

Thorium Power Ltd. News Update
April 30, 2008

Letter from the CEO

Dear Stockholders:

We are pleased to share this latest news update, which includes company news as well as industry-related developments.

Latest Company News

Last month, we announced the appointment of General Lord Guthrie to our International Advisory Board. A highly distinguished international dignitary, General Lord Guthrie served with distinction in the British Army for 44 years, advancing through the ranks to become the Chief of the Army Staff and then the Chief of the Defense Staff. In addition to serving as an independent member of the House of Lords in the UK parliament, General Lord Guthrie advises numerous corporations around the world. His appointment to the International Advisory Board further reinforces our commitment to augmenting our team with highly experienced and exceptional leaders.

On the media front, we were encouraged to see the latest coverage of thorium-related, legislative developments in the April 15th edition of *Energy Washington*. The article noted that Senate Majority Leader Harry Reid (D-NV) was considering adding his support to a bill that would “encourage the use of thorium fuel in nuclear power reactors as a way to promote an expansion of nuclear power while addressing nonproliferation concerns.” It went on to note that “proponents of a thorium fuel cycle [have argued that] it is a superior fuel choice to currently used uranium because it is resistant to weapons proliferation, produces far less radioactive waste, and breaks down weapons grade plutonium to produce power.” Meanwhile, in a *Washington Times* Op-Ed titled “Restoring U.S. nuclear-free leadership,” Thorium Power’s Thomas Graham Jr. and retired Ambassador Max M. Kampelman discussed the rebirth and re-embracing of the “zero option,” the goal of a world without nuclear weapons in light of the growing ranks of nuclear powers in the world.

Industry News

During the last month, we observed a number of key developments on the international stage. The EU energy commissioner, Andris Piebalgs, spoke at the European Nuclear Assembly in Brussels and reiterated the important role nuclear energy can play in cutting Europe’s greenhouse gas emissions. Piebalgs noted that additional investment is vital in replacing the region’s aging power reactors. Japan’s Atomic Energy Society called for greater use of nuclear energy ahead of the Group of Eight nations, which is scheduled for July 7-9 in Hokkaido. Separately, in a Tokyo summit between Japan and France, prime ministers Fukuda and Fillon issued a joint statement declaring that the two countries share the same vision of nuclear energy’s “paramount role for prosperity and sustainable development in the 21st century.” The UAE echoed this call by publishing a White Paper detailing its “plans to produce nuclear energy locally as an economical and ecologically friendly alternative to fossil fuels in meeting the country’s soaring energy needs.” Here in the United States, President Bush’s announcement of a new “economy-wide strategy” advocated greater use of nuclear power as part of the nation’s ongoing commitment to reducing greenhouse gas emissions.

Once again, these latest developments support our unique positioning as a source of solutions to address the major industry concerns – how to solve proliferation, reduce waste and improve profitability.

Very Truly Yours,
Seth Grae
Chief Executive Officer

Thorium Power Ltd. News

Energy Washington – Reid Eyes Backing Bill To Encourage Thorium Fuel In Nuclear Power (04.15.08) – The article reports on the latest thorium-related, legislative developments and it notes that Senate Majority Leader Harry Reid (D-NV) may add his support to the Thorium Energy Independence and Security Act of 2007. The bill is aimed at encouraging the use of thorium fuel in nuclear power reactors as a way to promote an expansion of nuclear power while addressing nonproliferation concerns. The article goes on to note the multiple benefits of the thorium fuel cycle over the uranium fuel cycle.

The Washington Times – Restoring U.S. nuclear-free leadership (04.02.08) – Thorium's Thomas Graham Jr. and retired Ambassador Max M. Kampelman discuss re-embracing of the "zero option," the goal of a world without nuclear weapons, in light of the growing ranks of nuclear powers in the world. The two former ambassadors call for leaders of US and Russia to appear before the United Nations General Assembly and propose a resolution calling for the elimination of all weapons of mass destruction.

Nuclear news

Columbus Dispatch – Energy front requires broader thinking (04.26.08) – The newspaper comments on global environmental challenges "as billions of people across an interconnected and resource-scarce world seek an affluent lifestyle once confined to Europe and the U.S.", and it calls for building more nuclear power plants, intensifying efforts at mining and burning coal more cleanly and developing more domestic oil.

World Nuclear News – US quantifies energy subsidies (04.24.08) – The news service reports on the US EIA's recently published analysis of US government energy subsidies and support for research and development in 2007 which totaled near \$16.6 billion - double the 1999 level. The article notes that while nuclear power was subsidized by \$199 million and renewables by \$724 million, the subsidies are "entirely" due to a change in tax rules, instituted with Energy Policy Act of 2005, related to handling decommissioning funds when nuclear power plants are bought and sold.

Chennai Online – US hopeful of concluding N-deal under Bush administration (04.24.08) – The newspaper reports on the recent visit by David McCormick, the Under Secretary for International Affairs in the US Treasury. McCormick reiterated the US government's steadfast support for the deal and noted that the "US-India agenda is well beyond this administration...The US civil nuclear deal hopefully will come together as our relationship has moved beyond a single event."

Gulf News – UAE will be the 40th nation to join elite nuclear club (04.22.08) – The newspaper reports on the UAE's recently announced plans to produce nuclear energy locally in order to meet its "soaring" energy needs. The plans, which were outlined in a government white paper, revealed the country's economic, infrastructure and population growth will bring a 160 per cent rise in demand for energy by 2020.

Philadelphia Inquirer – New Jersey energy plan sees renewables, nukes (04.18.08) – The paper reports on New Jersey Governor John Corzine's first draft of a new "Energy Master Plan", which states that nuclear power should be a consideration because of its ability to generate tremendous amounts of electricity at relatively low cost without releasing greenhouse gases.

Associated Press – Atomic energy group calls for greater use of nuclear power (04.17.08) – The newswire reports on a statement issued by Japan's Atomic Energy Society in anticipation of the Group of Eight nations meeting on July 7-9 in Hokkaido. The statement, which calls for a need to promote the use of nuclear energy to meet growing global demand for energy from low-carbon sources, addresses the society's finding that global energy demand is expected to grow 50 percent by 2030 if current energy policies are maintained.

World Nuclear News – Nuclear to help US (04.17.08) – The news source reports on US President George Bush’s announcement of a new “economy-wide strategy” that includes the promotion of more emission-free nuclear power, and addresses regulatory and political barriers facing new technologies including new generation nuclear plants. The strategy is part of the new national goal to reduce greenhouse gas emissions by 2025 and builds on President Bush’s 2002 commitment to reduce the country’s greenhouse gas intensity by 18% by 2012.

World Nuclear News – Nuclear energy vital in climate fight, says EU commissioner (04.16.08) – Speaking at the European Nuclear Assembly in Brussels on April 15, EU energy commissioner Andris Piebalgs highlighted the key role nuclear energy can play in cutting Europe’s greenhouse gas emissions. Piebalgs noted that investment is vital in replacing the region’s aging power reactors.

World Nuclear News – Japan and France discuss nuclear’s future role (04.11.08) – The news source reports on a meeting earlier this month in Tokyo between prime ministers Francois Fillon of France and Yasuo Fukuda. The meeting yielded a joint statement, which noted that the two countries share the same vision of nuclear energy’s “paramount role for prosperity and sustainable development in the 21st century.”

Sydney Morning Herald – Australia could lead safe path to nuclear (04.10.08) – The newspaper reports on research by the Singapore-based Lowy Institute which found that nuclear output across South East Asia is set to double by 2017. The report calls for a Federal Government push for stronger international safeguards.

World Nuclear News – Nuclear could surge on carbon tax (04.09.08) – Reporting on research by the Joint Global Change Research Institute (JGCRI), laboratory fellow Sonny Kim states that a certain stabilization of carbon dioxide concentrations by 2100 could lead to a nuclear power industry boasting 6000 reactors. The Joint Global Change Research Institute, established by the Pacific Northwest National Laboratory and the University of Maryland, has been studying the interlinked mechanisms of climate change with the help of the Kansai Electric Power Company, Rio Tinto, the Electric Power Research Institute and the US Department of Energy, among others.

**Reid Eyes Backing Bill To Encourage Thorium Fuel In Nuclear Power
Energy Washington
April 15, 2008**

Senate Majority Leader Harry Reid (D-NV) may add his support to a bill that would encourage the use of thorium fuel in nuclear power reactors as a way to promote an expansion of nuclear power while addressing nonproliferation concerns. Proponents of a thorium fuel cycle argue it is a superior fuel choice to currently used uranium because it is resistant to weapons proliferation, produces far less radioactive waste, and breaks down weapons grade plutonium to produce power. Thorium fuel advocates are also highlighting these attributes to the environmental community, in hopes of getting support from organizations that have been wary of expanded nuclear power.

A spokesperson for Reid said the senator has communicated with Sen. Orrin Hatch (R-UT), who reportedly has drafted potential legislation. Although final decisions have not been made on the content of a Reid-Hatch bill, Sen. Hatch has a specific proposal in mind which may provide the basis for a plan that Reid would support.

"Reid, at Sen. Hatch's urging, is generally considering supporting legislation to promote the use of thorium instead of uranium," the spokesperson said. "No decisions have been reached on possible introduction, content or timing."

Congressional sources say that a thorium fuel cycle is particularly appealing to Reid because the reduced radioactive waste could ease pressure to open the Yucca mountain repository, which is located in Reid's home state of Nevada. Reid has long fought efforts to develop the storage site.

Sen. Hatch has drafted legislation that would direct the NRC to craft regulations for a thorium fueled nuclear reactor. Separate offices would be created at both the NRC and the DOE to regulate the thorium facilities. The offices would also develop recommendations on how the Secretary of Energy could encourage domestic and foreign power providers to use thorium in reactors, thereby taking the place of uranium fueled reactors which produce plutonium that can be used for nuclear weapons.

In addition, the draft bill calls on the Department of Energy's Idaho National Laboratory to carry out various projects that would demonstrate thorium fueled nuclear power generation.

A source in Hatch's office says the bill does not necessarily create incentives for the use of thorium, but rather opens the door for the fuel if commercial forces want to deploy it. "It could be the future for nuclear power," the source said. A thorium fueled reactor has four advantages over a reactor operating with uranium. It requires plutonium to trigger the initial reactions and thereby acts as a non-proliferation agent. Unlike uranium reactors, thorium fueled reactors don't produce plutonium that can be used in weapons. The draft bill notes that thorium resources are also more available than uranium. Finally, a thorium fueled reactor produces about one third the waste produced from a similar uranium fueled reactor, easing storage and disposal concerns.

An industry source who supports the Hatch proposal said he requested that Reid delay introduction of any bill in order to buy time to court the environmental community, which tends to oppose federal subsidies for nuclear power. The source hopes the benefits of thorium will bring environmentalists on board.

A source with the Natural Resources Defense Council said that a thorium cycle is preferable to a uranium cycle for the non-proliferation and waste reasons, but was not aware of any pending legislation.

The industry source views the Hatch proposal as one that would ensure that the NRC is adequately staffed and has the ability to license a reactor fueled with thorium. The CANDU reactor, which is used in Canada and abroad typically uses uranium but can switch to thorium fuel without major changes to the reactor. However, reactors in the United States would need to be modified to use thorium. The source believes that were thorium to be used in the U.S., existing reactors would be modified before dedicated thorium reactors would ever be built.

Restoring U.S. nuclear-free leadership
By Thomas Graham Jr. and Max M. Kampelman
The Washington Times
April 2, 2008

After a long dry spell, the seeds planted by Ronald Reagan and Mikhail Gorbachev in Geneva in 1985 and Reykjavik in 1986, appear to be bearing fruit. Their declaration in Geneva that "a nuclear war cannot be won and must never be fought," set the stage for the historic Reykjavik meeting at which the two leaders came tantalizingly close to finally abolishing their nations' nuclear arsenals.

Ultimately, they set in motion a series of negotiations in which both of us participated and which led within three years to treaties that abolished intermediate range nuclear weapons and reduced strategic offensive weapons by 50 percent.

Yet, despite this promising beginning, the threat of nuclear war has metastasized. Today, India, Pakistan, Israel and North Korea have entered the ranks of nuclear powers, and Iran may yet join them. Mohamed ElBaradei, the director general of the International Atomic Energy Agency (IAEA), predicts that unless present trends are reversed, there will be more than 25 nuclear weapons states in a few years, many of them unstable and prone to takeover by extremists. The likelihood of the use of nuclear weapons would then be greater than at any time during the Cold War.

Recognition that the nuclear problem is still with us and in new and unsettling forms, has led a number of the most senior statesmen of the nuclear age to take a fresh look at the current situation - and openly embrace the "zero option," the goal of a world without nuclear weapons. This reappraisal has been going on for some time.

In 1995, The Stimson Center here in Washington convened a panel of experts under the chairmanship of former NATO Supreme Commander Gen. Andrew Goodpaster, President Eisenhower's White House aide, to reassess the role of nuclear weapons in U.S. national security. Some leading postwar era defense strategists and practitioners, including Paul Nitze and Robert McNamara, participated.

They concluded that "U.S. national security would be best served by a policy of phased reductions in all states' nuclear forces and gradual movement toward the objective of eliminating all weapons of mass destruction from all countries."

A year later, in December 1996, Gen. Goodpaster and Gen. George Lee Butler, former commander-in-chief of the Strategic Air Command, issued a joint statement in which they noted that "As senior military officers, we have given close attention over many years to the role of nuclear weapons as well as the risks they involve."

They urged "exploring the feasibility of their ultimate complete elimination." Yet, despite growing support among experts and the public, the movement lost steam after Congress refused in 1999 to ratify the Comprehensive Test Ban Treaty.

But in recent months, the movement has regained its vigor. This came to public notice in January 2007 and again last January, in a remarkable statement signed by Henry Kissinger, George Shultz, Sam Nunn, William Perry and an impressive number of other public figures and experts in which they noted that "it is far from certain that we can successfully replicate the old Soviet-American mutually assured destruction with an increasing number of potential nuclear enemies worldwide without dramatically increasing the risk that nuclear weapons will be used." They called for specific measures to move towards the zero option. Since then, others have endorsed their viewpoint, including former Secretaries of State Madeleine Albright, James Baker, Warren Christopher, Lawrence Eagleburger and Colin Powell, among 17 former Cabinet members, retired generals, scholars and politicians. California Gov. Arnold Schwarzenegger wrote, "Let me know how I can use my power and influence as governor to further your vision."

U.S. leadership is essential to achieving this goal. We cannot control what others may do with their own weapons, current or potential, but our urging can have a tremendous impact on their

policies. We know that the nonproliferation regime is growing and sincerely trying to meet our moral as well as treaty obligation to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control." This language is drawn from Article VI of the Nuclear Non-Proliferation Treaty, which we, along with 188 other states, have ratified.

The road from the world of today, with thousands of nuclear weapons in national arsenals to a world free of this threat, will not be an easy one to take, but it is clear U.S. leadership is essential to the journey and there is growing worldwide support for that civilized call for zero. The British foreign minister has publicly declared the government's commitment to that goal and the Norwegian government recently sponsored an international conference at which George Shultz opened the session by using the theme of nuclear weapons as the goal of the event.

The president of the United States, together, if possible, with the Russian president, should personally appear before the United Nations General Assembly and propose a resolution calling for the elimination of all weapons of mass destruction. We should plainly state our willingness to destroy all of our own nuclear weapons once we are absolutely assured the other current and potential nuclear powers share this vision and will implement the practical and concurrent steps necessary to achieving it.

The resolution should direct the U.N. Security Council to develop effective political and technical procedures to achieve this goal, including stringent intrusive inspections and severe, mandatory penalties of political, economic and cultural isolation to prevent cheating.

Ronald Reagan, consistent with early commitment by Presidents Eisenhower and Kennedy, understood that progress on nonproliferation of nuclear weapons is linked by treaty and politics to the belief by non-nuclear states that those possessing such weapons would renounce and destroy them. He also understood that possession of nuclear weapons presents only the illusion of security. In the dangerous and unpredictable worlds in which we live, this is an illusion we cannot afford.

Those in our country who seek the most powerful office in the world, president of the United States, should also reflect and lead a national consensus of conscience and reason and proclaim that nuclear weapons have no place in a civilized world.

Thomas Graham Jr., a retired ambassador, is chairman of the Bipartisan Security Group and chairman of Thorium Power Ltd. and was a senior U.S. diplomat involved in the negotiation of every major international arms control and nonproliferation agreement for the last 30 years. Retired Ambassador Max M. Kampelman is former head of the U.S. delegation to the Conference on Security and Cooperation in Europe from 1980-1983, head of the U.S. Delegation to the negotiations with the Soviet Union on nuclear and space arms from 1985-1989 and counselor to the State Department in 1987-1989.

Energy front requires broader thinking

By Victor Davis Hanson

The Columbus Dispatch

April 26, 2008

Tuesday was Earth Day, and it reminded us how environmentalism has helped to preserve the nation's natural habitat by reducing the man-made pollution of our soils, air and water that is a byproduct of comfortable, modern industrial life.

But now we are in a phase of global environmental challenges, as billions of people across an interconnected and resource-scarce world seek an affluent lifestyle once confined to Europe and the U.S.

No longer are the old questions of pollution vs. conservation so simply framed. Instead, the choices facing us, at least for the next few decades, are not between bad and good, but between bad and far worse, and involve wider questions of global security, fairness and growing scarcity.

One example of where these concerns meet is the debate over transportation. Until electric batteries or hydrogen fuel cells can power cars economically and safely, we will be reliant on gasoline and similar combustible fuels. But none of our current ways in which we address the problem of transportation fuel is without some sort of danger.

We can, for example, keep importing a growing share of our petroleum needs. That will ensure the global oil supply remains tight and expensive. Less-developed, authoritarian countries, including Russia, Sudan and Venezuela, will welcome the financial windfall, and keep polluting their tundra, coasts, deserts and lakes to pump as much oil as they can.

Rising world oil prices ensure that Russia's Vladimir Putin, or his handpicked successor, can continue to bully Europe; that Venezuela's Hugo Chavez can intimidate his neighbors; that Iran's Mahmoud Ahmadinejad can promise Israel's destruction; and that al-Qaida and its affiliates can be funded by sympathetic Middle East sheiks. Such regional strongmen and terrorists cease being mere thugs and evolve into strategic threats once they have billions of petrodollars.

The U.S., in taking advantage of a cheap dollar, may set records in exporting goods and services this year. But we will end up with massive trade deficits, given that we are importing every day more than 12 million barrels of oil, now well over \$100 each on the world market. It takes a lot of American wheat, machinery and computer software to pay a nearly half-trillion-dollar annual tab for imported oil.

An alternative is to concentrate more on biofuels. Currently, American farmers are planting the largest acreage of corn in more than 60 years. But the result is that fuel now competes with food production -- and not just here, as Europe and South America likewise turn to ethanols.

One result is higher corn prices, which means climbing food bills for cattle, pigs and poultry, and thus skyrocketing meat, pork, chicken and turkey prices. Plus, with more acreage devoted to corn, there is less for other crops, such as cotton, wheat, rice and soy -- and the prices of those commodities are soaring, as well.

Americans' increasing use of homegrown ethanol seems to be raising the price of food for the world's poor, just as our importation of oil enriches the world's already wealthy and dangerous.

What, then, is the least pernicious alternative and the most environmentally, financially and ethically sound?

Unfortunately, for a while longer it is not just to trust in promising new technologies such as wind and solar power; for decades to come, these will provide only a fraction of our energy needs.

Instead, aside from greater conservation, we must develop more traditional energy resources at home. That would mean building more nuclear-power plants, intensifying efforts at mining, burning coal more cleanly and developing more domestic oil, while retooling our vehicles to be even lighter and more fuel-efficient.

Nuclear power poses risks of proper disposal of radioactive wastes. Coal heats up the atmosphere. But both can also reduce our need to import fossil fuels to run our generators, while offering electrical energy to charge efficient and clean cars of the not-too-distant future.

No one wants a nuclear plant in his county. But, then, no one wants to leave the country bankrupt paying for imported fuel or vulnerable by empowering hostile foreign oil producers or insensitive to the price of food for the poor.

It is also time to re-evaluate domestic oil production in environmental and moral terms. The question is no longer simply whether we want to drill in the Alaskan wilderness or off the Florida or California coasts. Rather, the dilemma is whether by doing so, we can mitigate the world's ecological risks beyond our shores, deny dictators financial clout, get America out of debt and help the poor afford food.

We may not like oil platforms off the beach or megatankers in Arctic waters, but the alternatives for now are far worse in environmental and ethical terms.

Victor Davis Hanson is a senior fellow at the Hoover Institution on War, Revolution and Peace at Stanford University.

US quantifies energy subsidies
World Nuclear News
April 24, 2008

The US Energy Information Administration (EIA) has published an analysis of US government energy subsidies and support for research and development (R&D) in 2007. They total some \$16.6 billion - double the 1999 level.

Of this, \$6.75 billion is related to electricity production, and \$6.0 billion is split between research and development and subsidies. Apart from transmission and distribution, which took \$875 million, the balance is \$1.55 billion for R&D in anticipation of future benefits, and \$3.55 billion for subsidies for present production.

The \$3.55 billion for subsidies is by way of tax credits, with the lion's share going to coal-based synthetic fuel, which achieves some emission reduction.

Nuclear power was subsidised by \$199 million and renewables by \$724 million. This equates to 0.025 cents in subsidy per kWh of nuclear power, and 0.71 cents per kWh for renewables. The renewables subsidy is mainly for wind, at 2.3 cents per kWh.

However, nuclear power's subsidy is entirely due to a change in tax rules related to handling decommissioning funds when nuclear power plants are bought and sold. The changes were made in the Energy Policy Act of 2005.

The \$1.55 billion R&D comprises \$922 million for nuclear, \$522 million for coal and \$108 million for renewables - which currently supply 19.4%, 49% and 2.5% (apart from hydro) of US power respectively.

Nuclear R&D comprises \$319 million for new nuclear plant design and proliferation-resistant fuel cycle, \$350 million for clean-up of nuclear energy and research sites and \$253 million for facilities at the Idaho National Laboratory and their management. Two thirds of coal R&D was for 'clean coal' programs.

US hopeful of concluding N-deal under Bush administration
Chennai Online
April 24, 2008

New Delhi, Apr 24 – As uncertainty looms large over the fate of the civil nuclear deal, the US today said its relations with India would "not rise or fall" on a single issue even as it remained hopeful of wrapping up the agreement under the Bush Administration.

"The US-India agenda is well beyond this administration ...The US civil nuclear deal hopefully will come together as our relationship has moved beyond a single event", said Under Secretary for International Affairs in the US Treasury Department David McCormick while delivering a talk on "The State of the Global Markets" here.

Expressing the hope that the civil nuclear deal could go through during the tenure of President George Bush and Prime Minister Manmohan Singh, he said, "it is critical that the relationship does not rise and fall on a single event." The Presidential election process is underway in the US and will be completed by the year-end.

Implementation of the nuclear deal has run into rough weather because of stiff opposition by the Left parties, which extend crucial outside support to the UPA government.

Operationalisation of the deal is three crucial steps away -- firming up of India-IAEA safeguards agreement, waiver by 45-nation Nuclear Suppliers Group to India for trade with international community and a final vote by the US Congress.

McCormick said there was support for the civil nuclear deal in the US and "we want to move forward." Referring to environmental issues, he said the US was ready to adopt post-Kyoto binding commitments on green house gas emissions, but emerging economies would also have to do their bit to fight the menace of global climate change.

"We have to find a model" to meet the global environmental challenge, he added.

UAE will be the 40th nation to join elite nuclear club

By Abbas Al Lawati

Gulf News

April 22, 2008

Dubai: The UAE is on its way to becoming the 40th country to join the club of states using nuclear energy to meet its energy demands.

The government recently announced its plans to produce nuclear energy locally as an economical and ecologically friendly alternative to fossil fuels in meeting the country's soaring energy needs.

It was revealed in a white paper issued by the government on Sunday that the country's economic, infrastructure and population growth will bring with it a 160 per cent rise in demand for energy by 2020.

The UAE has so far signed agreements of cooperation in the field of peaceful nuclear energy with France and the United States, two of the top nuclear energy producers.

Under the agreement with France, the two countries will set up a high-level joint committee to supervise cooperation in the areas of nuclear power generation. Further details of the two agreements have so far not been revealed.

The UAE is also undertaking high-level consultations with the Germany, Russia, China, the United Kingdom, Japan and South Korea, with regard to drafting a UAE policy document on the evaluation and possible implementation of a peaceful nuclear programme.

Similar direct consultations are also being sought with the International Atomic Energy Agency (IAEA).

There are currently 30 states that have operational nuclear reactors, and another 10 - now including the UAE, which have proposed, planned are in the process of constructing nuclear reactors. The UAE is the second Arab country and fourth Middle Eastern country to embark on such an initiative.

There are 439 nuclear reactors in the world producing 16 per cent of the world's electricity, almost half of which are in the United States and European Union.

The US has the largest number of reactors in the world, at 104, and France follows with 59 reactors that supply 78 per cent of the country's electricity needs, according to the World Nuclear Association.

France's nuclear energy programme is one that is often cited as the most efficient.

Besides accommodating a majority of the country's electricity needs, the country's reactors produce enough energy to make France the largest net exporter of electricity due to its relatively low cost of production, bringing in approximately 3 billion euros (Dh17.5 billion) in exports annually.

The situation is often attributed to a dramatic change in French energy policy after the oil shock of 1973, when the government decided to reduce reliance on fossil fuels.

The first nuclear reactor was set up in the United States in 1951 and a fully operational one started in 1960.

N-plans: Egypt first Arab nation

The United States has the largest number of nuclear reactors. 104 reactors produce 99,209 MW of energy there.

France follows with 59 reactors that produce 63,363 MW of energy, meeting 78 per cent of the country's energy demand.

Egypt was the first Arab country to announce intentions to develop nuclear energy. In the region, Israel and Iran both have nuclear plants under construction.

The Gulf Cooperation Council, of which the UAE is a member, has also announced plans to establish a joint programme.

Numbers: Nuclear reactors

439 nuclear power reactors in the world

10 countries including the UAE are planning, proposing or in the process of constructing nuclear reactors.

8 of those countries are known to have nuclear weapons capability

370,000 MWe total capacity of the world's nuclear reactors

78% of France's electricity needs are met by its nuclear reactors

New Jersey energy plan sees renewables, nukes

By Tony Gnoffo

Philadelphia Inquirer

April 18, 2008

By 2020, solar panels could be commonplace in New Jersey, wind turbines should be spinning offshore, and new nuclear cooling towers might rise in Salem County.

That is the vision contained in the first draft of a state Energy Master Plan offered yesterday by Gov. Corzine.

New Jersey also should be using about 20 percent less electricity by then, even though demand is currently growing more than 1.5 percent per year, the plan concludes.

The plan was warmly embraced by industrial interests and criticized by environmentalists, who said it relied too heavily on traditional power plants.

Public Service Enterprise Group Inc., owner of the state's largest utility, also expressed support. "We think that the governor has his priorities straight and has covered the waterfront well," said Ed Selover, the company's executive vice president and general counsel.

Although it calls electric rates too high, the plan does not specifically propose direct steps to reduce them. But it expresses hope that more competition and less consumption will hold overall spending on electricity in check.

In a letter accompanying the plan, Corzine said that "a 'business as usual' energy policy risks enormous economic and environmental consequences."

Besides reducing overall consumption 20 percent, the plan calls for getting 22.5 percent of the state's energy from renewable sources such as solar and wind power, which do not emit greenhouse gases. The state now gets about 1.6 percent of its energy from such sources.

The plan also acknowledges that the state will continue to rely on electricity from traditional power plants. To that end, it calls for the construction of new nuclear and gas-fired generating stations. It dismisses coal-fired plants as offering "little promise of lower prices."

Though not a binding document, the plan offers varying agendas for legislation and regulation in support of its goals, Corzine spokeswoman Lilo Stainton said. It will be the subject of public hearings starting April 28.

The report says nuclear power - all but dismissed before the surge in oil prices and global-warming fears - should be considered because of its ability to generate tremendous amounts of electricity at relatively low cost without releasing greenhouse gases.

Although nuclear-power plants release no greenhouse gases, they do create large amounts of solid radioactive waste, which must be sealed and stored for thousands of years.

Even before the plan was released, PSEG had reported to shareholders that it was investigating the feasibility of adding a fourth reactor to its Salem and Hope Creek nuclear-generating stations in Salem County.

"One of the most important things in this plan is the recognition that even if all the efficiency, conservation and renewable-energy programs are a success, there will still be a . . . shortfall in the amount of energy necessary," said Steven Goldenberg, a Fox Rothschild L.L.P. lawyer who represents the New Jersey Large Energy Users Coalition. That group includes 25 of the state's biggest energy consumers.

Hal Bozarth, executive director of the Chemical Industry Council of New Jersey, called the plan a "bold vision."

"The chemical and pharmaceutical industries are very energy-intensive," Bozarth said. "They've done as much as they can to shave their demand; they've picked all the low-hanging fruit."

Bozarth and other industrialists said they hoped the final version of the plan would include a strong state power authority to facilitate and encourage the construction of new power-generating plants by companies that would compete with PSEG. Such competition, they hope, will lead to lower electricity rates in New Jersey, where industrial rates are much higher than the national average.

The draft released yesterday mentioned such an authority, but it was not specific about the power it would wield.

Environmental groups complained that the plan should have relied more on reducing consumption and using renewable-energy sources.

"New Jersey is at a historic crossroads," Dave Pringle, of the New Jersey Environmental Federation, said in a written statement issued by a coalition of environmental groups. "Governor Corzine is missing the opportunity to truly go green, drive the 21st-century economy, and rid ourselves of the 19th- and 20th-century technologies that saddle the state with so many environmental, public health and security problems."

Corzine's plan represents "a total failure of leadership," said Matt Elliott, clean-energy and global-warming advocate for Environment New Jersey.

"His plans to reduce energy demand and promote clean alternatives fall short of our state's potential, and he has failed to minimize our reliance on dirty and dangerous power plants."

Atomic energy group calls for greater use of nuclear power
Associated Press
April 17, 2008

TOKYO, April 17 (Kyodo) - The Atomic Energy Society of Japan issued a statement Thursday that stresses the need to promote the use of nuclear energy as a way to meet growing global demand for energy from low-carbon sources.

The group issued the statement before the leaders of the Group of Eight nations gather on July 7-9 at the Lake Toya resort area in Hokkaido, where they will discuss how to curb global warming as one of the main agenda items.

Nuclear energy is one form of low-carbon energy and the process of converting uranium into energy results in almost no greenhouse gas emissions, said the society of academic and technical professionals in the field of nuclear energy.

Uranium fuel, moreover, is recyclable and can be used effectively for thousands of years, the society said.

"Accordingly, nuclear energy should be widely and duly recognized for its effectiveness in international schemes for the prevention of global warming," while the question of safety, including the management of radioactive materials, should be thoroughly addressed, the statement said.

According to the society, global energy demand is expected to grow 50 percent by 2030 if current energy policies are maintained.

Nuclear to help US
World Nuclear News
April 17, 2008

President George Bush says he has put the USA on a path to slow, stop and eventually reverse the growth of its greenhouse gas emissions by 2025- and promoting the use of nuclear energy will help achieve that goal.

In an announcement made in the Rose Garden of the White House, Bush said the new national goal to stop the growth of greenhouse gas emissions by 2025 was building on his 2002 commitment to reduce the country's greenhouse gas intensity by 18% by 2012. The work done towards reaching that commitment would provide the foundations for a new "economy-wide strategy" that would encourage the development and deployment of new clean and efficient technologies through a blend of market incentives and emission reduction regulations.

The power generation sector now faces a particularly steep challenge: the President's goals call for it to slow its greenhouse gas emissions even faster than it is currently doing, so that they peak in the next 10-15 years and are "well below" the targets announced in the 2002 strategy.

Nuclear the right way

"There is a right way and a wrong way to approach reducing greenhouse gas emissions," Mr Bush noted in his speech – and to abandon nuclear power would be the wrong way. "The right way is to promote more emission-free nuclear power," he said, and called for regulatory and political barriers facing new technologies including new generation nuclear plants to be addressed. He pointed to the billions of dollars that the country has already invested in next generation nuclear technologies.

Abandoning coal and nuclear would jeopardise US energy and economic security, he said, and the nation must also encourage investments to develop emissions-free coal-fired generation. The existing "complicated mix" of incentives to develop and commercialise new lower-emission technologies should be consolidated into a single, expanded incentive program which would make lower emission power sources less expensive relative to higher emissions sources, while remaining technology-neutral. Bush said "the government should not be picking winners and losers in this emerging market."

Kyoto "flawed"

Reiterating comments made in January's State of the Union address, the President called for all nations to work together to combat climate change. The USA would be willing to include its national plan in a binding international agreement, he said, as long as other major economies would be prepared to do the same with their plans. Many developed countries have in fact already made specific commitments to reduce their emissions to below 1990 levels by the period 2008-2012 under the 1997 Kyoto Protocol, but Bush described this approach as "flawed", as it allows developing nations to continue increasing their emissions.

Nuclear energy vital in climate fight, says EU commissioner
World Nuclear News
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EU energy commissioner Andris Piebalgs has highlighted the role of nuclear energy in cutting Europe's greenhouse gas emissions, but said that investment is vital in replacing the region's aging power reactors.

Speaking at the European Nuclear Assembly in Brussels on 15 April, Piebalgs said: "I believe that nuclear energy is part of the new energy mix of the European Union and will remain so. It will definitely help to address the three goals that we are always talking about: not only sustainability, not only less CO₂, but it will also help with the security of supply."

He added, "Nuclear energy makes an important contribution to our fight against climate change and our security of energy supply, but we need to strengthen the cooperation between EU member states on the issues related to safety and security of nuclear installations and the treatment of nuclear waste." His words echoed previous calls for closer harmony on regulation between member states.

Piebalgs said that news that Russia's oil supply may have peaked is a reminder of how precarious Europe's energy security is. He said, "We have to recognize that a change has come with high and persistently high oil prices. Today's supply-demand balance is leading to higher prices." He noted nuclear energy's advantages as a "stable and reliable" source of energy, "relatively free" of price fluctuations.

He said that Europe needs "substantial investments" in order to replace its aging nuclear power plants, many of which will reach the end of their operating lives by 2030. Fresh investments are also vital to maintaining the safety and security of nuclear plants, which in turn is crucial to securing public and political acceptance for the industry's long-term future, Piebalgs stressed. He added, "In order to make the necessary investments possible, the commission is examining ways to address the difficulties related to licensing, financing and different nuclear liability regimes."

Piebalgs highlighted the need to address nuclear safety concerns, nuclear waste management and transparency, which are all important elements for public acceptance of nuclear energy. He outlined recent commission initiatives, such as the High Level Group on Nuclear Safety and Waste Management, the European Nuclear Energy Forum and the Sustainable Nuclear Energy Technology Platform (SNE-TP).

Japan and France discuss nuclear's future role
World Nuclear News
April 11, 2008

Japan and France share the same vision of nuclear energy's "paramount role for prosperity and sustainable development in the 21st century," according to a joint statement made by their respective prime ministers.

Prime ministers Francois Fillon of France and Yasuo Fukuda of Japan met in Tokyo, where they also discussed issues including climate change and development in Africa to be raised at the next meeting of the Group of Eight industrialized nations (the G8), scheduled for Japan in July.

Fukuda said that Japan and France would be strengthening their cooperation on nuclear energy. The joint statement said that nuclear energy was becoming increasingly important for strengthening international energy security and as means of tackling global warming. The leaders also stressed the importance of nuclear non-proliferation, safety and security.

Fillon said the upcoming G8 summit will give an opportunity to show that industrialized countries can continue to grow while reducing carbon dioxide emissions.

As part of his visit, Fillon will visit the Rokkasho nuclear fuel cycle site in northern Japan, where Japan Nuclear Fuel Ltd is nearing completion of a used nuclear fuel reprocessing plant based on Areva's UP3 technology also employed at La Hague. The facility should be complete in May this year.

Australia could lead safe path to nuclear
B Jonathan Pearlman
Sydney Morning Herald
April 10, 2008

NUCLEAR power generation is set to expand dramatically across the region in a development that raises safety and security concerns for Australia and should be dealt with by a Federal Government push for stronger international safeguards, a Lowy Institute paper says.

The paper, by Singapore-based analyst Andrew Symon, says nuclear output across South-East Asia is set to double in the next eight years and will rise further as countries such as Indonesia and Vietnam begin operating their first plants by 2017 and 2020.

It says "the worst case scenario" of a commercial nuclear accident in the region could cause radioactive fallout in Australia and would require the Government to take a significant role in providing emergency assistance - as it did after the 2004 tsunami and the 2006 Central Java earthquake.

"Nuclear energy development in South-East Asia will touch directly on Australian interests," the paper says.

"Australia has commercial and economic interests as a major world supplier of uranium oxide, the basis for nuclear fuel. However, Australia's interests extend well beyond this to environmental, safety and weapons proliferation, and security matters."

The paper says Australia, which supplies about a fifth of the uranium oxide market, could guarantee fuel supplies in return for assurances that countries will not acquire sensitive technologies - a move that would limit the chances of enriched uranium being acquired by terrorists.

It says a range of federal ministers - not just the energy minister - should raise concerns about nuclear power and ensure plants are built within containment structures that would limit the reach of any radioactive fallout.

"The critical questions for Australian policy are whether South-East Asian countries will want to have their own enrichment and reprocessing capabilities," it says. "Longer term, if South-East Asian nuclear power develops on a much larger scale, as it arguably could, then governments may want to have this capability ... both to achieve economies of scale and reduce mistrust or misunderstanding about weapons ambitions.

"A key concern for Australian policy then is whether to accept a united ASEAN enrichment and/or reprocessing capability, or whether to encourage South-East Asian governments instead to embrace arrangements where the sensitive aspects of the fuel cycle were restricted to a minimum number of sites in the world.

"This could be promoted as a cheaper and safer approach."

Mr Symon, a director of the energy consulting firm Menas Associates, said in the paper that Australia should promote a regional forum - possibly building on the East Asia Summit - to share plans and co-ordinate the future growth of nuclear energy.

Louise Frechette, a former United Nations deputy secretary-general and expert on nuclear security, said yesterday that the region was on the verge of a "nuclear renaissance" and Australia should use its clout as a major supplier of uranium to push for mandatory inspections of plants.

"There is a general movement towards nuclear energy, in South-East Asia and other regions, that poses real challenges when it comes to global governance," she told the Herald.

"There is really no means of verifying whether or not international safety guidelines are being followed. There is no inspection system, other than on a voluntary basis."

Ms Frechette said Australia had strict guidelines for the use of its exported uranium and could credibly encourage its neighbours to agree to international supervision of its nuclear processes.

Nuclear could surge on carbon tax
World Nuclear News
April 9, 2008

Stabilising carbon dioxide concentrations at 550 parts per million (ppm) by 2100 could lead to a nuclear power industry boasting 6000 reactors, according to Sonny Kim of the Joint Global Change Research Institute.

Kim is a laboratory fellow at the Joint Global Change Research Institute, set up by the Pacific Northwest National Laboratory and the University of Maryland. The body has been studying the interlinked mechanisms of climate change with the help of the Kansai Electric Power Company, Rio Tinto, the Electric Power Research Institute and the US Department of Energy, among others. Kim explained the research to delegates at the World Nuclear Fuel Cycle 2008 meeting in Miami, USA.

JGCRI research indicates that with no global carbon control policy, emissions would triple by 2100. This would be driven in part by a five-fold increase in electricity generation over the same period. Under this reference scenario nuclear power would grow from 439 reactors and 16% of global electricity now, to about 2400 reactors and 20% of electricity.

Should the world act as one to impose a tax on carbon dioxide emissions with the aim of stabilising concentrations of CO₂ at 450 ppm, that tax might have to increase as high as \$800 per tonne of carbon (about \$220 per tonne of CO₂). Stabilising at 550 ppm could cost \$110 per tonne of CO₂ by comparison, and that choice would affect the scale of the future nuclear power industry. The other main factor would be the availability or not of carbon capture and storage to enable the continued use of fossil fuels.

Stabilising at 550 ppm with CCS available would see the nuclear power industry expand to 4000 GWe to provide 33% of electricity. Without CCS the figures could be 6000 GWe and 50% of electricity. The value of these scenarios to nuclear was put at \$0.9 trillion and \$1.3 trillion respectively.

An extreme scenario of forcing a stabilisation at 450ppm without the availability of CCS could see a nuclear industry worth a whopping \$10 trillion.

The ultimate goal of JGCRI's climate change research is to create an energy-agriculture-economy model containing the full linkages between all processes affecting climate change, including feedback.