THE PROMETHEUS FILE

GLOBAL ENERGY TECHNOLOGY WEEKLY

- President Bush's long awaited National Energy Policy was finally announced this week, two days after the Democratic Party released a separate energy policy. The Bush plan outlined ways to prevent an energy crisis in the future, rather than dealing with the short-term pain that many Americans are feeling. While the Democrats may have offered some weak solutions for the short-term, they provided few worthwhile insight into the future. A comprehensive look at both plans helps to outline the problems currently facing the nation and gives a better understanding of what needs to be done to once again maintain stability.

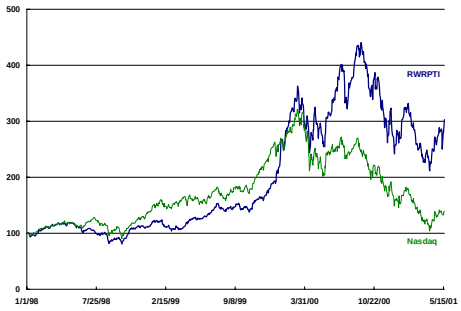
- California's financial woes continue to worsen as the state's credit rating was cut by a second major financial institution. Both the government and consumers are feeling the pain, however, as the California Public Utilities Commission (CPUC) approved a US$5 billion rate increase, representing an average increase for residential customers of 47%-55%. Southern California Edison (SCE) was able to postpone two of its financial obligations as lenders agreed to give the company until June 30 to pay. The nightmares of most Californians are coming true as the state sees just how far an energy crisis can reach.

Markets

- Another Fed interest rate cut sent the market shooting higher on Wednesday and Thursday, putting some air under concept stocks. All five of the top gainers of the week were fuel cell developers, perhaps on the misguided speculation that the energy crisis today will translate into faster commercial adoption of their products. A reality check would yield the fact that even the inflated electricity prices being seen in California today are degrees of magnitude lower than what could be delivered by fuel cell systems today. Power quality companies also turned in impressive gains, led by International Rectifier. Surprisingly, Enron was among the big losers for the week, falling nearly 10%. We would think the impetus of from the National Energy Policy would be a positive for Enron. At 29x 2001 consensus P/E and at 42% below its all-time high price reached in August, the stock is as cheap as we have seen it in a long time.

In this Issue

RWR PTI vs Nasdaq
(01/01/98-05/17/01)



Week's Winners

Company	Ticker	Price US$	% Return
H POWER	HPOW	12.97	30.2
PLUG POWER	PLUG	29.14	29.7
MECHANICAL TECHNOLOGY	MKTY	8.90	24.8
MANHATTAN SCIENTIFICS	MHTX	1.00	20.5
BALLARD POWER SYSTEMS	BLD CN	57.62	19.6

Week's Losers

Company	Ticker	Price US$	% Return
IXYS	SYXI	15.80	-11.8
ENRON	ENE	52.20	-9.4
CONDUCTUS	CDTS	4.80	-7.7
ESPEED	ESPD	20.85	-5.9
SUPERCONDUCTOR TECHNOLOGIES	SCON	5.65	-5.5

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Feature Article

Energy Policy and the Energy Crisis

The Economic Impact of a Crisis

Many economists argue that the US is not currently facing a second energy crisis; however, the numbers speak for themselves. In California, the most recent forecasts predict that the state will experience up to 260 hours of blackouts this summer with a possible deficit of 4,500MW to 5,500MW of firm energy at peak demand. Business owners throughout the state warned in a separate report that California faces up to US$21.8 billion in lost productivity, reduced household income of another US$4.5 billion, and 135,000 lost jobs all due to the worsening energy crisis. In addition, the report stated that higher prices for consumer products and services are inevitable. The San Diego Zoo has already added a US$1.50 energy assistance fee to its admission charge, which represents an 8% increase in adult rates and a 16% increase in child rates. In addition, hotels throughout the west implemented an energy surcharge months ago. To make things worse, the state's credit rating was downgraded this week by Moody's Investors Services. California can now brag of having one of the lowest state credit ratings in the US. President Bush's chief economic adviser, Lawrence Lindsey, said high energy costs reduced the gross domestic product of the US economy by 1% last year. With blackouts in California this summer and possible blackouts in other areas of the Northwest later this year, 2001 could show a greater decrease in GDP over last year due to high energy costs.

Unfortunately, California is not the only state being affected by energy. In the Pacific Northwest, pulp and paper mill operators and green house farms have been dependent upon cheap hydroelectricity for decades. Late last year, Georgia-Pacific furloughed its Bellingham, Washington pulp mill, sending 800 workers home. They could no longer be profitable given the power prices. On the same day, Kaiser Aluminum announced it would halt all production at Washington state smelters until October 2001. Kaiser could make more money selling its power than its aluminum. British Columbia is trying to assess the feasibility of converting a significant portion of its greenhouse industry to coal-fired power. On a daily basis, companies West of the Mississippi are going under because they cannot pay their "new and improved" power bill.

Not only is the lack of a national energy policy affecting electricity rates, it is also exacerbating increases in gas prices. Last month the national average for regular unleaded fuel rose US$0.13 to US$1.72 per gallon. One city in Southern California reported an average of US$2.17 per gallon last month. Americans are finding themselves paying significantly higher prices for both

electricity and gas in many areas of the nation. The price increase has been more than the cost of the oil price hike on the economy during the gulf war.

Energy Policies Give Guidance to Prevent a Crisis

In an effort to ease the current energy crunch both the Bush Administration and the Democratic party issued separate reports this week detailing what each felt should be included in a national energy policy. The Republican plan focuses more on the long-term and cites ways to prevent future energy crises of this nature. Democrats tried to focus more on the short-term as a measure to lower high gas prices and rising energy rates. While both sides agreed on several issues such as tax incentives and conservation, there are a large amount of differences between the two plans. A summary of both plans is listed below.

Issue	Bush Energy Policy	Democrat Energy Policy
Conservation	1. Expand 10% tax credit to include new gas-electric hybrids 2. Cogeneration plants producing both heat and electricity receive tax benefits and regulatory relief 3. Schools, homes and hospitals included in Energy Star program	1. Proposes tax credits of up to US$4,000 for the purchase of energy-efficient homes and cars and additional tax incentives for businesses to invest in energy-efficient technologies or vehicles 2. Support improving fuel efficiency of sport utility vehicles, light trucks and minivans 3. Require government to purchase hybrid cars 4. Encourages residential weatherproofing through increased federal funding
Environment	1. Regulation of power plant emissions including nitrogen oxide, sulfur dioxide and particulates	1. Stresses saving environment through maintaining current regulations
Renewables	1. Tax credit for wind energy expanded 2. Residential users of solar power receive 15% tax credit 3. Order Interior Department to respond to permitting delays in geothermal plants 4. Streamline licensing procedures for hydropower plants 5. Biofuels receive additional research funding and continued tax credits	1. Increase emphasis on investing in and tapping new energy resources from solar to wind power 2. Tax credit of 20% for developing solar and geothermal energy and would extend credit for developing energy from wind and other resources
Supply	Coal 1. Increase funding by US$2 billion over next 10 years for clean coal technology to limit emissions from coal-fired power plants 2. Possible easing of clean air rules 3. Streamline approval process for siting of coal-fired power plants Nuclear 1. Encourage construction of nuclear plants through tax breaks 2. Reauthorize 1988 Price-Anderson Act limiting the liability of nuclear plant operators in major accidents Oil/Gas 1. Allow drilling on 2,000 acres of the Artic National Wildlife Refuge 2. Offer new tax incentives to encourage oil and gas production 3. Increase the size of the Strategic Petroleum Reserve	Oil/Gas 1. Recommends using the nation's Strategic Petroleum Reserve in the event of sharp price increases 2. Rejects opening the Arctic National Wildlife Refuge for oil and gas exploration until all other proven reserves and other federal lands already open to development have been exhausted 3. Urges President to pressure oil-producing nations to open the spigot and push down gasoline prices 4. Demands a Justice Department investigation into allegations of price-fixing by oil companies

Issue	Bush Energy Policy	Democrat Energy Policy
Infrastructure	1. Allow federal regulators to invoke eminent domain to take property for new power lines 2. Give refiners more flexibility in producing and distributing gasoline through relaxing clean air rules 3. Urge states to end requirements for "boutique" gasoline blends	
International	1. Review economic sanctions policies against Iraq, Iran and Libya 2. Increase diplomatic efforts to expand oil production in Latin America, Asia and Caspian Sea nations	
Government Intervention	1. Rejects any attempts to cap wholesale electricity prices 2. No reference to the possibility of lowering gas taxes	1. Calls for the Federal Energy Regulatory Committee (FERC) to return to "cost-of-service-based rates" until March 2003 2. Recommends California reclaim windfall profits gained by power producers during the state's electricity crisis

Reed Wasden's Critical Analysis

Perhaps the most interesting thing about the two policies is how little the popular press actually said of value. It almost sounds like the press just dug up the old stories from 1973-79 and reprinted them with some edits. After a thorough review of the President's printed energy policy report entitiled: Reliable, Affordable, and Environmentally Sound Energy for America's Future, we are generally impressed. The Democrat's pre-emptive (announced two days before Bush) response was nothing more than a rehash of Jimmy Carter's plan (a lot of which was prophetic for his time but useless now). The President's team produced a 128 page document of actionable items. The House Democratic Caucus: Energy Task Force produced a 19-page high school research report.

Famous quotes seem to sum up life's lessons in a universally understandable stanza. One favorite is the definition of stupidity: "doing the same thing over and over but expecting a different result." Using this definition, the Democrat's energy policy is truly stupid. It attempts to treat the symptoms of the crisis without curing the fundamental problems, which is how we got here in the first place. And as most political battles end up, instead of saying much constructive, it just says that the other guy's proposal is insufficient. The President's proposal lacks only one thing; a sign that says "made with pride by big oil." However, all said, the President's policy was well thought, thorough, and relatively balanced. The biggest problem with the Democrat's alternative is that it's a list of ideas that lead you to believe that we have an immediate choice whether we want to use petroleum or not. Unfortunately, we don't have an immediate choice. The Democrats talk about fuzzy alternatives that are completely illogical given where the industry is today. The President's policy acknowledged pragmatically where we are and where we need to go.

In any subject, whenever government weighs-in, skeptics come out of the woodwork, and for good reason. The old phrase, "I am from the government and I'm here to help," provokes a nation-wide eye roll. This week, our two political parties tried to develop a policy that is intended to enable America to enjoy perpetual economic growth through energy. We think the issues are relatively simple and can be summarized into the following problems that need to be addressed.

1. Suppy/Demand Imbalance—For whatever reason (i.e., stupidity, see above) we have dramatically less power than we need. Power conservation will take the edge off but is not a solution. Over the past fifteen years the US economy has become very efficient at using energy. Yes, on a per capita basis we consume a lot. However, most of our energy is consumed by industry. For example, the United States consumes 25% of the world's power even though we have a 4.5% of the world's population. However, the US also produces 28% of the global output. As an economy, the US is one of the most efficient, measured by the amount of energy required to produce a dollar of output. This is called energy intensity. From 1973 to 2000, the US economy became 42% less energy intense, meaning it tool 43% less energy in 2000 to produce the same amount of goods and services as we did in 1973. In fact, over the past two decades, real gross domestic product has increased 90% while energy consumption has increased by only 25.6%. This discrepancy was not due to energy price changes—they were up 44.8% over the same period. Conservation is not about turning off the lights or unplugging the refrigerator. Its about energy saving technology. All of our appliances are dramatically more efficient than a generation ago and that trend is increasing exponentially. Transportation and the combustion engine are only marginally more efficient than they were twenty years ago. Both versions of the energy policy have significant funding for transportation technology that may provide an alternative to the century old combustion engine. So, what do the conservation measures in the Democrat plan do (i.e., federal funding for weather stripping)—not much. We need more energy. Any effective policy needs to address how we produce more energy in the most efficient manner possible. That will need to include coal, gas, and nuclear power.

2. Industry Structure—The federal government can now get off its hands and develop a power system structure that is effective. The four components that must be addressed include: competitive wholesale power markets in generation that produce a mild incentive to overbuild capacity, regulated transmission with an incentive to upgrade system reliability, open access to distribution so that competition to end customers can be realistic, and encouragement of technology

solutions for our eventual migration away from an oil based economy. Stop trying to be cute with economic principles. We cannot, yet, have it all. There are trade-offs. Right now we need to put the ship on course. Given the industry and economic realities, movements toward a cleaner environment, which is essential if we are leave anything worthwhile to our children, are course corrections, not different ships. We need to develop renewable incentives that increase the amount of renewable energy produced instead of those that just reduce the taxable income of energy companies. The President's policy directly addressed the need to upgrade the dilapidated power system of the United States.

3. Power Technology—There is a material probability that within twenty years we may be well on our way to developing a hydrogen-based energy system. Neither policy statement addressed this issue. A bit of government muscle behind this effort will go a long way.

4. Petroleum Independence—For a humorous view of the role of competitive markets review the Cato Institutes description of why we do not need an energy policy. They contend that we already have a competitive market for petroleum and we should just let the system work. The dictionary defines cartel as "a group under an agreement not to compete with each other thereby restricting competition resulting in higher prices." We have willingly put our country at the behest of an international cartel of which the US is not even a member—OPEC. If anyone thinks the global petroleum industry in any way resembles an efficient market, its time for an Econ 101 brush up course. Besides the economics, there are basic issues of energy independence that should be addressed in any energy policy. Energy independence has not been discussed much lately. However, as we begin to come to the end of the world's inexpensive oil (measured by lifting cost), the issue of energy independence will become more essential.

Short-Term and Long-Term

Nothing in either energy policies address what everyone has described as the energy crisis. Indeed, the appropriate role of any policy is long-term and not short-term. However, it is important to stress that without a comprehensive energy policy that identifies and meets potential challenges on the horizon, our energy industry will be required to move from crisis to crisis. Most of California's problems are derived from government and regulators trying to manage long-term objectives with short-term solutions.

This Week in California

California's financial outlook worsened this week as it saw another major financial institution cut its credit rating. Moody's Investors Service downgraded US$25 billion in state bonds, sending an alarm over the increasing financial risks associated with the continuing energy crisis. The downgrade adds millions to the state's borrowing costs, including projects in the next state budget, and further complicates a troubled plan to float a record US$13.4 billion in bonds to repay state coffers for electricity prices. Further signs of weakness were shown as Governor Gray Davis revealed his revised budget for 2001-02 fiscal year. The revised budget contemplates cuts and shifts totaling US$5.7 billion compared with the budget he proposed in January. In addition, it calls for spending much of the state's emergency reserves and takes money from road construction.

Davis continues to say that the state's planned US$13.4 billion in bonds will cover California's energy costs for the next year. However, the governor admitted that the state was forced into paying US$1,900/MWh to Reliant last week to secure the last 100MW of firm energy needed to keep lights on in the state. The money raised through bonds would be quickly exhausted if the state was forced to pay similar prices throughout the summer. The governor threatened earlier this week to seize Reliant's profits or its electric power plants if it continued to charge unreasonable prices. Actions taken this summer will determine whether the governor signs a windfall profits tax bill, commandeers the electricity produced by a plant, or seizes the facility itself. Reliant is walking a dangerous line by charging prices that are way higher than prices deemed reasonable by the Federal Energy Regulatory Commission (FERC).

Unfortunately, government officials are not the only ones feeling the financial woes. The California Public Utilities Commission (CPUC) approved a US$5 billion rate increase, which will have a significant impact on consumers throughout the state. The rate increases are designed to reward those who conserve and punish those who do not. Residential customers will face average rate increases of 47%-55% on their electricity bills beginning next month, but retroactive to March 26.

CPUC Rate Increase

Customer	Edison	PG&E
Average Residential	47%	55%
Heavy Residential	71%	80%
Industrial	49%	49%
Agricultural	15%-20%	15%-20%
Small-business	35%	35%

While discussing shaky financial situations we must not forget Southern California Edison (SCE). The company continues to wait to see whether the state will approve a bill which would save the utility from bankruptcy. Davis was finally able to get an agreement from Senate Majority leader Richard Polanco to introduce the bill, which has become known as the utility bailout bill. The senator cannot run for reelection in 2002 and will loose nothing by sponsoring the bill which faces strong opposition. SCE was able to extend two 364-day bank credit facilities that were scheduled to mature earlier in the week. Lenders have agreed to wait until June 30 and September 15 to demand payment of the loans. The company is also trying to extend two other credit facilities that expire on May 29 and in October.

On a brighter note AES announced that it gained final approval to restart two retired plants in Huntington Beach. The plants could generate up to an additional 450MW of electricity. Other good news came from the FERC as it gave preliminary approval to the US segment of the North Baja Pipeline project that will bring natural gas from Mexico to plants in southern California and northern Mexico. BC Hydro dampened the good news though by warning it may not be able to sell additional capacity to California because of low water levels. The company stated that its first priority is to supply the needs of BC, but that it would export any excess electricity.

Lastly, Governor Davis urged the FERC to postpone action on several qualifying facilities' (QFs) requests to be released from long-term contracts so they can sell electricity directly into the market. The FERC did postpone the ruling but made partial motions for emergency relief. The motions granted that any QF in the Western Systems Coordinating Council (WSCC) may sell excess QF power to third-party purchasers within the WSCC. In addition, any QF may sell 100% of its output to third-party purchasers within the state, if a court of competent jurisdiction has concluded the QF may make such third-party sales.

The financial situation of the state only adds to the pain of rolling blackouts that are expected throughout the summer. But as we have stated many times, the California situation has no quick fixes and will have to be led by the market. The financial pains will eventually ease, but until that point, increased instability will continue for California.

New Rates for SCE Residential Customers

Usage - % of Baseline	Cost per kWh	% Increase
Up to 100%	$0.13	0%
100% to 130%	$0.15	0%
130% to 200%	$0.20	30%
200% to 300%	$0.24	56%
More than 300%	$0.26	71%

Distribution of Residential Electricity Customers

% of Baseline	Customers	% of Customers
Up to 130%	4.06 million	51%
130.1% - 200%	1.96 million	24%
200.1% - 300%	1.25 million	16%
More than 300%	750,700	9%

Energy Technology News

Generation

Japan Approves New Nuclear Plant

The electric power panel of the Economy, Trade and Industry Ministry endorsed the construction of a plant in Kaminoseki, Yamaguchi prefecture, roughly 390 miles southwest of Tokyo. The plant will be run by the local government and Chugoku Electric Power, and the two entities have obtained consent from local residents. The two 1,370MW reactors are scheduled to be completed in 2012 and 2015. The new plant will be the first nuclear built in Japan since its worst accident in September, 1999, when an uncontrolled nuclear reaction at a fuel reprocessing center in Tokaimura killed two workers and exposed hundreds of nearby residents to radiation.

Calpine Buys Stakes from Westcoast Energy

Calpine's Canada Power Holdings will pay C$392 million for Westcoast's 100% interest in a 250MW gas-fired cogeneration plant soon to be completed in Campbell River, BC and its 50% interest in a 50MW plant in Whitby, Ontario. The deal came less than one week after a plan for Westcoast to sell five of its Canadian generating facilities to TransCanada Power for C$512 million fell apart in a disagreement over their value given changing assumptions about future North American electricity prices. Westcoast Energy expects to record a net gain after taxes and other costs of C$70 million when the deal closes, which both companies expect to happen in 3Q01.

Calpine Announced Development of Berrien Energy Center

The Berrien Energy Center will be Calpine's first development project in Michigan and will represent an investment of more than US$500 million, with a target commercial operation date of 2004. Calpine entered into the agreement with Boston-based CME North American Merchant Energy, which had initiated development efforts for the project. Berrien will use three advanced technology combustion turbines in combined-cycle with a single steam turbine, representing roughly 800MW of base load capacity, with the ability to produce up to 1,030MW during peak demand periods. The plant will use clean-burning natural gas in conjunction with an advanced emissions control system, making it one of the cleanest-burning electric power resources in the region. Calpine will manage all aspects of project development including engineering and design, construction, fuel supply, operations and power marketing. The project will interconnect with American Electric Power's transmission system and ANR's natural gas pipeline facilities. Berrien is Calpine's third announced development in the large East Central Area (ECAR) power market. *Calpine is not slowing down in its efforts to have 70,000MW of generation capacity in place by 2005. Achieving this unprecedented goal, however, will require immensely strong execution skills as well as the demonstrated efforts of the company's deal teams.*

WA Smelter in Agreement with BPA

Alcoa announced on Wednesday, May 16, that it would immediately idle its Ferndale, Washington aluminum smelter as a result of agreements it entered into with the Bonneville Power Administration. The planned 2001 operating rate at Intalco had been 115,000 metric tons per year; the plant has total capacity of 270,000 mtpy. Power contracted for the smelter between now and October, 2001 will be sold back to the agency to meet regional demands for electricity. Additionally, Alcoa will return to the BPA roughly 90% of its electricity allocation for the October, 2001 – September, 2003 period in return for Alcoa receiving revenue to compensate a majority of its employees for their wages and benefits. The remainder of Alcoa's electricity allocation will be used at the company's magnesium production facility in Addy, Washington and for lighting, maintenance and security at Intalco. *While Alcoa says this announcement has no material impact on the company's 2001 earnings forecasts, removing aluminum capacity from the system (shut-down aluminum smelters are extremely expensive to restart) will ultimately have a material affect on supply, creating upward price pressure on alumi-*

num. The market has already begun discounting shorter supply down the road, as aluminum futures prices have begun rising as a direct result of the Bonneville Power situation.

Enron Backing Out of Philippine Biomass Deal

Enron is backing out of plans to invest in the 40MW Bulacan biomass project due to prevailing political and economic crises in the country, according to industry sources. Enron is also said to be having trouble raising financing for the new facility, which is the last biomass power project the Department of Energy has accredited for construction in Luzon. The Bulacan biomass project is only one of a number of power activities Enron is conducting in the Philippines. The company is one of several foreign investors which have expressed interest in acquiring one of National Power Corporation's (Napocor) generation companies. It entered the local power sector during the height of the Philippines' power crisis in the early 1990s and was one of the state-owned company's independent power producers. The company also won the bidding for nine 30MW power barges located in Cebu, Bataan and Sucat in 1999, and is the turnkey contractor, operator and 50%-owner of a 110MW power plant in Batangas and a bunker-fired plant in Subic. *While Enron professes the desire to be an "asset-light" company, in Asia its businesses are still primarily asset-heavy. In addition to the above-described investments in the Philippines, the company owns gas pipelines in Korea and China, and the well-known Dabhol power plant in India. As these markets are yet to be developed enough to have liquid traded electric and gas markets, Enron needs to own the assets in order to gather the market information that will be necessary to participate in the eventual development of energy markets in those countries. Enron was also mentioned to be exiting a natural gas development project in the Middle East (Dolphin Energy), leading us to think Enron might be executing a strategy to pull back on its asset-intensive strategy overseas.*

Austrian Firm Wins Chinese Hydro Order

Austria's VA TECH Hydro, a unit of VA Technologie AG, won orders worth •100 million from China's Anhui Langyashan Power Company and Liuzhou Guiliu Hydropower to build one hydroelectric plant and equip another. VA TECH Hydro will build the Langyashan pumped storage power plant, which will generate 700MW for the province of Anhui when it goes into service in four years. Liuzhou Guiliu Hydropower commissioned the unit to supply bulb turbines, generators and transformers for a hydropower plant in the province of Guangxi, with completion of work slated for 2003.

CMS Wins Bid for Saudi Power Plant Contract

CMS Energy was named the "preferred-bidder" along with its equity joint venture partner, A.H. Al-Zamil Group, to build a 230MW plant by the project's commissioners, the kingdom's state-run Saudi Arabia Basic Industries Corp. (SABIC) and Shell Chemicals. CMS said construction of the power plant would begin before year-end, and that the plant will also supply up to 510 tons per hour of process steam. CMS's independent power unit, CMS Generation will co-manage the construction and operation of the project through a joint project company.

DPL Announced Merchant Gen Expansion Phase

DPL's latest expansion phase consists of two 80MW General Electric combustion turbine peaking units, representing an investment of US$55 million, which will be located at DPL's Darby Station, southwest of Columbus, OH. The units are already approved by state and national regulators and are scheduled to be put into service in time for the 2002 peak season. The company plans to sell most of its merchant generating capacity forward into the wholesale market. Phases one through six of DPL's expansion program represent a combined investment of US$425 million and add approximately 1,185MW to DPL's existing generation capacity. By the summer of 2002, the company plans to have a total of 4,200MW of capacity.

British Energy Completes Ontario Gen Deal

British Energy said it completed the deal for its Bruce Power majority-owned Canadian subsidiary to be the licensed operator of the Bruce A and Bruce B stations until 2018, with an option to extend the lease for an addi-

tional 25 years. British Energy's partners in Bruce Power are Cameco, the world's largest uranium fuel supplier, which has a 15% stake, and the two principal trade unions at the Bruce plant, which have subscription rights for up to a 5.2% stake through May 2003. British Energy's current 85% stake will fall to 79.8% as the unions take up their full equity interest. All output from the Bruce stations will be sold into the new Ontario electricity market, scheduled to open competition by May 2002. Until then, power will be sold to Ontario Power Generation under transitional arrangements.

Indonesia Needs US$28 Billion to Avoid Crisis

Indonesia's Director General for Electricity, Luluk Sumiarso, said the country needed US$28.45 billion in new investment over the next 10 years to stave off a power crisis which has started to hit some parts of the country. Based on the country's general electricity plan, the installed base of capacity is already at a critical level. With 15,297MW the Java-Bali grid is at least 1,531MW short of a safe reserve margin level. Power demand is expected to outstrip supply by 2003. *The prospect of private sector investment in this country is basically dead because of the whirlwind of the Asian economic crisis. Dozens of foreign investors in the energy sector under Suharto are still waiting to be made whole, and, until that happens, new capital in any meaningful size will be next to impossible to obtain. Add to that the threats to gas field workers in Aceh, where separatist sentiment remains dangerously high, and it seems almost a foregone conclusion that Indonesia will not be getting the energy it needs for a long time.*

Winter Blackouts Threatens Pacific Northwest

The Pacific Northwest is "likely" to experience energy shortfalls this winter "unless significant amounts of precipitation occur…over the next several months," according to a report released by the North American Electric Reliability Council. The new report paints a national picture of tight power supply with demand in New York City and parts of New England expected to push those systems to their limits this summer. Drought conditions that have prevailed in the Northwest have left some water levels as low as two-thirds of normal capacity. With extra power needed to feed California during the summer, winter supplies may well be extremely tight. *In the Northwest, it is nearly impossible to make up for lost time. Given what has happened in California, the overdependence the region has had on hydroelectricity is all too evident. Political pressure to provide power to the land of sunshine this summer will be all but irresistible, leaving the less populous but still vitally important region potentially in the lurch come winter.*

Latin America Braces Electricity Shortage

Brazil and Chile are each facing drastic electricity supply problems which threaten to stunt economic growth and which could throw both countries into recession. In Brazil, rolling blackouts are scheduled to begin on June 1 to counter the lack of supply caused by low government investment and a drought that has sapped hydroelectric capacity. Despite privatization efforts, the government still controls 80% of generation capacity. Investment banks have already begun cutting their GDP growth forecasts for 2001 by as much as 1.5 percentage points. Private companies have been holding back on investment because current tariffs make new projects unprofitable. Enron and AES are among the foreign investors that have scaled back development efforts in Brazil. Meanwhile in Chile, a drought, 7% annual demand growth since 1996, and the lack of new generating capacity since that year have combined to threaten that country's sector in 2003 unless tariffs reflect increased costs of natural gas and other fuels. *If any of these scenarios sound similar to what is taking place in California, it is because the laws of economics do not stop applying at national borders. By bringing more electric assets under state control, California is moving itself closer to, not further away from, the problems Brazil is currently facing. Officials facing re-election are wont to increase investment in power assets either through taxation or adjustifying tariff to generate the necessary revenue, which then leads to underbuilding and the very crises California and Latin America are facing.*

Distributed Generation

Delphi & TotalFinaElf to Co-develop Fuel Cell

Delphi Automotive System agreed with TotalFinaElf to collaborate on FC technology research. They expect to accelerate FC development by combining Delphi's solid oxide fuel cell technology (SOFC) with TotalFinaElf's worldwide distribution.

First Zinc-Air Fuel Cell Shipped For Testing

Metallic Power, the leading developer of Zinc-air fuel cells, shipped its first 1.5kW commercial portable units sources for evaluation by a number of companies including Briggs & Stratton. Zinc-air fuel cells do not require costly fuel reformers and high temperature environment to perform as they do not use hydrogen as their fuel source.

Renewables

Largest Wind Farm in Kansas to be Built

FPL Energy plans to construct a 110MW wind farm in Kansas, which is expected to supply more than 33,000 homes in Kansas and Missouri. The largest wind farm in the state will have 170 wind turbines and is slated for completion by the end of 2001. Utilicorp United will purchase the power generated by the wind farm under a multi-year contract.

Exelon Power Team Increases Portfolio

Exelon Power Team announced a 20-year power purchase agreement with Waymart Wind Farm. The Moosic Mountain project, consisting of 40 wind turbines with 50MW of capacity, will become the largest wind energy facility east of the Mississippi River. Power Team signed a 20-year PPA for 9MW of output with Somerset Wind Farm and 15MW of output from the Mill Run Wind Farm. The Moosic Mountain project agreement brings Power Team's wind portfolio to 74MW. The Sustainable Development Fund of Philadelphia will finance a portion of the fund. Waymart Wind Farm is affiliated with National Wind Power (NWP) of the U.K. and Orion Energy.

Regulation

Oregon Denies PacifiCorp Rate Increase

The Oregon Public Utility Commission (PUC) has deferred PacifiCorp's request for a US$17.5 million rate increase. PacifiCorp had originally requested a rate increase of 24% (US$43.5 million) to offset high power purchase costs. After the PUC's staff recommended that the request be denied, PaciCorp scaled down its request to a 12% hike (US$17.5 million). Although the company was denied its rate increase, it will continue to pursue recovery for costs and lobby for a power cost adjustment mechanism in the general rate case, in which the company is seeking a US$160 million increase. That general rate case is due to conclude in August of 2001.

Florida Power Offers Rate Cut

Florida Power has filed a proposal with Florida state regulators to lower rates by 2.3% over 3 years. This move was prompted by criticism from the Florida Public Service Commission (FPSC), which alleged that Florida Power has overcharged its customers nearly US$114 million for the year ending February 28. Despite Florida Power's actions, regulators have retained the option of ordering a full review of the company's prices, which are the highest in the state. Florida Power was motivated to apply for a rate decrease in the hopes that this action will head off a full review which would further depress the company's stock price, already hurt by uncertainty about rate cuts after Carolina Power and Light purchased Florida Progress.

Power Marketing & Trading

AES NewEnergy & CMS Marketing Sign New Deal

The General Services Administration signed a long-term contract with AES NewEnergy to provide over 50 MW of electricity to the United Nations, the Social Security Administration, the Smithsonian Institution, the Veteran's Administration, the United States Coast Guard, and Red

Cross facilities. On a similar note, CMS Marketing, Services and Trading has also signed long-term contracts with six municipal utilities in Michigan to supply wholesale electric power. The contract, which begins on January of 2002, will run for five years and is believed to be worth US$90 million.

El Paso Enters German Power Market

El Paso is planning to enter the German power market by trading at the European Energy Exchange, Leipzig Power Exchange, and Germany's over-the-counter power markets. In November of 2000, El Paso said it planned to spend US$25 million on a European trading operation in London. El Paso saw an opportunity to enter the German power market as it opened up for full competition in 1998.

Utility.com Customers Expect Refunds

It is expected that 1,000 former customers of Utlity.com will receive a total refund of US$70,000 before the company goes bankrupt. Utiltiy.com is just one more retail aggregator going bankrupt like OnlineChoice.com. Even with strong financial and physical backing from utilities, retail aggregating business face very thin margins. Without the geographic saturation required to drive large volume purchases, they are hard pressed to survive.

Dynegy Introduces New Service on DynegyDirect

Dynegy announced that it will offer a real-time gas liquids transactions portal on DynegyDirect. The portal will show real-time pricing information for propane, butane, and other natural gas liquids.

SFO Airport Spurns El Paso for Hetch Hetchy

San Francisco Airport officials chose to work with city-owned Hetch Hetchy Water and Power agency to fast-track development of a 51MW gas-fired peaker plant, spurning El Paso Merchant Energy, after the company raised the cost of the deal. Airport spokesman Ron Wilson stated "The dollar signs are flashing in their eyes, and they don't care whether you've got power or not as long as they can make their money." Meanwhile, El Paso officials said they would be willing to negotiate and expressed their keenness to settle differences. Officials said the airport now plans to begin assembling 10, 1MW plants that could be running by June 1 to help keep airport terminals cool when the summer power crunch arrives. *It appears that Mr. Wilson does not grasp the main tenets of capitalism. We would like to offer some help. California is a much riskier place to operate an energy business since the Governor has made threats to cap prices and even use eminent domain to seize private power plants. Unlike your city and state, Mr. Wilson, which can unilaterally raise taxes or assess fees to cover its mistakes, El Paso Energy's shareholders see money vanish from their wallets when decisions fail to work. That is why El Paso needs more money to do business in California. How comfortable would Mr. Wilson or Governor Davis be if the bulk of his compensation were based on objective measures of job performance?*

Transmission & Distribution

Hope for Western Power Grid Expansion

PacifiCorp is considering expanding the western power grid through Idaho, Utah and Arizona, adding a major power line that will run through areas of the west that have not had access to transmission line. The expansion of the grid will create more possibilities for utilities to purchase and sell power. The question remains as to whom will build the transmission line and pay for its associated costs. The involvement of various regulations and jurisdictions make the expansion difficult. Idaho Power refused to upgrade its transmission line because it did not see any economic benefit. Officials hope that competitive regional transmission organizations will attract investment dollars for much-needed transmission infrastructure upgrades and expansions.

Capital Markets

Tenaska Energy to Construct 885MW Plant

Tenaska Energy announced that it has secured non-recourse project financing for its 885 MW combined-cycle, natural gas-fired generating plant in Autauga County, Alabama. Construction is set to begin in June of 2001 with commercial operation starting in spring of 2003. No financial information was released.

Calpine Acquires PQ Engineering Firm

Calpine announced its purchase of WRMS Engineering, which specializes in designing and engineering facilities capable of producing uninterruptible power with high quality and reliability levels. No financial information was released.

MCN and DTE to Merge…Once Again…

MCN shareholders approved the merger with DTE Energy for the second time in the past 3 months. MCN shareholders voted for the merger for the second time after the value of DTE's offer was reduced by 16 percent after its original agreement back in February this year. The merger is tentatively set for May 31 upon the approval from the Securities and Exchange Commission. Under the revised agreement, MCN shareholders can either receive .715 share of DTE common shares or US$24 in cash for each MCN share.

AES Issues US$300 million Bond for Brazil

AES Tiete Holdings, a subsidiary of AES Corporation, closed a US$300 million 15-year bond offering at 11.50%. The company will use the proceeds to refinance its existing debt with Brazil's National Development Bank.

Kerr-McGee to Buy HS Resources

Oil and gas producer Kerr-McGee plans to acquire HS Resources for about US$1.25 billion in cash and stock deal. The acquisition will increase the Kerr-McGee's natural gas reserves by more than 75%. The announcement comes days after Williams Companies announced its cash tender offer of US$73 per share for natural gas producer Barrett Resources.

Brazil's CESP Auction Postponed

Brazil's Sao Paulo state postponed its auction of CESP over concerns that energy rationing would lower investor interest in the utility. Preferred shares of CESP have dropped to as low as R$15.6, which is their lowest price in the last 10 months. No new auction date has yet been scheduled.

Enron's Portland General Electric Up for Sale

Portland General Electric (PGE) has been getting attention from Oregon's state government as well as from ScottishPower. Enron was originally planned to sell PGE to Sierra Pacific Resources of Nevada for US$3.1 billion; however, that deal fell through as a result of laws that were passed by Nevada and California that slowed the deregulation of their wholesale power markets and of Sierra Pacific's cash crunch.

Notable Earnings

Company	Earnings Release Date	Price (5.17.01)	*Reported Quarterly EPS	I/B/E/S Consensus	Surprise	**QoQ Growth	***YoY Growth	****P/E LTM	P/E 2001
Enel SpA	5.14.01	3.17	0.44	N/A	N/A	N/A	N/A	N/A	N/A
Bangor Hydro	5.14.01	26.30	0.61	N/A	N/A	144%	15%	17.89	N/A
American Superconductor	5.15.01	21.30	(0.41)	(0.41)	0%	-105%	-41%	N/A	N/A
Spire Corperation	5.15.01	6.82	(0.09)	N/A	N/A	10%	-325%	N/A	N/A
Innogy	5.15.01	305.90	0.31	N/A	N/A	N/A	N/A	N/A	N/A

*Fully Diluted **Quarter-on-Quarter ***Year-on-Year ****Last Twelve Months P/E

American Superconductor reported a net loss of US$21.7 million or US$1.08/share for fiscal year 2001, compared with a net loss of US$17.6 million or US$1.11/share for fiscal year 2000. Revenues increased 11% from US$15.1 million in 2000 to US$16.8 million in 2001. The net loss reflects strong investment in research and development to commercialize high temperature superconductor products.

Spire Corporation reported a net loss of US$603,000 or US$0.09/share in 1Q01, versus a net profit of US$267,000 or US$0.04/share in 1Q00. Revenue declined to US$3.2 million in 1Q01 from US$4.5 million in 1Q00, due to the spin-off of Spire's former optoelectronics division and lower licensing revenues from its biomedical operations. Spire will focus on its core solar energy business for which it has secured a US$2 million revolving credit facility to fund working capital.

Bangor Hydro revised their earnings for 1Q01 to US$0.61/share from the previously reported US$0.40/share.

Enel reported net income of US$519 million or US$0.44/share for 1Q01, which dropped from US$532 million in 1Q00. Enel lost half of its industrial clients as large consumers were able to seek alternative power supplies. Price cuts by Italy's energy authorities also contributed to falling margins. Enel had net revenue of US$6.1 billion in 1Q01.

Innogy reported earnings of US$308 million or US$0.31/share for fiscal year 2001 because of growth in its retail power business. Innogy Holdings has gained 550,000 customers in the past twelve months to become the UK's largest electricity supplier.

Earnings Annoucements: May 21 - May 26, 2001

Company	Exp. Report Date	Annual Consensus EPS US$	YoY Growth
National Grid Group	5.22.01	0.37	-67%
United Utilities	5.24.01	0.75	-39%

Energy Technology Stock Price Performance

Company	Bloomberg Ticker	Last Price US$	Market Cap US$ MM	52 week High	52 week Low	% Return 5 day	% Return 1 month	% Return 1 year
Hyperutilities								
AVISTA	AVA	20.95	991.31	30.44	15.00	4.9	13.1	-13.6
DQE	DQE	21.39	1,195.42	43.44	20.50	0.6	-30.5	-46.9
DUKE ENERGY	DUK	45.33	34,991.17	47.70	28.00	-1.2	1.6	53.3
ENDESA	ELE SM	20.97	22,199.83	27.45	19.53	-1.0	-1.4	-20.7
FPL GROUP	FPL	57.30	10,076.64	73.00	45.94	-0.2	-8.9	22.6
GPU	GPU	34.86	4,165.62	37.19	26.38	0.8	12.8	28.8
IDACORP	IDA	40.07	1,499.11	51.81	32.25	0.2	-1.8	16.8
SCOTTISH POWER	SPW LN	7.18	13,266.28	8.39	6.04	4.9	10.2	-12.9
SIERRA PACIFIC RESOURCES	SRP	16.09	1,262.83	19.44	10.56	0.6	17.0	10.0
TOKYO ELECTRIC POWER	9501 JP	24.37	32,968.54	24.45	18.99	0.7	5.3	12.6
TXU	TXU	45.60	11,714.02	45.65	29.48	3.1	3.9	34.9
UTILICORP	UCU	36.75	4,139.23	36.75	19.06	5.7	6.5	89.7
Power Quality								
ACTIVE POWER	ACPW	28.75	1,136.93	79.75	12.75	11.4	33.7	N/A
ADVANCED ENERGY INDUSTRIES	AEIS	35.47	1,125.27	63.00	15.00	2.8	24.5	-31.0
ADVANCED POWER	APTI	15.99	134.99	49.63	8.44	10.5	33.3	N/A
AMERICAN POWER CONVERSION	APCC	17.59	3,430.72	48.84	9.50	6.4	24.6	-47.9
AMERICAN SUPERCONDUCTOR	AMSC	21.30	430.72	61.88	10.75	14.8	60.0	-32.2
ARTESYN TECHNOLOGIES	ATSN	15.25	582.33	47.75	8.75	3.7	27.8	-34.2
C&D TECHNOLOGIES	CHP	36.09	942.51	61.88	23.40	2.7	20.1	-0.8
CONDUCTUS	CDTS	4.80	77.34	27.75	2.94	-7.7	20.9	-58.7
EVERCEL	EVRC	4.88	50.91	22.56	3.00	-0.2	37.5	-66.9
ILLINOIS SUPERCONDUCTOR	ISCO	1.33	143.30	7.31	0.76	2.3	7.3	-77.5
INTERMAGNETICS	IMG	26.90	415.17	30.50	10.07	2.3	25.7	109.1
INTL RECTIFIER	IRF	63.35	3,965.56	67.44	27.38	15.2	50.8	42.8
IXYS	SYXI	15.80	420.64	45.38	8.19	-11.8	2.4	25.8
ON SEMICONDUCTOR	ONNN	7.05	1,222.70	24.75	3.94	4.8	70.3	-67.8
POWER-ONE	PWER	19.45	1,530.46	89.81	12.06	3.9	11.8	-35.1
SUPERCONDUCTOR TECHNOLOGIES	SCON	5.65	101.12	42.25	2.66	-5.5	31.4	-69.7
VICOR	VICR	20.05	607.38	56.63	16.20	-0.2	16.9	-24.7
Distributed Generation								
BALLARD POWER SYSTEMS	BLD CN	57.62	5,162.60	117.04	33.38	19.6	33.0	-18.4
CAPSTONE	CPST	35.15	2,682.47	98.50	16.00	13.2	7.3	N/A
DCH TECHNOLOGY	DCH	2.09	58.24	8.13	1.25	7.7	4.5	-54.8
FUELCELL ENERGY	FCEL	85.28	1,346.74	108.75	18.75	16.6	64.4	317.3
H POWER	HPOW	12.97	692.74	35.94	5.25	30.2	81.4	N/A
IMPCO	IMCO	27.42	281.83	44.88	9.75	2.9	23.2	-9.4
JOHNSON MATTHEY	JMAT LN	14.31	3,174.96	16.98	10.88	2.6	3.0	25.8
MANHATTAN SCIENTIFICS	MHTX	1.00	106.37	5.06	0.56	20.5	60.0	-69.4
MEDIS	MDTL	19.37	326.02	27.88	10.25	6.4	10.1	N/A
MILLENNIUM CELL	MCEL	11.56	314.12	27.50	5.50	6.6	59.5	N/A
PLUG POWER	PLUG	29.14	1,281.62	71.63	9.13	29.7	53.9	-44.9
PROTON ENERGY	PRTN	11.74	388.71	36.00	5.25	2.0	69.7	N/A
SATCON	SATC	12.00	166.68	41.00	8.00	8.7	16.2	-34.7
STUART ENERGY	HHO CN	5.21	105.22	18.88	3.74	17.5	34.5	N/A
TOYO RADIATOR	7236 JP	3.63	271.21	4.07	2.69	-1.1	3.5	26.4
UNITED TECHNOLOGIES	UTX	84.65	39,847.80	85.33	54.00	7.5	12.0	29.9
Renewables								
ASTROPOWER	APWR	54.93	770.78	63.92	13.13	13.7	70.4	207.3
NEG MICON	NEG DC	47.18	1,159.76	59.72	30.15	9.3	17.7	8.4
VESTAS	VWS DC	46.95	4,919.00	60.54	30.98	0.0	5.6	27.7
Energy Marketing & Trading								
ENRON	ENE	52.20	38,946.69	90.75	51.51	-9.4	-13.0	-32.6
ESPEED	ESPD	20.85	498.65	49.25	13.25	-5.9	-4.1	-50.7
OM AB	OM SS	18.86	1,584.77	48.37	13.87	1.0	25.3	-49.9
AQUILA	ILA	32.55	3,174.60	32.60	24.00	8.5	N/A	N/A
RELIANT RESOURCES	RRI	35.05	10,234.60	35.24	30.00	4.8	N/A	N/A
Energy Risk Management								
BADGER METER	BMI	28.50	91.59	33.50	23.00	-3.7	-5.8	-9.9
BAYCORP HOLDINGS	MWH	9.98	85.02	12.00	5.50	0.3	-0.2	1.1
CAMINUS	CAMZ	27.00	425.50	46.94	11.81	7.5	11.8	35.0
ITRON	ITRI	15.00	232.59	15.22	3.14	14.7	8.5	189.2
MECHANICAL TECHNOLOGY	MKTY	8.90	315.51	16.50	2.00	24.8	57.8	-16.2
IPP / Power Supply								
AES	AES	45.20	24,049.77	72.81	39.41	3.9	-9.7	10.2
CALPINE	CPN	53.03	15,837.54	58.04	23.38	1.4	-2.8	91.5
CENTRICA	CNA LN	3.41	13,671.69	3.75	2.88	0.5	-0.3	-4.1
DYNEGY	DYN	54.36	13,019.06	59.88	33.38	-0.4	-2.8	47.4
MIRANT	MIR	43.88	14,896.53	44.25	20.56	7.8	27.2	N/A
NEWPOWER	NPW	9.30	540.80	29.00	4.63	3.0	53.2	N/A
ORION POWER	ORN	30.79	2,866.42	34.00	16.31	2.8	-0.5	N/A
Energy Tech Funds								
KINETICS ENERGY FUND	ENRGX	10.58	N/A	10.52	9.61	1.7	3.7	N/A
MERRILL LYNCH NEW ENERGY TECH	MNE LN	1.18	235.47	1.60	0.85	0.3	28.5	N/A
UTILITY HOLDERS TRUST	UTH	114.70	71.06	121.56	87.19	0.4	-1.2	N/A
TURNER NEW ENERGY & POWER	TNEPX	11.71	N/A	11.24	8.83	5.8	15.7	N/A
MUNDER POWER PLUS	MPFAX	11.71	N/A	11.51	10.62	5.2	N/A	N/A

I/B/E/S Estimates
5/17/2001

Energy Technology Stock Valuations

Company	Bloomberg Ticker	Last Price US$	EPS 2000	EPS e2001	EPS e2002	P/E 2000	P/E e2001	P/E e2002	Price/ Book	Price/ Sales
Hyperutilities										
AVISTA	AVA	20.95	1.49	1.03	1.23	9.39	20.36	17.10	1.37	0.11
DQE	DQE	21.39	2.44	1.63	1.75	11.20	13.15	12.21	1.53	0.89
DUKE ENERGY	DUK	45.33	2.39	2.42	2.72	19.37	18.75	16.68	3.42	0.61
ENDESA	ELE SM	20.97	1.51	1.82	2.05	51.01	11.55	10.23	2.10	1.28
FPL GROUP	FPL	57.30	4.14	4.68	5.04	12.93	12.25	11.37	1.79	1.33
GPU	GPU	34.86	1.92	3.29	3.32	14.23	10.60	10.51	1.22	0.78
IDACORP	IDA	40.07	3.72	2.87	3.18	11.35	13.98	12.61	1.83	1.39
SCOTTISH POWER	SPW LN	7.18	0.00	0.51	0.57	29.85	14.20	12.66	1.46	1.46
SIERRA PACIFIC RESOURCES	SRP	16.09	-0.51	1.05	1.87	N/A	15.32	8.62	0.93	0.47
TOKYO ELECTRIC POWER	9501 JP	24.37	0.56	1.18	1.27	43.67	20.62	19.20	2.31	0.80
TXU	TXU	45.60	3.43	3.70	4.01	13.57	12.33	11.37	1.64	0.46
UTILICORP	UCU	36.75	2.22	2.46	2.70	15.98	14.92	13.61	2.05	0.11
Power Quality										
ACTIVE POWER	ACPW	28.75	-1.92	-0.66	0.10	N/A	N/A	281.86	7.37	230.40
ADVANCED ENERGY INDUSTRIES	AEIS	35.47	2.17	0.02	0.69	21.37	1477.92	51.11	4.68	3.13
ADVANCED POWER	APTI	15.99	0.59	0.53	0.74	26.65	30.17	21.70	2.63	2.83
AMERICAN POWER CONVERSION	APCC	17.59	0.85	0.78	0.94	18.91	22.55	18.71	3.05	2.24
AMERICAN SUPERCONDUCTOR	AMSC	21.30	-1.08	-1.70	-1.03	N/A	N/A	N/A	1.84	25.69
ARTESYN TECHNOLOGIES	ATSN	15.25	1.15	0.37	1.01	21.79	41.33	15.04	2.28	0.86
C&D TECHNOLOGIES	CHP	36.09	2.13	2.43	2.87	17.60	14.86	12.60	4.35	1.53
CONDUCTUS	CDTS	4.80	-1.75	-0.92	-0.31	N/A	N/A	N/A	4.11	26.21
EVERCEL	EVRC	4.88	-1.80	N/A	N/A	N/A	N/A	N/A	2.10	64.04
ILLINOIS SUPERCONDUCTOR	ISCO	1.33	-0.57	N/A	N/A	N/A	N/A	N/A	6.62	171.44
INTERMAGNETICS	IMG	26.90	0.49	0.65	0.73	42.04	41.26	36.85	3.78	3.25
INTL RECTIFIER	IRF	63.35	1.25	2.61	2.93	24.46	24.25	21.65	3.97	3.87
IXYS	SYXI	15.80	0.54	0.54	0.56	33.62	29.42	28.21	4.62	3.78
ON SEMICONDUCTOR	ONNN	7.05	0.39	-0.24	0.33	16.02	N/A	21.11	7.04	0.63
POWER-ONE	PWER	19.45	0.59	0.39	0.61	24.01	49.62	31.99	2.37	2.53
SUPERCONDUCTOR TECHNOLOGIES	SCON	5.65	-2.09	N/A	N/A	N/A	N/A	N/A	2.62	9.10
VICOR	VICR	20.05	0.80	0.42	0.98	29.93	48.31	20.46	3.22	3.32
Distributed Generation										
BALLARD POWER SYSTEMS	BLD CN	57.63	-0.64	-0.71	-0.65	N/A	N/A	N/A	8.17	183.63
CAPSTONE	CPST	35.15	-12.82	-0.26	0.23	N/A	N/A	154.85	9.53	94.71
DCH TECHNOLOGY	DCH	2.09	-0.32	N/A	N/A	N/A	N/A	N/A	34.60	60.54
FUELCELL ENERGY	FCEL	85.28	-0.32	-1.33	-1.48	N/A	N/A	N/A	16.78	59.99
H POWER	HPOW	12.97	N/A	-0.44	-0.56	N/A	N/A	N/A	6.63	N/A
IMPCO	IMCO	27.42	0.36	-1.18	-1.63	N/A	N/A	N/A	3.04	2.66
JOHNSON MATTHEY	JMAT LN	14.31	0.01	0.82	0.88	24.21	17.53	16.29	2.93	0.59
MANHATTAN SCIENTIFICS	MHTX	1.00	-0.06	N/A	N/A	N/A	N/A	N/A	36.50	425.47
MEDIS	MDTL	19.37	-1.79	-1.61	-1.40	N/A	N/A	N/A	3.78	N/A
MILLENNIUM CELL	MCEL	11.56	-0.69	-0.36	-0.45	N/A	N/A	N/A	11.28	N/A
PLUG POWER	PLUG	29.14	-1.99	-1.71	-1.62	N/A	N/A	N/A	9.51	198.02
PROTON ENERGY	PRTN	11.74	-5.92	-0.19	-0.29	N/A	N/A	N/A	2.18	554.77
SATCON	SATC	12.00	-1.03	-0.79	0.37	N/A	N/A	32.43	3.78	4.17
STUART ENERGY	HHO CN	5.21	N/A	-0.28	-0.34	N/A	N/A	N/A	1.02	N/A
TOYO RADIATOR	7236 JP	3.63	0.02	0.12	0.13	205.07	30.80	28.71	1.33	0.80
UNITED TECHNOLOGIES	UTX	84.65	3.78	4.08	4.68	23.00	20.74	18.10	5.15	1.50
Renewables										
ASTROPOWER	APWR	54.93	0.30	0.52	0.91	196.18	105.23	60.43	9.47	14.36
NEG MICON	NEG DC	47.18	0.24	0.86	1.53	199.90	54.58	30.90	14.16	2.27
VESTAS	VWS DC	46.95	0.64	0.62	0.90	73.07	75.28	52.20	26.02	6.45
Energy Marketing & Trading										
ENRON	ENE	52.20	1.22	1.77	2.08	33.46	29.54	25.08	3.67	0.28
ESPEED	ESPD	20.85	-1.17	-0.02	0.38	N/A	N/A	54.44	8.18	7.85
OM AB	OM SS	18.86	0.85	0.71	0.99	30.00	26.55	19.13	6.56	5.64
AQUILA	ILA									
RELIANT RESOURCES	RRI									
Energy Risk Management										
BADGER METER	BMI	28.50	2.10	2.05	2.64	17.81	13.90	10.80	2.11	0.63
BAYCORP HOLDINGS	MWH	9.98	-1.89	N/A	N/A	N/A	N/A	N/A	1.59	1.38
CAMINUS	CAMZ	27.00	-1.04	0.62	0.78	52.94	43.55	34.48	4.83	7.14
ITRON	ITRI	15.00	0.31	0.45	0.59	38.46	33.33	25.42	4.25	1.27
MECHANICAL TECHNOLOGY	MKTY	8.90	-0.53	N/A	N/A	N/A	N/A	N/A	5.29	54.85
IPP / Power Supply										
AES	AES	45.20	1.45	1.87	2.43	30.96	24.13	18.62	4.16	3.10
CALPINE	CPN	53.03	1.22	1.87	2.37	40.33	28.34	22.34	6.55	4.86
CENTRICA	CNA LN	3.41	5.80	0.15	0.19	28.67	23.22	17.79	8.01	0.96
DYNEGY	DYN	54.36	1.54	1.99	2.38	34.62	27.34	22.87	4.64	0.46
MIRANT	MIR	43.88	1.24	1.92	2.32	32.26	22.89	18.91	3.78	0.71
NEWPOWER	NPW	9.30	-5.53	-3.72	-0.74	N/A	N/A	N/A	0.89	6.42
ORION POWER	ORN	30.79	0.46	1.16	1.56	52.19	26.50	19.79	2.28	2.33
Energy Tech Funds										
KINETICS ENERGY FUND	ENRGX	10.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERRILL LYNCH NEW ENERGY TECH	MNE LN	1.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UTILITIES HOLDERS TRUST	UTH	114.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	89.37
TURNER NEW ENERGY & POWER	TNEPX	11.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MUNDER POWER PLUS	MPFAX	11.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

I/B/E/S Estimates
5/17/2001