



New Energy News

Monthly Newsletter of the Institute for New Energy

VOLUME 1, NUMBER 4

AUGUST 1993

A NEW WORLD OF DISCOVERY

Editorial by Hal Fox

On June 24, 1993 the members of the U.S. House of Representatives voted 280 to 150 against a proposed expenditure of \$620 million to fund the Superconducting Super Collider (SSC). In a similar manner, Congress has strongly decreased the expenditures for a Space Station to be built and placed into orbit by NASA. In addition, the huge expenditures proposed for the continuation of research and development of hot fusion is coming under increased scrutiny by Congress.

In a recent letter to Don Kelly, Vice-President Al Gore cites the policy of the Clinton administration to redirect some of the projects in the **726 government research laboratories** toward research and development that has commercial potential (instead of mainly military potential).

It is a fact that few major breakthroughs come from large government or corporate laboratories. It seems that the institutionalizing of research fails to promote innovation. While there is considerable progress made in the development or improvement of existing products, there are seldom new breakthroughs nor new science developed from large institutions. The aircraft was built and flown by a couple of men from a bicycle shop. The personal computer was started in a garage. The first experimental work on cold fusion began in a garage.

In contrast, when new science is discovered, it is more often discouraged, criticized, or attacked by the professional scientists who should be expected to welcome new science and new discoveries. Confident in their own learning, some scientists are overly quick to deny new discoveries. Cold fusion has just suffered from four years of such treatment. Nevertheless, cold fusion is now approaching commercialization. Dr. Stanley Pons recently announced that they are working on a commercial demonstration prototype reactor which is expected to produce about 10 kilowatts of energy.

In addition to cold fusion, new energy discoveries are being developed and commercialized (see RQM page 7). These new discoveries will lead to a much better understanding of matter, energy, and perhaps, the control of gravity. Less than \$50 million has been spent on cold fusion in the United States. However, the new insights that have been made into the understanding of nuclear reactions in or on the surfaces of metal lattices will change the world. Meanwhile, about \$1.5 billion has been spent on a superconducting super collider in the possible search for a better understanding of matter. A small fraction of this amount, spent on researching some of the new science discovered in cold fusion experiments, would have a much greater payoff in scientific development than the \$11 billion scheduled to be spent on the SSC which is not scheduled for completion until 2002.

Consider what great developments could be made if we would reduce the number of government research laboratories to less than 100 and use the enormous savings to provide tax benefits to individuals and small companies that would increase their research and development activities.

Fusion Briefings

"IT AIN'T OVER YET"

Jerry E. Bishop (Science Writer for *WSJ* & free lance), "It ain't over till it's over...COLD FUSION," *Popular Science*, August 1993, pp 47-51 & 82, illustrated.

EDITOR'S SUMMARY

The lead-in, "The controversial dream of cheap, abundant energy from room-temperature fusion refuses to die" sets the tone of the article. Then Bishop reviews the history of cold fusion, the hostile scientific establishment, and what happened to Pons and Fleischmann, as well as the scientific assertions being made by the cold fusion researchers now. He also quotes some of the scientists who are vehemently against cold fusion, in contrast.

Bishop provides a quick review of the progress of hot fusion and end with the quote that controlled thermonuclear fusion is just 25 years away and has been for 40 years.

Bishop cites the research efforts in which some of the nuclear byproducts have been measured and states that **the other side** does not accept such claims. Bishop reviews the work of Yamaguchi (NTT, Japan) and of Randell Mills (Lancaster, PA), Bush (Cal Poly, Pomona), and at India's Bhabha Atomic Research Centre, all of whom have had dramatic successes in producing excess power from electrochemical cells using light water. With all of this, he also quotes Prof. Richard Petrasso (MIT), "I just haven't bought into the excess heat claims yet. ... I guess I'll believe it when someone drives a car up here from New Jersey powered by cold fusion."

We have no money, therefore we must think.

Sir Ernest Rutherford

LONDON SUNDAY TIMES ARTICLE

Neville Hodgkinson, "Nuclear Confusion," *Sunday Times*, London, 27 June 1993, sec. 9.

EDITOR'S SUMMARY

This article follows the cold fusion furor from the English point of view. Particularly focused on Martin Fleischmann, Hodgkinson quotes him from the Technova research facility in France, "We are developing a new research organization. Its objective is to look at the science and engineering of the next century. The pattern of research funding by existing organizations makes them look for 'safe' research."

The *Sunday Times* says that the cold fusion story raises some major questions about the scientific establishment's openness to new ideas, and industry's willingness to fund new research. Dr. Yamaguchi of NTT in Japan sees this negative reaction as an "easy way out" to avoid the confusion of so few successes opposed to many failures, that typified the early cold fusion research. Dr. Fleischmann agrees, but seems less than optimistic about the "scientific establishment's" ability to change their outlook, although he has seen more openness in the individual scientists he has contacted recently.

NATIONAL PUBLIC RADIO INTERVIEW

NPR 'Science Friday' cold fusion radio debate, broadcast June 25, 1993, moderated by NPR's Ira Flatow.

This one-hour program was a discussion on electrolytic deuterium-palladium cold fusion, between Drs. M. McKubre of SRI International, J. Huizenga of Rochester University, P. Hagelstein of MIT and M. Miles of the Naval Air Warfare Center. There was also comment from science historian Dr. B. Lowenstein of Cornell University.

Dr. McKubre described his findings of excess heat energy, but stressed the difficulty of the experiment. Dr. Huizenga stated that it could not be a nuclear process without commensurate radiation.

Dr. Hagelstein, who is working on the theory behind the excess energy, explained that if the reports are correct, the energy is so great as to require a nuclear

explanation, possibly a quite different and previously unknown type. Huizenga claimed the absence of gamma radiation conclusively disproved a nuclear reaction.

Dr. Miles reported his findings of Helium-4 in heavy water experiments giving excess heat. Huizenga insisted such reports were contrary to known fusion mechanisms and must be dismissed as being due to contamination, and that heat with no gammas violated the law of conservation of energy. (Our correspondent reporting this interview said that would be the same as saying that the absence of flames proves that animals do not oxidize carbohydrates.)

All of the cold fusion researchers partially accepted the accusation that nobody has provided full details of a procedure which guaranteed replication of the heat effect. However, they emphasized that the growth in understanding over the last four years has made replication much easier, even if it still required careful diligence for good results.

Even the moderator became impatient with Huizenga's constant attack of any new findings which appear to conflict with current theory.

GARY TAUBES PUBLISHES!

The Short Life and Coming Hard Times of Bad Publishing

A Critical Book Review by Dr. Eugene F. Mallove
(Summarized for *New Energy News*)

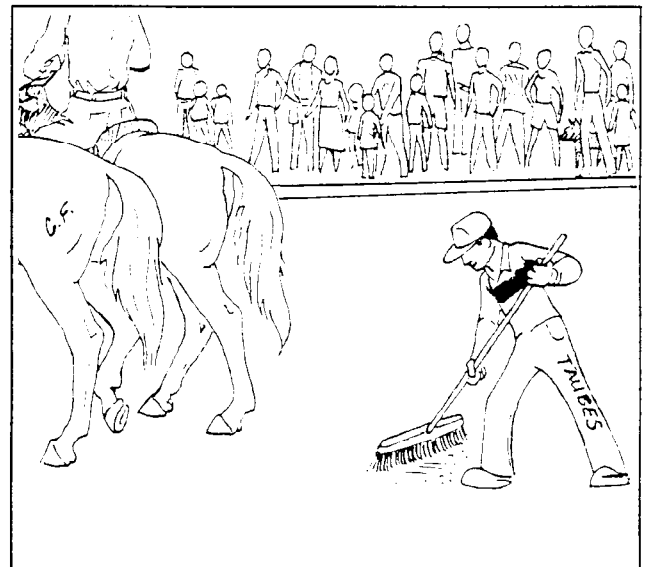
A critical review of Bad Science: The Short Life and Weird Times of Cold Fusion by Gary Taubes, Random House, June 1993, 461 pages, \$25.00

Remarkably, author Gary Taubes contends that cold fusion research is a widespread scientific fraud perpetrated by thousands of scientists, most of whom are obsessed with a quest for wealth and fame from a non-existing phenomenon. Because of his stubborn belief in this alleged **fraud**, Taubes dismisses the continuing scientific efforts of thousands of cold fusion research scientists and engineers in over a **dozen countries** [over 30 by recent *NEN* count] and at scores of institutions -- including the U.S. Electric Power Research Institute (EPRI), the Japanese Ministry of International Trade and Industry (MITI), and numerous corporations.

The Bad Science promotion says, "no one was able to duplicate the findings" of Pons and Fleischmann, and that is exactly what Taubes says in his book. Mr. Taubes, a science journalist who claims, at least superficially, to be very thorough (he said he interviewed 260 people through November 1992), apparently forgot to check the scores of technical papers on cold fusion that have been published since September, 1989 in *Fusion Technology*, a journal of the American Nuclear Society. He also forgot to examine many other fine technical journals, including *Physics Letters A*, the *Japanese Journal of Applied Physics*, half-a-dozen conference Proceedings, etc., etc.

The message of Bad Science is as simple as it is pernicious: nuclear reactions at low energy (temperature) are impossible, therefore, all the experimental results from cold fusion experiments are either: The result of experimental incompetence or fraud.

Research and Roadapples



How you enjoy the parade depends on your view.
(or your selection of evidence)

Mr. Taubes tells the cold fusion saga in chronological order, but he mysteriously manages to arrive at page 400, still not out of cold fusion's first year! From page 400 to 423 he covers another year to March 1991. By page 427 Taubes is in June 1992, and then he devotes only one more page in the "Epilogue" to everything thereafter. This is a measure of how Taubes views cold fusion -- he

thinks it lost all credibility in 1989, but it continues to live on in some weird self-perpetuating, near-death state.

U.S. CONGRESSIONAL HEARING FUSION ENERGY HEARING, MAY 5, 1993

From article by Eugene Mallove

To summarize the significance of the May 5, 1993, Fusion Energy Hearing:

1. The hearing was the first time since the late April 1989 House Science, Space and Technology Committee hearing that cold fusion had received an extensive public review before Congress.
2. We now have **at least** three Congressmen who are solidly open-minded about cold fusion, as demonstrated by the May 5 lines of questioning: Congressmen Swett of New Hampshire, Walker of Pennsylvania, and Falwell of Illinois.
3. The top aides of the HSST Committee appeared to be very interested in doing what they could in the future to help investigate cold fusion.
4. The hot fusion people were not very well received. This was the same old stale stuff: promises, promises, promises, with not much new concrete concepts to report.
5. The HF people acted as though CF did not exist. They made no acknowledgement of it as an issue, nor were they asked about cold fusion.
6. There may be extremely promising fallout from these hearings, there may even be a shot at getting come cold fusion funding approved for FY '94. I think there will be a symbiotic effect between (A) the accepting atmosphere in Congress, (B) new experiments and scientific papers being and soon to be reported -- particularly all the light-water work, and (C) increased media attention. The whole situation is unstable.

GALA EVENT FOR COLD FUSION

June 24th, New York

At a presentation called the "The Manhattan Project, Part II: Peace" conference on June 24, 1993, attendees left with new knowledge, ideas, and

enthusiasm for the future of this remarkable science and technology.

In an evening that included knowledgeable speakers and the new CBC presentation "The Secret Life of Cold Fusion, people were urged to support cold fusion research at universities and research laboratories.

An overseas call from scientist and author Arthur C. Clarke was a highlight of the event. Some of the text of Mr. Clarke's prepared remarks over Videophone from Sri Lanka follows:

"Three months ago, here in Colombo, I addressed the Pacific Area Senior Officers Logistics Seminar. I feel that today I can't do better than to summarize the points I made to them, in my talk, "The Coming Age of Hydrogen Power."

• • •

"What's really going on, in this 'cold fusion' business? Well, I've evolved several theories...

"1. It's a mass delusion, like that which prompted dozens of French scientists at the beginning of the century to publish papers on the imaginary N-rays.

"2. It's a superbly organized conspiracy, out to make a killing in oil and coal shares, and probably financed by the Mafia. More seriously

"3. The phenomenon is real, but it's a laboratory curiosity, of great theoretical interest but no practical importance. Frankly, I doubt this. Anything which so challenges accepted wisdom indicates a breakthrough of some kind.

"4. CF can be scaled up to moderate levels -- say 100 kilowatts. Even that could be revolutionary, if cheap and safe units can be manufactured.

"Above all, it would be the end of the gas-fueled car -- none too soon.... Automobiles could, quite literally, run on water!

"5. The most optimistic scenario of all. There are no upper limits: in that case, the Age of Fossil Fuels has indeed ended. So has the Age of CO₂ buildup, acid rain, and air pollution.

"However, coal and oil will always be essential raw materials for an unlimited range of products:

chemicals, plastics, synthetic foods. Oil is much too valuable to burn: we should eat it.

"The term 'cold fusion,' even if correct, is rather misleading. Last year three Russian scientists reported in *Physics Letters* that they were getting power generated in plasmas at 1800 degrees....ice-cold, of course, compared with the tens of millions the hot fusioners require.

"I'd like to read from a letter which I sent to Vice-President Gore on March 18:

It would mean essentially the end of the 'Fossil Fuel Age,' and an era of cheap, clean power. The environmental benefits would be overwhelming; at the very least, concern with CO₂ build-up and acid rain would vanish.

Clearly, no effort should be spared to resolve this matter speedily, by supporting scientists who are obtaining results (and, perhaps, discouraging those who have been obstructing them.)

"I regret to say that I have not so far received even an acknowledgement from the Vice President's office.

"One final thought: All though the ages, with monotonous regularity, religious crackpots have predicted the imminent end of the world. I am now predicting, at about the 90% confidence level, the end of the world as we know it.

"Thank you, and goodbye from Sri Lanka."

Arthur C. Clarke

NEGATIVE ON COLD FUSION

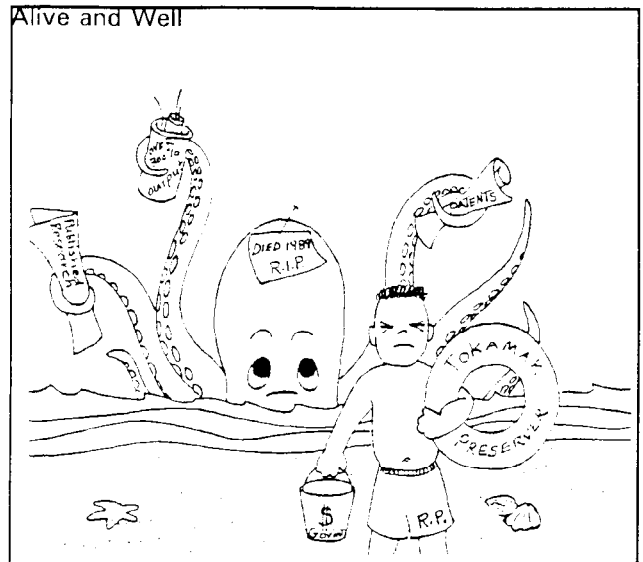
Ivan Amato, "Pons and Fleischmann Redux?," *Science*, vol 260, no 5110, 14 May 1993, p 895.

EDITOR'S SUMMARY

This is an essentially negative article which only just manages not to say Pons and Fleischmann are complete frauds, again.

Cold fusion is made to look like an experiment whose usefulness is negligible, at best, although possibly of novelty interest (if you don't have anything worthwhile to do). One skeptic, Dr. Richard

Petrasso, a physicist at MIT, when asked about the paper, stated, "I'm neither interested enough, nor do I have the time, to look at it."



Petrasso quote: "I'm neither interested enough, nor do I have the time, to look at it."

Hydrogen Energy

TOMORROW HYDROGEN

By Dr. V. Tica

The public is largely unaware of the very real dangers presented by the discharge of huge amounts of black particles into the upper atmosphere. Thousands of high altitude commercial, military and private planes fly daily at 40,000 feet or more and emit these black particles, of which 60% to 80% rise close to the ozone layer.

Although not dangerous to humans, these particles create a black belt which stays in orbit and blocks the solar rays, creating a greenhouse effect, contributing to the lowering of river levels and the spread of deserts. For some time now I have been warning that we are in danger of creating a nuclear winter without having a nuclear war.

Since it is not likely that we will cease to fly at high altitudes or that the automobile will become a thing of the past, it is necessary to change our energy patterns and choose a more benign fuel.

If we take the damaging of our environment seriously, and make the change to hydrogen as our major fuel, there needs to be no more huge oil tanker spills, because there will be no more huge oil tankers; there need be no worrisome radioactive wastes from active nuclear power plants and no new plants will be built to present future hazards when their life is over and they must be abandoned.

Since hydrogen production requires considerable energy, the writer suggests the use of wind and solar energy, particularly wind energy, to make hydrogen production inexpensive and practical.

Tica, utilizing this extremely informative report by Dr. James T. Yen, inverted the wind input through conical cylinders and eliminated all large moving parts that had handicapped the production and cost, on a large scale, of Dr. James T. Yen's wind generator system. The performance of the wind generator proved to be the same.

Vortex Wind Power System is capable of generating four times more energy than any conventional wind generator in the world today. This capability has been proved and tested through extensive research and now TIC WIND AMPLIFYING SYSTEM (TWAS) is one of the best developed wind machines in the world.

Rotating Space-Energy Machines

TECHNICAL BRIEF

By Alan Ames

The Alcon Magnetic Levitation Device

Overview

The Alcon Magnetic Levitation Device (AMLD) is a mechanical system which levitates and suspends a magnetic embodiment at room temperature while providing FULL LATERAL STABILITY. The magnetic embodiment, which is levitated above the conducting material, acts as a sensor and will keep itself centered over the material and resist any forces that

would act to remove it from its position. Hence, for the first time, it is now possible to construct a means to create stable levitation and stationary suspension of a magnetic body strictly through mechanical means. Up unto the present there have been only two other means in which a magnetic body can be suspended in a stationary position, namely: (a) through the use of solid state electronic controllers and sensors or (b) through the use of superconducting materials. The AMLD has four major advantages over these two other forms of magnetic suspension. First, it is simpler to construct. Second, it is more cost effective. Third, it virtually has no limit as to how much weight it can suspend as far as its scale in size. Fourth, it provides for full lateral stability.

Applications

There are a vast array of applications of this technology, including but not limited to: (1) transportation systems, (2) wind tunnel systems, (3) sensing devices, (4) navigational assemblies, (5) computer hard disk drives, (6) nano engines, (7) elevators, and (8) virtually any activity which requires the movement of heavy objects from one location to another.

Current Status

A working prototype of the AMLD has been constructed which fully demonstrates the properties of a mechanical magnetic levitation system operating at room temperature without the use of superconductivity.

Acquisition

Advanced Scientific Applications (ASA) holds the exclusive marketing and licensing rights to the AMLD. The General Partners of ASA are available to discuss these matters further. For further information please contact:

Alan or Brian Ames
Advanced Scientific Applications
1880 South Dairy Ashford
Building II, Suite 510
Houston, Texas 77077
(713) 597-1111

ALCON LEVITATION MACHINE

By Harold Aspden

This note refers to the electrical machine described under the title 'Alcon's Levitation of Magnets' on page 11 of the July 1993 issue of *New Energy News*. This showed a photograph of a permanent

magnet held suspended in a very stable mode above two counter-rotating aluminum rotors. The phenomena appears to defy the laws of physics, but the principles can nevertheless be understood from the following argument.

The aluminum rotors develop strong magnetic fields owing to their rotation in the flux return path of the field set up by the suspended magnet. The reason is that the return flux field set up through the rotors by the suspended magnet induces a radial EMF in the discs. This is concentrated near the disc rim sections closest to the suspended magnet. It results in two counter-rotating streams of eddy-current in each disc, which are equivalent to two oppositely directed powerful solenoidal current systems.

The result is that if the suspended magnet is seen in side perspective as a N-S orientation, there are in each rotor two mirror magnets which are, respectively N-S and S-N, the lower one, that is the one nearest to being directly underneath the suspended magnet, being in the N-S configuration.

Now, in effect, the lower magnet tries to push the suspended magnet upwards owing to the magnetic pole repulsion, whereas the higher magnet asserts an attraction that is of similar strength but is, however, in a sideways direction. The double rotor action leads to offset and cancellation of the two sideways effects but the lift effect is an additive action.

Now, of itself, this explanation does not suffice to give full account of the stability of the action as demonstrated, but there is an important feature to keep in mind here. The two mirror solenoid 'magnets' develop pole effects, owing to their magnetic moments attributable to the eddy currents in the rotor, but there is a substantial air gap effect in the flux closure path outside the rotor but associated with the closed flux route through the two solenoids. This means that there is very substantial inductance associated with the eddy current action. Normally, in power transformer design one can ignore the self-inductance effects of the eddy-current, because the primary and secondary windings are closely coupled. However, in this two-rotor experiment, that self inductance means that it takes time, as the rotor metal moves past the suspended magnet, for the eddy-currents to build up and decay. This means that the solenoidal eddy-currents that contribute to the lateral force effects have moved further away from the permanent magnet when they come up to full strength, whereas

the solenoidal currents giving the lift have moved to a more central position in the action zone.

One shudders at the prospect of trying to formulate this mathematically, but it seems fair to say that the added power input needed if one pushes the levitated permanent magnet down closer to the rotors is a clear sign that very substantial eddy-current effects and losses are involved. One cannot, therefore, expect this machine to be an actor on the 'free energy' stage. However, one might see a resemblance to the latest 'free energy' proposal to enter the European scene, the power generator being marketed by Raum-Quantum-Motoren AG.

RQM - THE FUTURE ENERGY SOLUTION

Courtesy of Harold Aspden

Readers of NEN may be interested in a marketing brochure and company share-issue prospectus that is now circulating in Europe. It appears that what is offered is a revolutionary solid-state "free energy" solution, which will "replace all known energy solutions."

The power generating systems on offer are designed in two types, the RGM25 and RGM200. The product specification indicates 20-30 Kw and 190-210 Kw of electrical load rating and 1-3 Kw and 10-20 Kw of accompanying heating for the respective machine types.

The sales literature indicates full physical dimensions of the units (70x49x50) and (150x140x80) as cm dimensions for height, width and length. That suggests that this is not an underdeveloped product! Also, the machines are available on rental, which shows real confidence in the product and in the financial backing! They are on sale with a 5 year warranty priced at 18,000-20,000 Swiss Francs for the smaller machine and 300,000 to 400,000 Swiss Francs for the larger machine.

The invention is attributed to Olive Crane, an Swiss atomic physicist and the scientific and technical descriptions of operation are available in a two volume work under the titles "Zentraler Oscillator und Raum-Quanten-Medium" and "Zentraler Oscillator und Raum-Quanten-Technologie."

The systems generate d.c. output at low voltage high current and this needs to be inverted to produce

a.c. Performance ratings are quoted for the non-inverted output.

Space-Energy Miscellaneous

BRIEFING PAPER ON ELECTRON CLUSTER TECHNOLOGY

By Kenneth Shoulders

Executive Summary

A technical discovery has been made that is used to cluster electrons against the normally repulsive Coulomb force between like charges. The basic process is very simple and produces electronic effects having extraordinary performance, due to the intense electric field surrounding the clusters.

There are two main branches to the commercialization of the process. The first branch bears on energy production and uses the extremely high energy of the cluster to produce nuclear transitions in a process thought to be the root of what is commonly called Cold Fusion. The process is also used to dissociate material to basic atomic form with an unusually high energy yield. This process provides the basis for a new form of energy-producing cycle invoking Vacuum Energy. In a variation on the use of this new transition, direct electrical energy conversion has been achieved from what is presumed to be the vacuum or the ether. This latter effect is covered in U.S. patents number 5,018,180 and 5,123,039.

The second branch of electron cluster technology impacts the electronics art that produces devices like computers, flat screen displays and wide band communication techniques. Commercialization of this second branch requires the development of a plastic-pressing, manufacturing technology, resembling that used in compact disc or laser disc recordings. Given this, an entirely new electronic manufacturing methodology will arise having far greater operating speed and economy of manufacture than any other method presently known or envisaged. Work in this area, done by Shoulders between the years 1980 to 1985, is described in

U.S. patent number 5,054,046, no. 5,054,047, no. 5,123,039, and no. 5,148,461.

Since his discovery of the basic effect of the electron clustering in 1980, Ken Shoulders has been working on methods for using the phenomena to perform electronic functions that greatly surpass those presently available or those projected for many years to come. This new technology is not simply an incremental development that would find a niche, but rather a fundamental enabling technology providing the basis for a whole new generation of electronic devices of exceptional high performance coupled with potentially low cost.

Conventional Electronic Devices

To place the new electron cluster technology in perspective, a quick scan of the development of electronics over the past century is in order. Tracing this development, we find that each major breakthrough has resulted in a host of new devices and applications that have greatly transformed our way of life. The development of the ability to control electron current in wires, for example, gave us electric lights, motors, generators, switches and simple circuits. Work in electron discharge in gases led to the first spark-gap transmitters as communication devices. Efforts leading to precise control of electron currents in vacuum blossomed into a vigorous vacuum-tube technology that provided much-needed amplification, the basis of all modern electronic design. The development of semiconductor technology led to transistors, integrated circuits and microchips, the basis of the modern-day microelectronics industry. The present intensified effort to bring the field of superconductivity to maturity promises even more new applications for the future.

Now yet another similar advance in electron-device technology has been made, the electron cluster technology pioneered by Ken Shoulders. As with other developments before, it promises even further advancement of the electronics art. The definition of electron cluster technology, and the potential it holds for myriad applications, is best understood by contrast with the technologies with which we are already familiar.

All electronic devices are based on the transport and control of electronic charge. Such devices are limited by the amount and the speed of transfer of that charge. These factors in turn are limited by a basic law called space-charge repulsion (the fact that

like-charged particles repel each other), which limits the density of charge that can be brought together to produce a desired effect. Efforts to address the space-charge limitations are many and varied. In high-power electron-beam devices, for example, large magnetic fields are often required to keep a beam of electrons focused against the in-built tendency to disperse because of the large space-charge-repulsion forces involved. Unfortunately, a high price is paid in terms of materials and weight to generate these focusing fields. In lower-power circuit and chip technology, space-charge-repulsion effects are minimized by transferring charge through materials such as wires and semiconductors. Here the mutual repulsion effects of the negatively charged electrons are to a large degree compensated for by the presence of the positively charged nuclei of the host material (the metal or semiconductor).

In contrast to the above, electron cluster technology is based on the development of heretofore unknown techniques that overcome space-charge-repulsion. Application of these techniques results in the compression of charge to the density of a solid. Devices built with electron cluster technology are based not on the movement of individual electrons, but on the super-conductive-like flow of electron "beads" of enormous charge density. In applications where an increase in charge density by several orders of magnitude would result in a corresponding increase in performance, this technology provides a critical advantage. Furthermore, the simplicity of the approach is such that it does not require the use of magnetic fields, low temperatures, relativistic velocities or charge neutralization by ions to achieve the charge condensation, but rather is based on the excitation of fundamental self-containment mechanisms.

Due to the simplicity of the charge-condensation technique, and the extremely high charge density that results, a broad range of devices arising from this new technology promise to be significantly faster, more efficient, smaller and more economical than any existing or foreseen systems. These would include very high speed electronic instrumentation, super-speed computers, high-brightness and high resolution flat-panel displays, and super-high frequency broad-band communication systems with phased array steering, to name a few.

Energy Related Devices

Energy related devices fall into two categories. Category one invokes direct electrical energy

conversion from the vacuum. Some of these methods are discussed in the aforementioned patent.

Category two uses thermal processes to secure the desired result. The reason for degrading an initially high state of energy to thermal level is to produce a simpler device. As primitive as they seem, these new methods will have a profound effect on energy generation for the future. In addition to direct electrical output methods for extracting energy, there have been numerous methods found by Shoulders to convert what is thought to be *cold fusion* or *vacuum energy* to thermal processes. This conversion is brought about by dissociation effects in gas or liquids, for use in a Carnot cycle machine.

In these processes, the measurements are senior to any theory available. In fact, theory is lagging so far behind practical measurements that believability in the future of the field is reduced for those accustomed to having complete theories. At such a time, rapid advances are made by experimenters only under extremely sheltered conditions.

As remarkable as it may seem, science-fiction effects are becoming real. The main burden now to be carried by all workers, in either the cold fusion or vacuum energy fields, is to get the effects to the market in the least capital-intense fashion.

APPLICATIONS

Conventional Electronic Systems

Our existing electronic systems can be reduced to a minimum number of functions, largely springing from digital design, and they are: Data Processing, Display and Wide Band Communication. In reality, the display is just a window into the data processor. By the same analogy, the wide band communication capability is just an extension method for the data processor to communicate with either its various parts or the parts of more distant systems.

All of the functions shown above can be carried out with a minimum of device types and nearly all of these devices stem from a deflection switch, developed in electron cluster technology, that switches charge from one path to another. The deflection switch has been shown to reach unity gain at visible light frequencies, giving a basic quality factor of over 100,000 times that of conventional semiconductor devices. This superlative advantage is passed onto memory and logic devices designed with the basic deflection switch layout. This high

performance is achieved with the lowest possible fabrication technology of plastic embossing, as is done with CD records and laser discs.

There is no more difficult problem in electron cluster technology than to carry out low signal-level amplification in the presence of the more energetic processes normally carried on in data processing. At this point the main difficulty in design of electron cluster systems is to adequately separate signal levels. Shielding deserves new and special attention.

With this limitation in mind, there is no area of application denied to electron cluster technology. Experimental observations have shown the following effects attributed to electron cluster action:

- Low energy X-ray production having over unity energy gain upon sudden shattering of an electron cluster.
- Gamma ray production in tight forward beams when disheveling a particular type of electron cluster.
- Thermal energy gain of over 1,000 when boring through solid aluminum oxide; coupled with acceleration of ionized dissociation products to a high velocity.
- Various nuclear energy level products measured from interaction of electron clusters with material.

When these effects are considered collectively, it is easily seen that something unusual happens when an electron cluster encounters material. The output energies range from the infrared through gamma emissions, depending on how the interaction is made to occur.

NEW YORK - MASS-LUMINOSITY RELATION

Paul A. LaViolette (Starburst Foundation, Schenectady, New York), "The Planetary-stellar Mass-luminosity Relation: Possible Evidence of Energy Nonconservation?" *Physics Essays*, vol. 5, no. 4, 1992, pp 536-544, 38 refs, 3 figs, 3 tables.

AUTHOR'S ABSTRACT

The mass-luminosity coordinates for the Jovian planets are found to lie along the lower main sequence stellar mass-luminosity relation, suggesting

that both planets and red dwarf stars are powered by a similar non-nuclear source of energy. These findings support a prediction of subquantum kinetics that celestial bodies produce "genic" energy due to non-Doppler blueshifting of their photons at a rate that depends on the value of their ambient gravity potential. Genic energy also accounts for 40% of the Moon's thermal flux, all the Earth's core heat flux, and over half of the Sun's luminosity, thereby resolving the mystery of the Sun's low neutrino flux. The upward bend in the mass-luminosity relation and inflection in the luminosity function at $0.45 M_{\odot}$ are attributed to the onset of nuclear burning, fusion reactions igniting at a greater stellar mass that had been previously supposed.

Miscellaneous

EMERGING ENERGY SCIENCE DATABASE +

The National Research Council of Canada demanded: *Examine and describe the theory, rationale, research, experiments and devices -- whether theoretical or actual -- of what might become future energy science and technology.*

More than 300 researchers in the **Planetary Association for Clean Energy's** international collaborative network responded to the task. The exercise has grown into an electronic database. Included are verified items from English, German, Russian, Italian, Spanish and Japanese sources -- all classified for easy sifting of useful information. Information is edited from an independent and advanced scientific perspective. In updates, besides references, important rare documents will be included to access to contemporary developments in energy sciences. Database includes an extensive search and retrieval system, and will be updated with references and texts.

For information contact the Planetary Association for Clean Energy at (613) 236-6265 or Fax (613) 235-5876.

ORLOWSKI SPEAKS OF ACHIEVING LEVITATION

By Samuel P. Faile

Gerald Orłowski says that with a frequency generator he has access to, levitation may be achieved using a special winding. Today I received a spool with two types of wire. A fairly thin cotton coated copper wire was sent and also a thicker copper coated steel wire with plastic coating that is a component of a coaxial cable that has wire mesh around this and another layer of insulation. The model involved a segment of the coaxial cable with the outer insulation and wire mesh removed. Around this segment was wrapped a Caduceus coil of the cotton insulated copper wire. This involves a winding of finer wire in a Caduceus pattern around the thicker wire that serves as a ferrite core. The thick wire with the caduceus coil around it is then wrapped as a coil around a graphite core. This could be the sort of arrangement that produced the beam effect Gerald reported.

Enclosed with the shipment was an excerpt from a book, with the heading 'Figure 26 The Caduceus Coil' and with the bottom caption which could be the title of a chapter or book: "The Awesome Life Force." The illustration shows a caduceus coil wrapped around a ferrite core. The excerpt claims that cancellation of the magnetic fields can cause electrons to lose their inertial properties resulting in a laser-like pulsed longitudinal beam.

In June Sam Faile wrote: I received a call from the free energy/cold fusion inventor Gerald Orłowski. "He said that a partner who is a radio repairman, had built a coil that produced effects where people appeared to be tracked by interference effects on a TV antenna. This reminded me of my 'extra tier coil.' He said that a person could feel the beam that operated between the coil and the TV antenna. He said that graphite is a good material to use as a form for wrapping the coil and should produce much more powerful effects than the cardboard of mailing tubes."

Logic has very little to do with discovery and invention.

J.H. Poincaré

LETTERS

Letter from Shiuji Inomata

Thanks for your letter which shows interest in our forthcoming IECEC preprint, which I enclosed. I also enclose a photo. I also appreciate your summary of our research in an issue of your newsletter (June 93, page 4). In table 4 in our preprint, we didn't mention the efficiency of the DC drive motor which is 60%-80%. Taking this efficiency into consideration, all data show the incremental over-unity phenomena, suggesting that N-machine output is not from the drive motor, but from the vacuum.

We also regard anomalous change in copper-carbon brush resistance very important. According to our new-science paradigm (complex thermodynamics), this phenomena is supposed to happen when negative shadow energy comes in from the vacuum. At the success of the experiments, we are thinking about designing a practical N machine (self-sustaining) using 4-5 Tesla super-conducting magnets, which are commercially available in Japan.

With very best regards,

Shiuji Inomata
Sr. Scientist, Electrotechnical Laboratory
Japan Psychotronics Institute

EXCERPT FROM A LETTER FROM ARTHUR C. CLARKE

written to Mr. Tom Dalyell, Minister of Parliament,
House of Commons, London.

...I enclose a copy of an address I gave to the Pacific Area Staff Officers recently (including the C-in-C, U.S. Pacific Fleet, and for the first time, Russian officers!) I have since given a similar address by videophone to a New York symposium (see page 5), and to one arranged here by *The Economist*.

This whole affair [cold fusion] is becoming a major scientific scandal, which may have done irreparable damage to the U.S. and U.K. economies. Fortunately, Congress is now getting its act together

(see attached) I hope it is not too late for the U.K. to do the same.

Although it is still possible that this phenomenon (whatever it is) cannot be scaled up for commercial use, at least three groups, including most importantly the Toyota one, believe they will have demonstration units in the 10-20 Kw range by the end of the year. Even this could be revolutionary, as it would mean the end of the electric grid and the petrol-powered automobile. ...

Arthur C. Clarke

LETTER FROM IAN HACON

In a letter to Sam Faile, Ian Hacon states:

..."I was talking to one of my reps about things and he said he knew a chap who could run a diesel on water. He used a flash boiler to generate dry steam and also passed it through a high voltage field. Got about 98 mpg. He sold the rights to someone who sold them to an oil company and there it rests until today. However, he only sold part of the rights for a specific application. Maybe diesel, maybe petrol engines? I am certainly following this one up, ASAP.

"As an experiment to prove a point, he fitted a heater in the fuel tank or somewhere, to heat the diesel fuel. On a normal run that takes a tank of fuel, he reduced consumption dramatically and only used ¼ of a tank. Simply by preheating....

Yours sincerely,

Ian C. Hacon
P.O. Box 2020, Bendigo Mail Centre 3554
Australia
Phone (054) 41 2747
Fax (054) 41 2707

Letter from Wingate Lambertson
to Don Kelly, about Ken Shoulders EV patent.

Re: K.R. Shoulders U.S. Patent no 5,018,180, May 21, 1991, "Energy Conversion Using High Charge Density."

I have just spent a day reading and trying to understand the above patent. I do not have the

needed electrical background to fully understand it but I do get the gist of it.

A copy of the cover page and abstract show that it is an energy conversion invention but no mention is made of an over unity of i/o ratio. *

Columns 1 and 2 explain that it is a plasma discharge method with the plasma directed along a channel. Paragraph 2-15 introduces the zero-point energy source. He calls his discharge a high-charge density entity, gives them the name "Electrum Validum," for a strong, united electron charge. This is shown conceptually in figures 60 and 61. He assigns these a size of 0.1 micrometers with 10^{11} electrons. This is in contrast with the 1.884×10^{17} electrons/cycle with which I am trying to work.

As you go through the patent you find described a number of exciting applications, one of which is for a flat screen TV. He shows a total of 31 different applications of which energy converters is number 31.

I have gone through the patent several times and the only place I found energy conversion discussed was in columns 67, 68 and 69. In columns 68 - lines 5-30 Shoulders gives a theoretical calculation illustration i/o ratios of from 0.81 to 96. I do not see that he has proved his main thesis. He does not show the energy under the ac curve. In column 69 - lines 30-45, he attributes his energy gain to be from fission and fusion then qualifies this saying "In any event, energy is provided to the traveling wave output conductor, and the ultimate source of this energy appears to be the zero-point radiation of the vacuum continuum." Of course, he is safe in that statement as our whole universe comes from that source.

Mr. Shoulders has made a valuable contribution by getting the concept into the patent literature.

Sincerely, Wingate Lambertson

* [Editor's note: Dr. Lambertson cites the patent columns 67, 68, and 69. By way of additional information, there is an error in the calculations: column 68-line 26, should be $(16 \div 5) \times 30 = 96$. The basic idea is that they measured 30 times as much electrical power output as was used to create the electron cluster, then 90 times as much power out could be produced as compared to power in.

Articles on EV's and free energy:

Samuel P. Faile, "Zero-Point Energy and Possible Application to Cold Fusion," *Fusion Facts*, Feb. 1991, vol 2, no 8, pp 16-18, 10 refs.

Ken Shoulders, "New Energy Source Patented," (patent abstract with Editor's comments), *Fusion Facts*, July 1991, vol 3, no 1, pp 27-28.

Hal Fox (Editor, *Fusion Facts*), "Enhanced Energy Devices," *Fusion Facts*, Aug. 1991, vol 3, no 2, pp 1-3, 10 refs.

Hal Fox (Editor, *Fusion Facts*), "What Ever Happened to the Coulomb Barrier?" *Fusion Facts*, May 1992, vol 3, no 11, pp 18-19.

Letter from Harold Aspden

July 6, 1993

...Let me explain my own position, because I have spent enough of my life advancing into new physics without now trying to revamp what I have found acceptable. I am currently writing about my own research interests with a view to publishing the work in two parts. The generic title will be Energy Science, but the component books will be entitled "Physics without Einstein" and "Regenerative Energy Technology," respectively.

The earlier edition of "Physics without Einstein" was published in 1969 and it is all about why Einstein was wrong and how there is an aether full of energy from which matter, such as protons and deuterons, can be created. The latter accounts for my interest in 'cold fusion,' because that 1969 theory recognized that deuterons do not contain neutrons [1] and, further, it contained electrodynamic formulations which give account of anomalous forces and energy situations in heavy ion plasma discharges.

With all this 'free energy' interest and the 'cold fusion' activity, you can see why I am keen on updating that work and producing a second edition of 'Physics without Einstein.' If academically-minded readers wish to look up one of my papers on this subject to understand 'complex permeability,' I refer them to *Journal of Applied Physics*, vol 23, pages 523-528, 1952.

Harold Aspden

[1] H. Aspden, "The No-neutron Deuteron," *Fusion Facts*, vol 1, no 9, pp 1-6, 6 refs.

Letter from Stefan Marinov

July 14, 1993

Thank you for the copy of Tedenstig's article. I receive regularly *Galilean Electrodynamics* and had already seen this article (I know Petr Beckman [editor/publisher] personally). I have exchanged in the last year many letters with Tedenstig. His model may be good (I am also a supporter of the "aether", called by me "absolute space"). But he does not obtain some new results (new formulas, effects, etc.). I am not interested too much in "models", I am interested in physical results, effect, machines.

The problem about the fundamental formulas in electromagnetism is of high importance. After returning from Denver I realized that even Whittaker's formula needs a correction. I introduced this correction and the new formula will be presented in my book Divine Electromagnetism which will appear at the end of July. Aspden [Harold Aspden, England] is **near** to the right formula, but he **does not know it**. Graneau [Peter Graneau, Boston] is **very far from it**. ...

I said in Estes Park and in Denver that I shall have a self running machine in June. As I had to be in a hospital for 15 days for an operation of the Achilles Tendon and for further 30 days I must be in plaster, the machine will be ready for demonstration at about the end of this month [July, 1993]. Surely I shall submit some short material for NEN.

Hoping to hear from you,

Yours sincerely, S. Marinov

[Stefan Marinov, East-West Publishers, Morellenfeldgasse 16, A-8010, Graz, Austria is the publisher of *Deutsche Physik, International Journal on Fundamental Physics*. We appreciate his work and his letter. Ed.]

Letter from Laurence Hecht

Dear Hal,

Readers of *New Energy News* would be interested in the following historic information:

In 1871, the leading German physicist Wilhelm Weber showed that it was a consequence of his **Law of Electrical Force** that the phenomenon we describe today as the **Coulomb barrier** is overcome when the distance (r) of the two electrical particles is such that

$$r < \frac{2}{cc} \frac{\epsilon + \epsilon'}{\epsilon \epsilon'} \cdot ee' \quad (1)$$

where ϵ, ϵ' are the masses of the two charged particles; e, e' are their charges; and c is the speed of electromagnetic radiation. At distances less than r , for static charges (relative velocities zero), repulsion will turn to attraction or vice versa. (See Page 5 of Wilhelm Weber, "Electrodynamic Measurements -- Sixth Memoir, relating specially to the Principle of the Conservation of Energy," *The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science*, Jan 1872, pp 1-21 & 119-149.

Weber's **Law of Electrical Force**, which he formulated in 1846 was:

$$\frac{ee'}{rr} \left(1 - \frac{1}{cc} \frac{dr^2}{dt^2} + \frac{2r}{cc} \frac{ddr}{dt} \right) \quad (2)$$

However, he considered the **Law of Electrical Potential**, which is simpler, to be more fundamental:

$$V = \frac{ee'}{r} \left(1 - \frac{1}{cc} \frac{dr^2}{dt^2} \right) \quad (3)$$

In both equations one sees a relativistic statement involving the terms equivalent to v^2/c^2 , and for force, an acceleration term as well. Many wrongly suppose that no one knew until Maxwell that the constant, c , corresponded to the velocity of light. Actually, in 1856 Weber and his associate Kohlrausch had determined the value for the constant c . Weber's c was about the square root of 2 larger than the now known velocity of light, which is the constant we now use.

$$c = 3.1 \times 10^{10} \text{ cm per second.}$$

In 1857, Kirchoff published this fact and from that point on the identity of the speed of light and the speed of propagation of electrical potential was an open fact. Actually, the Weber-Kohlrausch experiment was a working out of Gauss's ideas on the fundamental units of measure, and there is much reason to suppose that the likelihood of the identity was already clear to Gauss much earlier. Gauss and Weber began their collaboration in 1831, leading to the invention of the electromagnetic telegraph, the

first model of which was installed between the physics office and the astronomical observatory at Gottingen University in 1834.

It may surprise the reader to learn that by no later than 1871 (the date of the publication of the Sixth Memoir in German), Weber had recognized the probable existence of the electron and of a positively charged particle of different mass. It is even more surprising to discover in the later pages of the Sixth Memoir that Weber had already calculated the circumstances under which oscillations of the positively and negatively-charged entities could lead to a stable rotational condition, which he called a **state of aggregation**, though today we use the term **hydrogen atom**. Similarly, the time of oscillation of two similar particles, which he referred to as an **electrical atomic pair**, was shown to be consistent with the frequency of the oscillation of light.

Interestingly, if we substitute the values now known for the electrical charge and mass of the electron into Weber's expression (1), for the case of two similarly-charged particles, we arrive at:

$$r < \frac{2e^2}{mc^2} < 5.636 \times 10^{-13} \text{ cm.}$$

that is, the diameter of the classical electron. The gaussian units must be used, where $e = 4.8025 \times 10^{-10}$ esu.

The entire technical discussion by Weber deserves the closest study by anyone willing to have a fresh look at some basic assumptions. One word of warning, however, this was a time of intense political (and scientific) rivalry between Germany and England. Therefore, you will want to carefully consider Maxwell's characterization of the work of Gauss-Weber-Riemann in Maxwell's mistaken notion of their use of **action at a distance** theory. In fact all four of these scientists accepted the notion of an ether. The approach of the Gottingen school was far more complex and interesting, and certainly more advanced than the concepts of the **retarded potential** and the **topological studies** and other more simplistic sorts of notions of propagation which Maxwell propounded.

The reader should be warned against the idea of a simple-minded attempt to take Weber's equations and "plug them in" to a modern formulation, making use of the advances in measurements made since then. Alas, it takes much more work than that. The truth is, the method of Gauss and his students was

far more advanced than any applied today. If one wishes to benefit from such advances, one must first recognize that the simplistic concepts used by Maxwell have been so strongly accepted in the 19th century that the students of electromagnetics, as a direct result, have been deprived of greater knowledge. A student must carefully consider how his/her education and therefore his/her thought processes have been effected as a result. The two-part series, "The Scientific Method of Bernhard Riemann," *21st Century Science & Technology*, Winter 1991 and Spring 1992, is a very useful discussion.

Sincerely, /s/ Laurence Hecht.

[We appreciate this insight into the history of the development of the current misconceptions in science. Harold Aspden has remarked that the 20th century denial of an aether has prevented us from using space energy as a source of power and we have polluted our planet. We urge our more mathematically inclined readers to carefully review the Gauss-Weber-Riemann writings and determine where their approach would lead us. We are very thankful for the Aspdens, Graneaus, Hagelsteins, Kucheroys, and Marinovs of the world who refuse to accept standard scientific dogma. These are they who will help usher in a better understanding of the new energy devices that have been found and that are being found and/or improved. Ed.]

**INTERNATIONAL FORUM
ON NEW SCIENCE
October 13-17, 1993
CALL FOR PAPERS**

The International Association for New Science, the sponsors of the conference, propose to bring together scientists, professionals and lay people to promote research in the areas of New Science as well as education. New Science includes topics and phenomena which cannot be explained by traditional science and yet may have the potential for significant benefit to the health and conditions for humanity and the planet Earth.

Scholarly papers are invited on any topic related to New Science. These papers should include one or more of the following: theories, hypotheses, research designs, research results and analyses. Abstracts of not more than four thousand words must be sent as soon as possible to the address below. Consideration of abstracts cannot be assured if

received after September 1. Authors will be notified as soon as possible if the paper is accepted for presentation.

Please send for registration information to the International Forum on New Science, 1304 S. College Avenue, Fort Collins, CO 80524.

**IECEC - 28th INTERSOCIETY
ENERGY CONVERSION
ENGINEERING CONFERENCE**

August 8-13, 1993

Hyatt Regency Hotel, Atlanta, Georgia
Sponsored by the American Chemical Society

The IECEC provides a forum to present and discuss engineering aspects of energy conversion, advanced and unconventional energy systems/devices, energy conversion/utilization, environmental issues, and policy implications in research, development, and implementation of technologies. Papers dealing with all engineering facets of terrestrial and aerospace power, and advanced energy systems, which fell into the above topic have been selected for presentation.

**For more information call the ACS Meetings
Department:**

(202) 872-6286 or Fax (202) 872-6128.

Just a note that Pat Bailey has requested INE to be a Cooperating Society of the Intersociety Energy Conversion Engineering Conference.

**Neither the wise man nor the brave
man lies down on the tracks of
history to wait for the train of the
future to run over him.**

Dwight D. Eisenhower

The **New Energy News** is a monthly newsletter for the Institute for New Energy, and is mailed free to its members. Yearly subscription rate to corporations, libraries, and universities is \$60. Contact **New Energy News** for subscription and submissions information at P.O. Box 58639, Salt Lake City, UT 84158-8639. Phone (801) 583-6232, Fax (801) 583-6245.

CONTENTS FOR AUGUST 1993

NEW WORLD OF DISCOVERY.....	1	LETTERS.....	11
FUSION BRIEFINGS	2	Letter from Shiuji Inomata.....	11
HYDROGEN ENERGY	5	Excerpt from Letter of Arthur C. Clarke	11
ROTATING FREE ENERGY MACHINE.....	6	Letter from Ian Hacon.....	12
SPACE-ENERGY MISCELLANEOUS.....	8	Letter from Wingate Lambertson.....	12
MISCELLANEOUS.....	9	Letter from Harold Aspden.....	13
ENERGY DATABASE.....	10	Letter from Stefan Marinov.....	13
ORLOWSKI ON LEVITATION		Letter from Laurence Hecht.....	13
by S. Faile.....	11	CONFERENCE NOTICES.....	15

New Energy News

P.O. Box 58639
Salt Lake City, UT 84158-8639