on Climate Change

Stern's report, which is more about economics than the environment, is carefully designed to get skeptics, notably the current US administration, to reconsider their current intransigence on the issue

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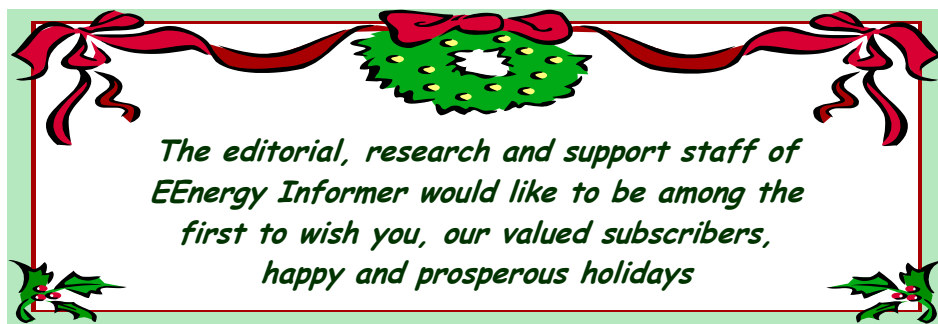
Are We Better Off Now?

Key words: US, restructuring, electricity, market reform, retail prices, competition

In the mid 1990s, following the hugely successful introduction of competition in the airlines, long-distance telephony and trucking, federal and state regulators decided that the electric power sector – one of the few remaining tightly regulated industries in the US – would benefit from the same pressures of competitive market discipline. A number of states introduced competition to the power sector while at the same time unbundling the vertically-integrated utilities, usually forcing them to divest much of their generation assets to competitive power generators. To win voter approval, many states imposed mandatory rate cuts and/or introduced rate freezes to protect small consumers from any immediate price shocks.

The expectation of the regulators and policy makers was to create vigorous competition among multiple generators in large interconnected markets, forcing wholesale prices towards what economists call short-run marginal costs – bare bottom prices that allows recovery of fuel and operating costs but not much more. And it was hoped that competitive retail markets will evolve as consumers forced competing retailers to offer low prices while providing enhanced services. That was the theory. With minor variations, 23 states and the District of Columbia followed this path starting in late 1990s.

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EEnergy Informer

The International Energy Newsletter

An independent monthly newsletter not affiliated with any organization or particular point of view providing news, analysis, and commentary focusing on the electric power industry.

Volume 17, Number 12
December 2006
ISSN: 1084-0419

<http://members.aol.com/eeinformer>

EEnergy Informer is published monthly by EEnergy Informer Publications.

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Layout and design by
Main St Media/Graphics
10281 Slater Avenue, #207
Fountain Valley, CA 92708 USA

Subscription rates are as follows:

Regular	US \$250
Libraries	US \$300
Small Business	US \$100
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EEnergy Informer

Subscriptions
1925 Nero Court
Walnut Creek, CA 94598
USA
Fax: (925) 946-0870
e-mail: EEInformer@aol.com

The views expressed in **EEnergy Informer** are solely those of the individual contributors. All editorial inquiries should be addressed to:

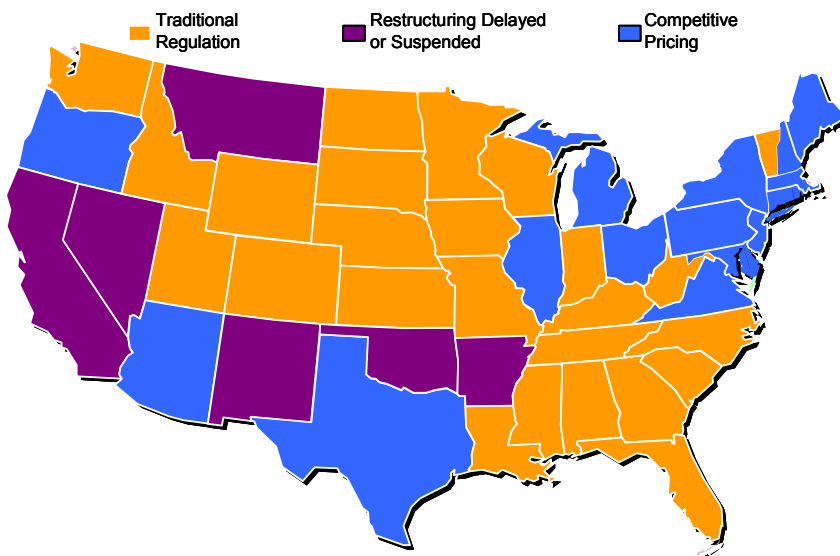
Fereidoon P. Sioshansi, PhD
Editor and Publisher
EEnergy Informer
1925 Nero Court
Walnut Creek, CA 94598
USA
Tel: (650) 207-4902
Fax: (925) 946-0870

e-mail: EEInformer@aol.com

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What customer choice?

Current status of US markets



Source: Energy Information Administration

In practice, things have not turned out quite as hoped. The depth and liquidity of wholesale markets have not evolved as expected. Wholesale auctions, while seemingly competitive, do not necessarily generate prices that seem reasonable – at least to some (*What Can Regulators Do When Competitive Auctions Produce Unpleasant Outcomes?* Mar 06). And since most distribution companies no longer own much generation, they have to rely on competitive auctions to meet their customers' needs.

Even worse, the retail markets have not evolved into anything resembling what was expected. While large commercial and industrial customers have generally benefited from their newfound freedom to choose suppliers and play one against another for better deals, small commercial and residential consumers have mostly stayed with their incumbent distribution companies. The reasons are complex, but in many cases, the benefits of switching suppliers are small relative to the savings to be had. And it takes time and energy to find better deals — a daunting obstacle for many consumers.

The Wall Street Journal (12 Oct 06), for example, reports that more than 99% of residential and small commercial consumers in Boston area have remained with **Nstar**, the incumbent utility company formerly known as **Boston Edison Company**. The corresponding percentage never exceeded 1% in California, which closed its customer choice after the disastrous market meltdown of 2000-01.

The question, of course, is are we better off – and if not, what can be done about it. The answer to the former is not as easy as one might like. A report published in June 06 by the **Edison Electric Institute**, representing the investor-owned utilities in the US, concludes that roughly 40% of all customers in the states that allow customer choice “paid modestly lower prices

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over the past decade,” but hastens to point out that most savings primarily resulted from mandated price cuts or rate freezes imposed by regulatory fiat and not from competitive market forces.

In a number of key states including **Maryland, New Jersey and Illinois**, these freezes are coming to an end, resulting in significant price rises. The disappointing results, according to an article in **The New York Times** (15 Oct 06) “stems in good part from the fact that a genuinely competitive market for electricity production has not developed. “

The same article quotes **Jim Owen**, a spokesman for the Edison Electric Institute saying that “more rate increase requests are pending now than ever before,” and in some cases, are quite substantial. In the case of **Baltimore Gas & Electric Company** a proposed 72% hike led to a consumer revolt, culminating in legislative action to dismiss the state’s regulatory commission (*After The Rate Freeze Comes The Day Of Reckoning*, Oct 06). In Illinois, retail rates are expected to raise between 20-55%; in Connecticut they rose 27% last year and are expected to increase by 50% in January; in New Jersey, the increase was 13% this year, more to come in 2007.

There is, of course, a lot of disinformation about the price increases with some consumer advocates attempting to promote ratepayer revolts by exaggerating the facts. Those who have attempted to ascertain the actual impact of competitive markets on retail rates have had a difficult time to determine what is going on and why. A draft report to Congress

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prepared by the **Federal Energy Regulatory Commission (FERC)**, for example, admits of the existence of rate shocks and the fact that they can lead to public pressure to change the regulatory regime back to where it started.

But the FERC report correctly points out that “It has been difficult to determine whether retail prices (in states that have introduced customer choice) are higher or lower than they otherwise would have been (i.e., in the absence of restructuring).” The NY Times articles cites a study by Harvard University economist **Mark Fagan** pointing out that in 12 out of 18 states who offer customer choice, industrial customers have benefited. But even in this case, it is not clear if small commercial and residential consumers have benefited because of market reform. Other studies are inconclusive or only apply to a given state or utility service area.

Part of the problem is how savings are defined and measured, over what period and for which class of customers. Different studies come to different conclusions based on differences in methodology, definition and time frame. Does one measure actual rates and compare them to what they would have been? In this case, how can one tell what the rates would have been if there were no market reform? How can the effect of significant external factors such as fuel prices be accounted for?

Despite these difficulties, it is safe to assume that industrial customers have benefited as a result of having retail choice. For smaller consumers, the record is mixed. In New York, for example, residential consumers, on average, paid 16% less in 2004 compared to 1996 on an inflation-adjusted basis. In Boston area, served by Nstar, on the other hand, average retail rates have gradually risen by 78% since 2002. In Pennsylvania, residential prices are down between 13-47% in constant dollars between 1991-2006, according to **PennFuture** (see Table).

Prices are down in Pennsylvania
Average Residential Customer's Electric Bill (500 kWh)

Utility	Constant \$	1991	1996	2006	2007	% Change	
	Nominal \$					1991-2006	1991-2007
Met Ed	C	\$62.94	\$57.09	\$50.10	-	-20%	-
	N	\$42.25	\$44.15	\$50.10	-	19%	-
Penelec	C	\$60.78	\$56.25	\$47.62	-	-22%	-
	N	\$40.80	\$43.50	\$47.62	-	17%	-
Penn Power	C	\$106.87	\$78.30	\$57.10	\$76.46	-47%	-28%
	N	\$71.74	\$60.55	\$57.10	\$74.23	-20%	3%
Allegheny Energy	C	\$43.50	\$43.97	\$38.04	-	-13%	-
	N	\$29.20	\$34.00	\$38.04	-	30%	-
PPL	C	\$65.15	\$61.40	\$53.95	-	-17%	-
	N	\$43.73	\$47.48	\$53.95	-	23%	-
Duquesne	C	\$93.48	\$78.69	\$54.30	\$63.30	-42%	-32%
	N	\$62.75	\$60.85	\$54.30	\$63.30	-13%	1%
PECO	C	\$102.92	\$90.72	\$75.27	\$81.59	-27%	-21%
	N	\$69.09	\$70.15	\$75.27	\$79.21	9%	15%

Source: PennFuture, Nov 06

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Partly as a result of the mixed experiences in states where customer choice has been allowed, a number of states have decided to postpone or shelf their own plans for market reform. Even in areas where market reform has already been introduced, some consumers and politicians are now of the opinion that the whole scheme has been flawed and the savings, if any, have been elusive. In some quarters, there is disenchantment with market reform and serious talk about returning to the old regulated regime.

Richard Blumenthal,

Connecticut's attorney general says the whole competitive experiment has been "a complete failure and a colossal waste of time and money," a statement reminiscent of former California Governor **Gray Davis**, who pronounced that states' market experience a "colossal and dangerous failure." He has asked FERC to revoke the competitive pricing scheme in CT. Likewise, the **Cato Institute**, a staunch pro-market think-tank, has concluded that the current market reform movements in the US are hopelessly botched and should be scrapped. In a statement released earlier in 2006, it said, "We recommend total abandonment of restructuring," and a "return to an updated version of the old system."

One reason for the current disenchantment with electricity market reform in the US – and in a few other countries – is that the markets have not ended up where they were expected. Instead of moving from vertically integrated monopolies under rigid rate-of-return regulation to a free market

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where prices are determined by competition among multiple players and little or no regulation, markets in many regions have evolved into a *hybrid* state. Hybrid, however, may be a poor choice of words to describe a situation where the worse – not the best – elements of regulation and competition are present.

According to **Prof. de Vries of Delft University of Technology** hybrid markets come in at least 3 varieties:

- Markets that have been liberalized but are *not* fully privatized, as in some European markets or in some parts of Australia;
- Markets that are privatized but are *not* fully liberalized, in the sense that competition is restricted as in some European countries; and
- Markets that, in theory, are privatized and behave competitively *yet* where the government or the regulator routinely intervenes in the decisions of the market players, e.g., regarding prices or investment.

In some cases, the current hybrid state may be regarded as a mere transitory stage. In other markets, however, there does not appear to be even an intention and/or the means of moving towards a fully liberalized state. In these cases, policy makers must contend with a mixed bag of regulated, state-owned, and vertically-integrated companies operating side-by-side competitive, private, and unbundled companies in a distinctly uneven playing field. Scholars are divided on how serious a problem this may be.

Nowhere is this problem more pronounced than in California. Following the market meltdown of 2000-01, retail access has been suspended, while allowing those customers who had already switched suppliers to remain with the new **electric service providers** (ESPs). There are considerable uncertainties about who shall build additional generation, which is sorely needed, because there are no clear policies on how investments shall be recovered. In the mean time, the **California Public Utilities Commission** (CPUC) has put in place a number of binding mandates, for example to maintain adequate capacity reserve margins, which resemble the old command-and-control, regulated rate of return paradigm of the pre-restructured days. ■

Minds *Continued from Page 1*

of imposing mandatory caps on emissions of greenhouse gases. It does a good job of this by demonstrating that the cost of inaction could be much higher than previously believed, and relatively small compare to the cost of abating emissions.

While previous estimates of the cost of inaction were modest – of the order of 0-3% of global output – Sir Nicholas, using more up-to-date data and predictive models, reckons the costs *could potentially be* significantly higher, of the order of 5-20% of global output over the next century or two. That, if you believe the assumptions and projections, is far more worrisome than what most experts had come up with before. Compared to the costs of prevention – of the order of 1% of global output by 2050 – the answer on what should be

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the policy appears obvious to most. The message of the report is simple indeed: An ounce of prevention is better than a pound of cure.

Coming on the heels of the UN's climate talks in Nairobi, Kenya, the Stern report received enormous publicity. Those who already believe in global climate change saw it as the final proof, if one was ever needed. But the critics saw nothing new and very little to change their minds. The **White House**, possibly the most important target of the report, shrugged it off with a frosty reception. In a prepared statement, it said, "The President has long recognized that climate change is a serious issue. He has committed the nation to investing in new technologies."

The reactions to the report were predictable. Those who believe global climate change is a hoax called the report one-sided and biased. For example, they faulted Stern for taking meticulous account of all damage, real and perceived, from global warming, while ignoring many of the potential benefits. What about longer growing seasons in northern climates and higher yields for certain staples in certain regions? Why focus on the downside, they ask. Others, dismissed the report as old news, merely repackaged and spruced up with added hyperbole.

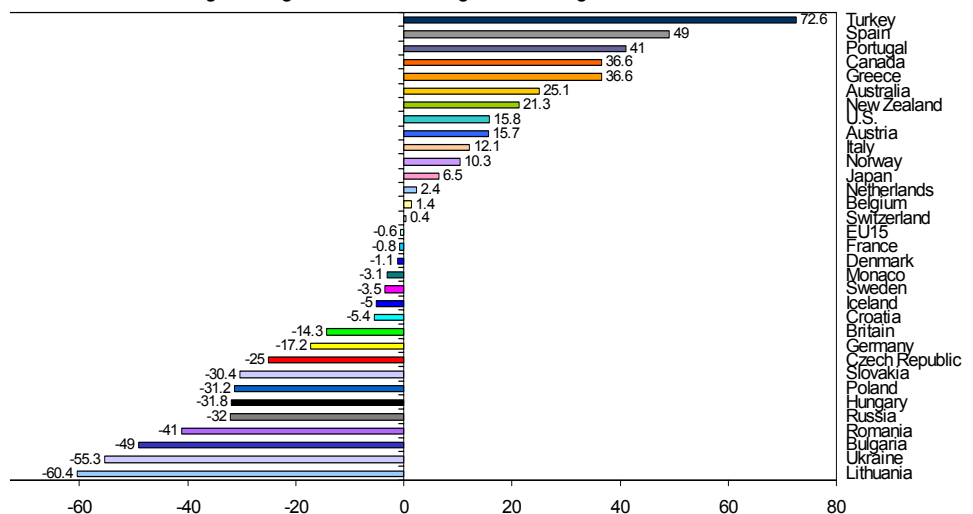
Even though Sir Nicholas has taken great pains to highlight the inherent uncertainties in projecting trends over very long time – inexact science at best – the critics were quick to find many flaws in

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the assumptions as well as the analysis. For example, **Samuel Thernstrom**, a former communications director for the **Council on Environmental Quality**, not a global climate change basher per se, said, "I don't see a whole lot new here. They're hanging a lot on what they call 'robust economic analysis', but there's a lot of uncertainty here that they don't acknowledge."

Within a week of the report's release, Sir Nicholas was on the defensive, explaining what he had done and defending the basic conclusions of the report – almost independent of the specific results. His message, for example in an Op Ed column in **The Financial Times** (8 Nov 06) was the same, "Gains from greenhouse action outweigh the costs" – and by a wide margin no matter how you do the math. **The Economist** agreed. In an Editorial (4 Nov 06), it said, "Sir Nicholas Stern's figures may well turn out to be wrong. That is no excuse for inaction," almost repeating **The Herald Tribune's** editorial (3 Nov 06). "The study, led by Sir Nicholas ... is necessarily conjectural, since the long-term consequences of climate change cannot be predicted with pinpoint accuracy. But its message is clear: failure to commit substantial resources now will exact huge penalties for the world economy later on."

Turning things around won't be easy, nor swift
Percentage change in emissions of greenhouse gases between 1990-2004



* 21 countries on the top have not met Kyoto Targets, those on the bottom have succeeded. Turkey, Australia, US, and Croatia have not signed the Kyoto Protocols., which requires cutting back on greenhouse gas emissions by 5.2% below 1990 by 2008-12. Source: UN Framework Convention on Climate Change

For the 6,000 delegates attending the Nairobi conference from 189-nations between 6-17 November, the challenge was not so much to agree or disagree on the basic message of the Stern's report, but to find the political will to move forward beyond the feeble and largely symbolic Kyoto targets. Despite the usual calls for need for urgent action, not much was accomplished in Nairobi.

One frustrated delegate complained that the conference had "achieved a remarkable balance of concerns, leaving everyone unhappy." Sir Nicolas

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who addressed the delegates tried his best to put a positive spin on an otherwise frustrating experience. He said he did not “share the widespread sense that the summit had been a failure,” adding that, “I think the spirit here is very constructive. There is a deep and general understanding of what has to be done, and so I have been rather encouraged.” **Kofi Annan**, the Secretary General of the UN summed it up for many when he said the summit showed a “frightening lack of leadership.”

Failure or not, Stern’s report got a lot of publicity as speaker after speaker referred to it, including President **Jacques Chirac** who praised its findings. Beyond that, many observed that global climate change and poverty are intertwined – a fact all too evident in Northern Kenya where poverty and drought have produced 3 million hungry refugees. Another realization is that even if the industrialized nations agree to cut their emissions, the developing world is likely to wipe out any of the gains. China, previously projected to overtake the US as the biggest emitter by 2020 is now projected to reach that milestone as early as 2010. ■

Why Did The Lights Go Out In Europe?

Key words: Europe, blackout, UCTE, reliability

The most striking thing about a widespread European blackout that occurred on 4 November was that it did not make many headlines in Europe, and barely made news elsewhere. Perhaps this was due to the fact

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that the outage occurred in the early morning hours on a Saturday when most industries and commercial businesses were off line and many residential customers were asleep, or because power was quickly restored.

It certainly could have been worse, and had the problem not been contained, it could have spread much further than it did. The **Union for Coordination of Transmission of Electricity (UCTE)** released a hastily prepared press release on Monday 6 November, trying its best to minimize the damage. It said an investigation committee under the chairmanship of **Gerard Maas**, head of UCTE’s Steering Committee has been set up to – what else – investigate what had gone wrong and to prevent similar incidents in the future.

Off and on again in 38 minutes

Load shedding prompted by UCTE to manage the incident on 4 Nov 06

Country/TSO	Load shed
Austria/APG	1500 MW
Austria/Tiwag netz AG	40 MW
Belgium/Elia	800 MW
France/RTE	5200 MW
Germany/E.ON Netz	400 MW
Germany/RWE TSO	2000 MW
Italy/TERNA	1500 MW
Netherlands/TenneT	400 MW
Portugal/REN	500 MW
Spain/REE	2100 MW
Slovenia/ELES	100 MW

Source: UCTE press release, 6 Nov 06

The results of the investigation, due at the end of November, were not available at the time of this writing, but appear odd at best. All indications point to a 380 kV line operated by **E.ON** crossing the river Ems, which was switched off to allow for a ship to cross underneath at 21:38. Approximately 20 minutes later, there was an apparent *load shift* on the **E.ON Netz grid** – the exact nature and cause of which has not been explained thus far – causing a major *disturbance* on the transmission systems of **RWE TSO** as well as **E.ON Netz**. This disturbance caused an overload, forcing another line to switch off automatically at around 22:10. Within seconds, other lines were overloaded and began to trip off as designed. To prevent the whole network from collapse, UCTE ordered immediate load shedding (see accompanying table). The network was back to normal within 38 minutes.

Pierre Bonard, a member of the board of French **Reseau de Transport d’Electricite (RTE)** said, “We weren’t very far from a total blackout.” UCTE, which is Europe’s super transmission coordinator, responsible for network reliability across 23 countries serving 450 million and handling over 2,500 TWhrs of power per annum, now has to answer why it allowed the lights to go off at a time when loads were minimal.

Following the incident, everyone with an axe to grind saw an opportunity to make a point. Italian prime minister **Romano Prodi** called for a single European power authority to coordinate supplies pointing out that it was ironic that “we depend on each other, but cannot help each other without a common

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authority,” good sound bite for the TV news but not very helpful for managing the interconnected grid. **CGT de l’Energie**, the anti-market, anti-privatization French union called – predictably – for a “halt to European deregulation driven solely by the logic of competition.” **Andre Merlin**, head of RTE pointed out that, despite the outage, the network handled the crisis well and said, “If there is an incident tomorrow in France, we’ll be very happy for the Germans to come to our help.” European Energy Commissioner, **Andris Piebalgs**, stated the obvious when he said, “Whilst these blackouts lasted for relatively short periods of time, they are unacceptable.” He also called for a common European approach to make sure similar accidents do not happen again.

While it is too early to say what will be the outcome of investigations and the solution to the problem, those who have been arguing for separation of generation from the operation of the grid and the supply business found new evidence to push for unbundling. Ditto for those who claim there is not sufficient investment going into generation even though generation does not appear to be the culprit in this particular case. ■

Is Europe Under-investing In Generation?

Key words: Europe, generation, capacity, investment

Many are looking beyond the immediate reasons to explain the recent blackouts in Europe. In October, **Capgemini**, a consulting firm,

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published a report suggesting that many European countries were not keeping pace with the growing demand – resulting in declining reserve margins across the board, and ominously so in a few countries, notably the UK, Spain, France, Belgium and Greece. **Colette Lewiner** of Capgemini pronounced the study a *wake-up call* for the energy industry, governments and regulators. “We are in a dangerous zone now. We could have power cuts,” she said.

While nobody is blaming lack of generation for the November blackout – some European systems peak in summer – the accident raises serious concerns about dwindling reserve margins, averaging just 4.8% in the winter of 2005-06, according to the study. Spain is a case in point. Demand for power rose 15% last year while generation grew by a mere 8%. In a number of countries, little is being invested in new generation while demand continues to grow, albeit not as rapidly as in Spain.

What is the explanation? Trying not to sound anti-market, Capgemini points out that, “Electricity generators across Europe have become more exposed to commercial pressures by the spread of liberalization and private ownership. “The net result is that they are investing less – 10% of their turnover in 2004 compared to 18% in 2000.

“How can companies plan for a 10- or 20-year return on investment when governments keep changing the rules of the game?” Ms. Lweinger asks. The solution? “It should be for national governments and the European Commission to encourage power investment in the energy industry.”

Not everyone is as alarmed as Capgemini, nor do they agree on what is the best approach to address the problem, if indeed there is a problem. The advice of Ms. Lewinger – more meddling by governments and regulators in the power sector – appears counterproductive to many pure economists. If investors are not investing enough because of government intervention – as Capgemini concludes – how can more of the same resolve the problem? If we want private investors to decide how much of what to build, when and where, then shouldn’t we ask for less government intervention, not more? ■

Want Proof of Nuclear Renaissance? Check Uranium Prices

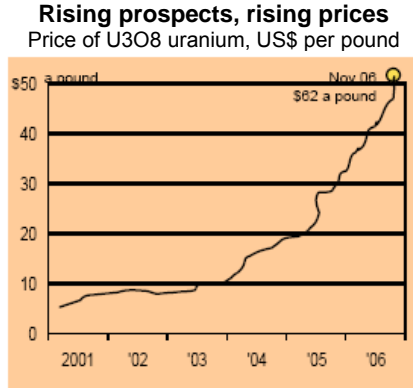
Key words: Nuclear power, uranium prices

Market prices, we are told, deliver valuable information. All the talk about a nuclear revival would be naught if there were no effect on prices for uranium. For years, uranium prices hovered below \$10 a pound. They crossed that barrier in 2003 and have risen to \$62 by November 2006. The reasons are continued growth in global demand for power and the realization that prices for alternative fuels is rising. The threat of global climate change is the icing on the cake, making nuclear power even more attractive.

Current production is estimated around 109 million pounds per year, consumption exceeding 170 million resulting in tightening inventories and

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higher prices. Canada and Australia are two of the biggest producers, accounting for 28 and 23% of the worldwide production respectively.



Source: Ux Consulting Co.

The **World Nuclear Association** predicts that another 80 nuclear plants will be built over the next 10 years, mostly in Asia, adding to the current inventory of 440 operating plants worldwide (*Nuclear Renaissance: If Not In The West, Then In Asia*, Nov 06). Propaganda? Apparently not. According to **Ux Consulting Co.** of Roswell, GA, investors are betting on continued growth in demand for uranium, having bought 18 million pounds of the stuff in the past couple of years worth \$1 billion at today's prices. ■

Is There A Double Whammy In Your Future?

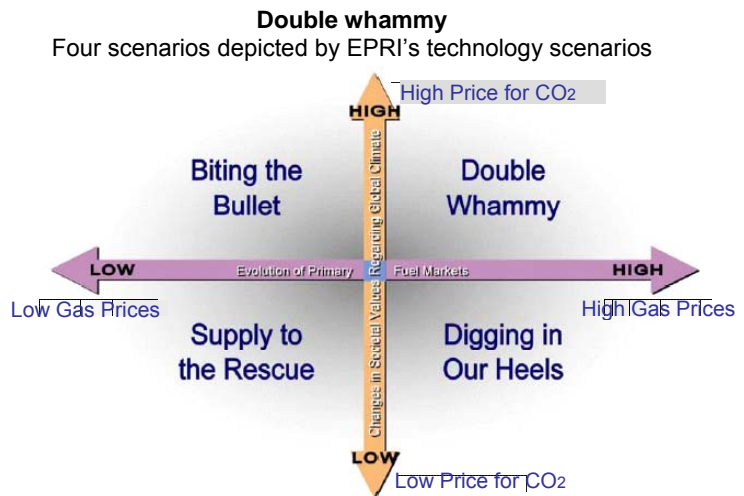
Key words: EPRI, scenario planning, strategy

Planning for an uncertain future seems futile. No matter how clever and far sighted one may be, it is impossible to predict how things are going to turn out a few years or decades into the future. To get

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around this problem, many firms, especially those who must make big investments in long-lived assets, try **scenario planning**. Instead of putting all your eggs in one future basket, you try to imagine a number of scenarios – and play around with what if you followed strategy x and future y happened.

That is an exercise that **Electric Power Research Institute (EPRI)**, based in Palo Alto, CA, has undertaken. The intention is to decide what sorts of long-term research it should undertake on behalf of its members given the inherent uncertainties about the future state of the world. The recently published **Electric Power Industry Technology Scenarios**, identifies two main variables that could play havoc with the power industry, price of primary fuels to generate electricity – which are highly uncertain over time – and changes in social values on energy industry externalities. To simply life, price of natural gas is taken as an indicator of the former, price of CO2 for the latter.



Source: Electric Power Industry Technology Scenarios, EPRI

Depending on whether these two key variables are high or low, four distinct scenarios emerge (see accompanying graph) and are described below:

- **Digging in Our Heels** is a world in which we actively resist change. Society embarks on a “momentum strategy”. Natural gas and other primary fuel prices are rising, driven by growth in demand and supply constraints, and direct or imputed cost of CO2 emissions is very low. This world may not be perfect, but the perceived cost of alternate strategies is deemed to be too high to receive attention.
- **Supply to the Rescue** is a world that relies on supply-side solutions to a broad range of energy issues. The abundant supply of low-cost natural gas in this world spurs economic growth and development, particularly in energy dependent businesses.
- **Double Whammy** incorporates both high gas prices and high societal concerns about environmental costs. Taken together, these factors produce a more than proportionate share in their impact on the economy. Technology advances offer a collaborative basis for meeting the challenges of this world.

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- **Biting the Bullet** refers to the need to take painful actions in the near term to forestall even more painful consequences in the future. The climate change issues for example, have such a large impact on society that precipitous actions are required as society attempts to deal with a series of crises.

What does EPRI make out of these scenarios? It uses them to test the robustness of its Technology Roadmap. Does it make more or less sense to pursue a particular R&D path given a particular scenario, for example.

What good does it do to speculate with scenarios? Finding out how well or poorly positioned you may find yourself under different possible futures is one useful outcome. How would you cope if the double whammy scenario were to materialize? For EPRI, of course, the aim is to identify robust technologies and solutions that do reasonably well under several outcomes. For EPRI members, avoiding costly dead-ends may be useful. It is much easier and cheaper to make mistakes on paper than in practice. ■

US Mid-term Election Has Fallout In Australia

Key words: Australia, global climate change, emission trading

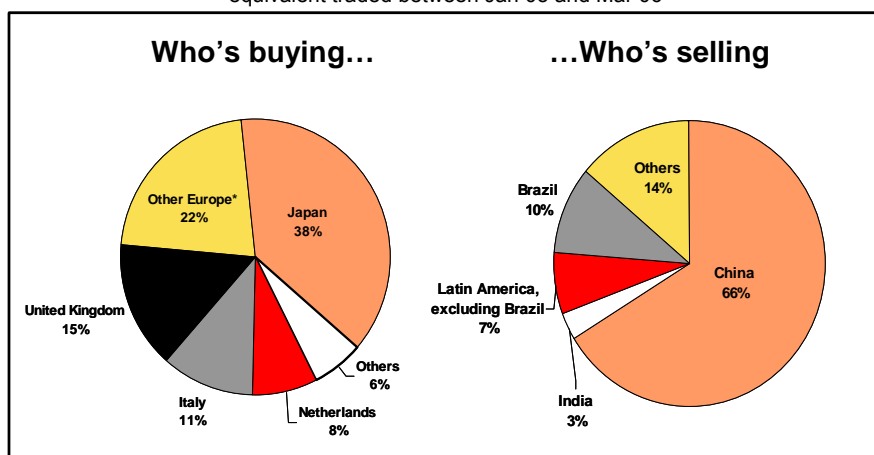
Being the savvy politician that he is, Australia's Premier, **John Howard** took notice of public opinion polls that indicated that most Australians

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wanted their government to do something about global climate change. Perhaps the worst drought in 100 years now afflicting major parts of the country had something to do with the strengthening of the public sentiment. The release of the Stern report might have been a contributing factor.

What ever the reasons, in early November, the Environment Minister **Ian Campbell** announced that Australia wanted to forge a new Kyoto accord out of the world's six biggest polluters – US, China, Japan, India, South Korea and Australia. "Working within our region is a good place to start," he said, proposing an emission trading scheme that goes far beyond what the US had previously proposed – vague cooperation on developing environmentally friendly energy technologies.

Trading hot air
Major buyers and sellers of emissions, % of 453.5 million tons of CO2 equivalent traded between Jan 05 and Mar 06



Source: International Emissions Trading Association

Then came the mid-term US elections. Not before long, Mr. Howard decided to further distance himself from the Bush Administration policies on global climate change. While it is too early to tell if Mr. Howard has had a true change of heart, it is clear that he has decided to take a different tack. Just as the Australian delegation was heading for Nairobi in November, Mr. Howard announced the establishment of a taskforce on emission trading, stunning his friends and foes alike.

Sir Nicolas was encouraged by the Australian gesture. He said, "A lot of Australians are interested in this issue. They will be suffering from climate change," referring to the drought that has already turned green grass brown in many fashionable neighborhoods in Sydney and elsewhere. ■

EU To Push Unbundling

Key words: EU, unbundling, European Commission, policy, competition

After years of trying to live with *virtual or functional unbundling*, the **European Commission** has come to the conclusion that it is not working and it must now push for the breakup of giant vertically-integrated companies to achieve its goals of a workable competitive electricity market.

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In announcing the new strategy, Ms. **Neelie Kroes**, the European Union's competition commissioner said, "With the infrastructure in the hands of the incumbent supply companies and electricity generators, opportunities for discriminating against competing suppliers abound." She said the separation of companies that supply energy and own critical infrastructure, such as the power grid, is "an absolute must."

She was, of course, talking about the big boys such as **E.ON, RWE, EdF** and a few others who still own and operate generation, transmission and are active in the supply business. European regulators initially thought that functional unbundling, where you ring-fence various components of the business without actually breaking up the companies would be sufficient. But after years of trying to make it work, the conclusion is that it is not sufficient.

Talking to **Financial Times** (28 Oct 06) Ms. Kroes said, "Speaking very personally, I see only one way forward if we are to restore credibility and faith in the (electricity) market. Europe has had enough of 'Chinese walls' and quasi-independence," adding, "There has to be a structural solution that once and for all separates infrastructure from supply and generation. In other words: ownership unbundling."

That is not all. Ms. Kroes also identified several other areas that stymied healthy competition, including the prevalence of long-term supply contracts that essentially shuts out competition in many significant components

Continued in next column

of electricity and natural gas markets. A final frontier for the Commission is to overhaul the current lax and uneven regulatory structure in Europe. Ms. Kroes said, "Regulators must be given the necessary independence and tools to monitor the market, including the ability to exchange market-sensitive information."

The Commission is expected to propose new energy legislation in early 2007. Needless to say, if the Commission succeeds in pushing its new policies, companies like RWE, E.On, EdF and GdF would lose their current dominant positions. ■

DOE Releases Transmission Congestion Report

Key words

The first year anniversary of the **Energy Policy Act of 2005** (EPAct) was marked in August 2006 with the release of a transmission congestion report by the **Department of Energy** (DOE). Transmission congestion was among the factors blamed in the massive August 2003 northeast blackout and was highlighted in EPAct as an area requiring additional focus. The DOE is required by law to update the congestion study every three years. In releasing the first report, Secretary of Energy **Samuel Bodman** said, "Completion of the National Electric Transmission Congestion Study is an important step on the path to modernizing our nation's aging electric power infrastructure ..."

The DOE study identifies three types of congestion:

- **Critical congestion areas**, of which the study identified two in **Southern California** and the **Atlantic coast** from New York City to northern Virginia;
- **Congestion areas of concern** of which there are four in **New England, Phoenix-Tucson, Seattle-Portland** and the **San Francisco Bay Area**; and
- **Conditional congestion areas** where congestion is not presently acute, but could become so including **Montana-Wyoming, Dakotas-Minnesota, Kansas-Oklahoma, Illinois, Indiana, upper Appalachia**, and the **Southeast**.

"Electricity congestion increases consumer bills and challenges the reliable delivery of power to our homes," according to Director of the Office of Electricity Delivery and Energy Reliability **Kevin Kolar**. The study is available at <http://www.oe.energy.gov/>.

Renewables Gaining Ground In US And China

Key words: Renewables, US, China, ethanol

In November, the **Rand Corp.** released a study with rosy projections for renewables, concluding that the US can increase its reliance from the current 6 to 25% by 2025 at little or no additional cost. Benefits? 20% reduction in use of oil; 2/3rd reduction in atmospheric emissions.

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Where would the additional renewables come from? The usual suspects, wind, solar, bio-fuels including **ethanol** from corn. Skeptics dismissed the rosy projections, notably increased reliance on corn-based ethanol. Critics contend that when considering the entire fuel cycle, making fuel from corn consumes more energy than it produces, while increasing food prices.

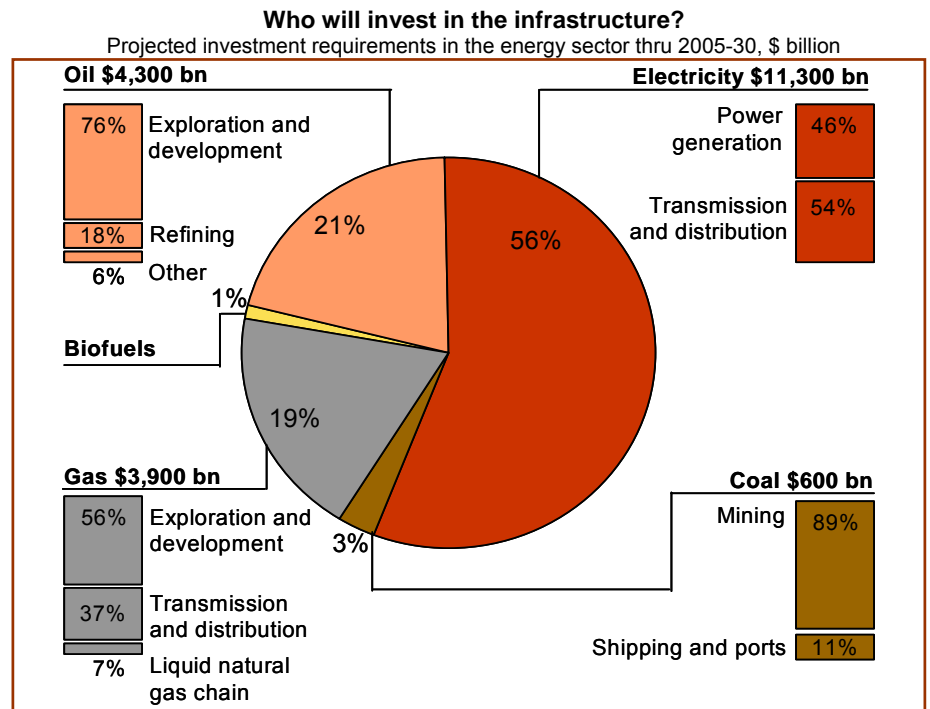
Meanwhile under intense pressure to lower its ever-increasing reliance on imported oil and manage its greenhouse gas emissions, policy makers in China announced a massive – and overly optimistic – plan to increase that country’s share of renewables. China’s **National Development and Reform Commission** (NDRC) announced that it plans to invest \$187.5 billion to increase the share of renewables from current 7.5% – mostly from hydro – to 10% by 2010 and 16% by 2020. Hardly anyone expects this to materialize, but it is good to know that the Chinese are trying. ■

World Energy Outlook: From Crisis To Crisis

Key words:

Every year, the **International Energy Agency** (IEA), based in Paris, releases its flagship publication, **The World Energy Outlook**. This year’s report is gloomier than most, apocalyptic in parts. In releasing the report in November, IEA’s **Claude Mandil** said, “The world is on a course that will lead it from crisis to crisis unless governments act immediately to save energy and invest in nuclear and biofuels.”

Continued in next column



Source: The World Energy Outlook, IEA, 2006

Looking at the future to 2030, the IEA does not find much good to report. “Our current path,” he said, “may mean skyrocketing prices or more frequent blackouts (in the power sector); can mean more supply disruption (in oil and/or natural gas), more meteorological catastrophes – or all these at the same time.” As if reading from EPRI’s double whammy scenario (see related article in this issue), the IEA report does not offer much to cheer about.

OECD’s increased reliance on oil from a handful of unstable countries is a recurring concern. The same is happening with natural gas, where a handful of countries, notably Russia and Iran, play pivotal roles. China’s voracious appetite for energy – expected to reach 15.3 million barrels per day by 2030 – is a new cause for concern – as this is beginning to affect world supplies and prices. China’s greenhouse gas emissions are now expected to top those of the US – currently the No. 1 polluter – by 2010, not 2020 as previously projected.

On the investment front, IEA now believes that the world will need some \$20,000 billion in investment in energy infrastructure through 2030 — \$3,000 billion more than was estimated just a year ago. Of this, fully 60% are needed in the electricity sector, and not just in developing countries but in places like US and Europe where aging infrastructure has to be replaced. **Fatih Birol**, IEA’s chief economist believes that actual investments are likely to fall short of the target by at least 20%. ■

Texas Fully Deregulated In 07

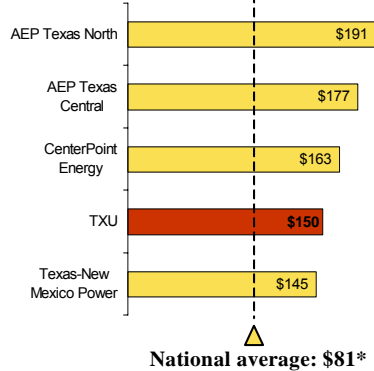
Key words: Texas, ERCOT, restructuring, competition, PUCT

Texas was the last state in the US to “deregulate” its electric power sector in 2002. No one else has done so, and none, as far as we can tell, are planning to follow. The reason? See this issue’s lead article.

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Where are the benefits of competition?

Average electric bills for a residential user consuming 1,000 kWhs, Aug 06 data



* As of 2005

Source: PUCT

In the Texas market, considered the most robust in the US, average bills have increased above the national average, according to the **Public Utility Commission of Texas** (PUCT). The prime reason is that under Texas law, distributors are allowed to adjust prices upward when natural gas prices increase, but they are not obliged to reduce them when prices fall. Since 2002, when the market was opened, distributors have raised prices 6 to 8 times, but none have reduced them. There are, of course, other reasons as well.

Yet despite these problems, the PUCT is proceeding to remove the last remaining vestiges of the regulated era. Effective 1 Jan 07, Texas market is to go fully *deregulated*, a misnomer meaning there will be no restrictions on what retailers or incumbent distributors can charge. Deflecting consumer criticisms that retail rates in many areas average 15-19 cents/kWh, **Paul Hudson**, the current Chairman of PUCT maintains that it is too early to write off deregulation of the \$27 billion retail market in the Lone Star state as a failure. ■

Book Review: Heat: How To Stop The Planet From Burning

By George Monbiot
Penguin Books, £17.99, 2006

Global climate change has been in the news as in Sir Nicolas Stern's well-publicized report, in the movies as in **Al Gore's** *An Inconvenient Truth*, and on many people's minds these days. So what more is there to say about the subject matter? A lot, according to **George Monbiot**, a veteran British environmentalist.

While people like Al Gore and Sir Nicolas are content to raise the politician's awareness of the extent and the immediacy of the problem, suggesting that paying a little now is superior to paying a lot later, Mr. Monbiot is not content with anything short of a massive technological and economic turnabout. He is advocating for a 90% cut in greenhouse gas emissions by 2030 – if not sooner. That is not all. He is convinced, and would like to convince everyone else, that it is not only feasible, but with relatively little sacrifice in terms of quality of life.

The author suggests an examination of the recklessly wasteful ways in which we use energy, in part because it has been so abundant and cheap so far. Driving a Hummer to pick up a carton of milk? These are the sorts of things to reexamine. You may not agree with everything Monbiot says, but he provides a detailed technical roadmap of how Britain can dramatically cut down its emissions while still enjoying the comforts of modern life. The anecdotes are too common and the lessons hard to miss.

Having made his major point, Monbiot goes off on a tangent that is less productive, exposing what he considers to be the hypocrisy of many businesses who, while pretending to be green, are intent on destroying the planet for short term gains. One can certainly agree with the proposition that some businesses are exploiting the consumers' green tendencies for a quick buck. But Monbiot has chosen the wrong approach to convince others to become green. ■

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