

The background of the slide is a collage of various historical and scientific items. In the top left, there is a wooden chessboard with several chess pieces. Below it, a blue ribbon with a circular medal is visible. To the right of the ribbon is a white star-shaped medal with a central emblem. In the bottom left corner, there is a circular compass. A pair of thin-rimmed glasses is positioned diagonally across the lower half of the slide. The title 'Future Energy' is overlaid on a blue and yellow gradient bar at the top right.

Future Energy

A Research Initiative into New and Emerging Energy

Thomas Valone, PhD, PE

Integrity Research Institute

Earth's Most Recent 400,000 Year Climate History

credit: Dr. Jim Hansen, NASA Goddard Inst. for Space Studies

CO₂ and the "Ornery Climate Beast"

How might today's human-caused increases in atmospheric concentrations of carbon dioxide and other greenhouse gases change the planet? The past provides clues. Geological records show that in the past 400,000

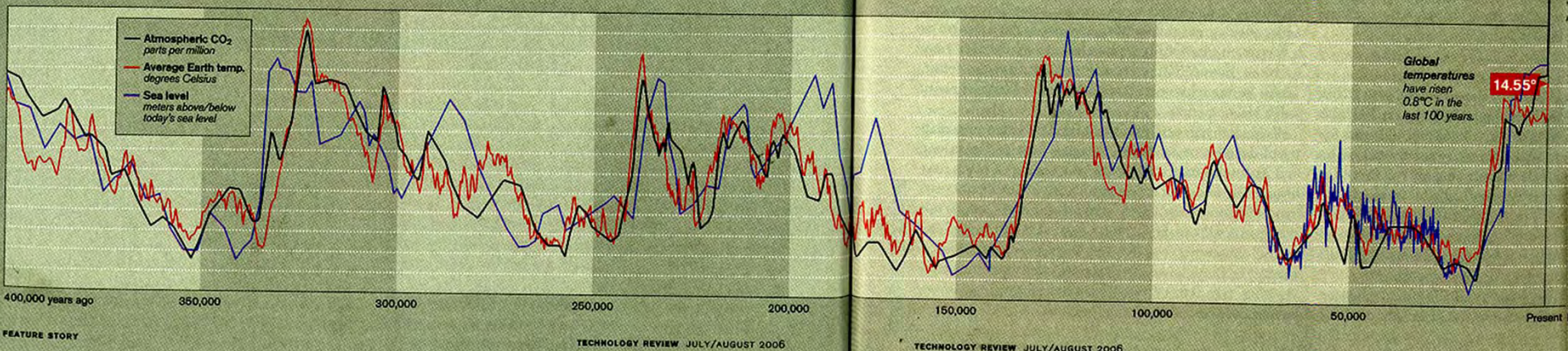
years, atmospheric concentrations of carbon dioxide, average Earth temperature, and sea levels have risen and fallen roughly in tandem, in 100,000-year cycles paced by slight oscillations in Earth's orbit. These oscillations

affect the distribution of sunlight, hardly affecting the total amount reaching Earth; yet, scientists believe, this has been enough to set in motion chains of events that raise and lower temperatures, launch and end ice ages, and trigger vast changes in sea level.

What's coming next? Carbon dioxide—the number one greenhouse gas—has

much more power to affect Earth's temperature than the orbital changes do. And in just the past 150 years, humankind has boosted carbon dioxide concentrations by 32 percent. NASA planetary scientist Jim Hansen says that if we continue to increase greenhouse-gas emissions, temperatures will rise between 2 and 3 °C this century, making

Earth as warm as it was three million years ago, when seas were between 15 and 35 meters higher than they are today. His predictions bear weight partly because he can verify his methods: using geological records, he has calculated past temperatures, and his results closely match the measured temperatures shown here. **DAVID TALBOT**



MIT's *Technology Review*, July/August, 2006

Global CO₂ level is now 400 ppm →

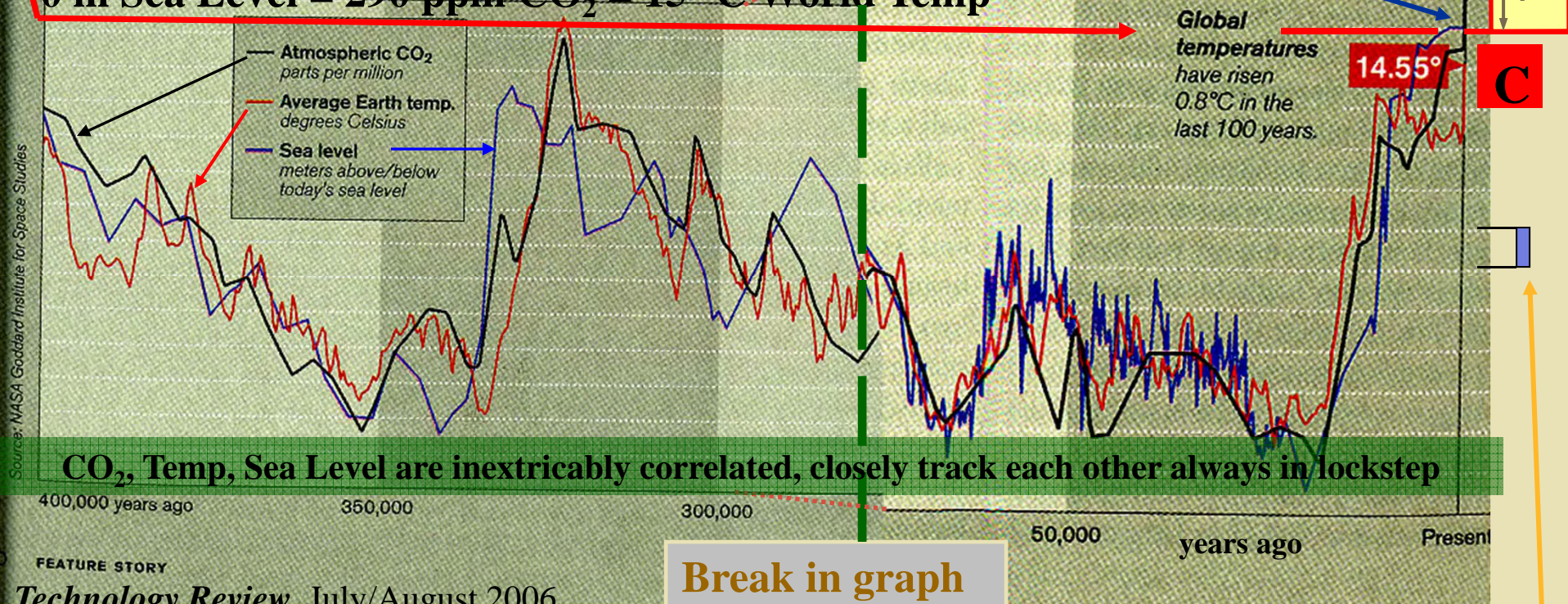
This forces a 4°C (7°F) temperature spike and sea level upsurge

Baseline:

0 m Sea Level = 290 ppm CO₂ = 15 °C World Temp

Sea Level Gap

Temp Gap: 4°C (7°F)

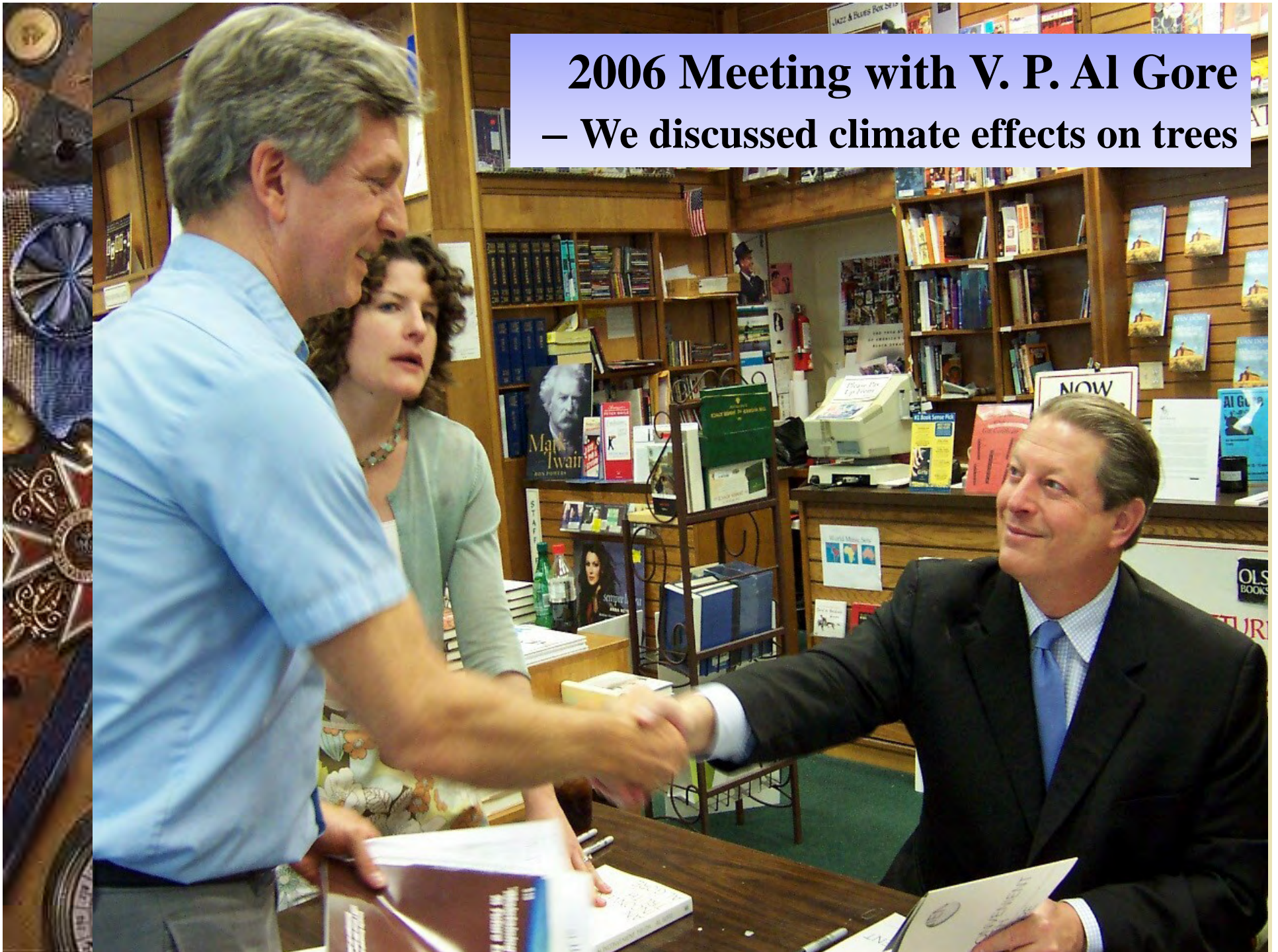


Projected Sea Level Rise is 80 meters

KEY to graph: 10 ppm = 0.5°C = 10 meters

--- Graph enhancements by Thomas Valone, PhD, PE
Integrity Research Institute, updated 2013

2006 Meeting with V. P. Al Gore
– We discussed climate effects on trees



SPECIAL REPORT / CLIMATE CHANGE

A WORLD 4°C WARMER

It may happen in our lifetime. **Shanta Barley** investigates what life will be like

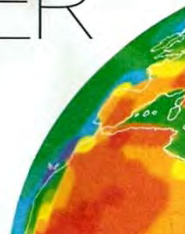
BY 2055, climate change is likely to have warmed the world by a dangerous 4°C unless we stop pumping greenhouse gases into the atmosphere the way we do now. This is the startling conclusion of a study by the UK Met Office, unveiled at a conference in Oxford this week.

Why so soon? Because temperature rises caused by greenhouse gas emissions are expected to trigger dangerous feedback loops, which will release ever increasing amounts of greenhouse gases. The nature and scale of these feedback loops is a subject of vigorous debate among climate scientists, but warmer oceans, for instance, may liberate more

dissolved CO₂, and plants may decay faster in a warmer climate. The Met Office ran 17 different models with these feedbacks. All concluded a 4°C world by 2055 was likely if emissions continue to rise. Even if we are lucky, we are still likely to hit 4°C by 2070.

WIP yours 130 c confe increa 15°C of the Califo rise by Stefa

Institute for Climate Impact Research, Germany. Even the less pessimistic estimate of a 0.65-metre rise by 2100 would put at least 190 million people a year at risk from floods, says Rahmstorf's colleague Jochen Hinkel.



**Then in 2009,
TWO DIFFERENT
CLIMATE GROUPS:
SAME PREDICTION**

The Amazon – gone

In a 4°C world, climate change, deforestation and fires spreading from degraded land into pristine forest will conspire to destroy over 83 per cent of the Amazon rainforest by 2100, according to climatologist Wolfgang Cramer at the Potsdam Institute for Climate Impact Research in Germany. His climate models show global warming alone

PRIZE FIGHT
Time to revamp
the Nobels

News

WEEKLY October 3 - 9, 2009

Future Earth

New Scientist, 10/3/09

The Nation

Washington Post, 9/25/09, p. A4

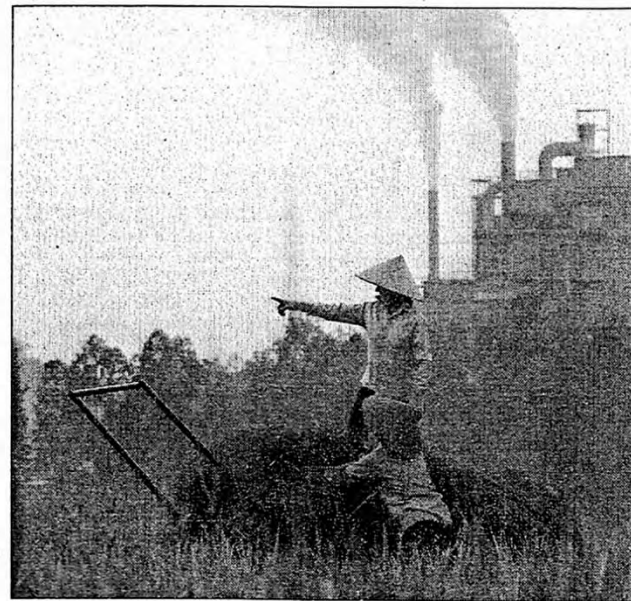
New Analysis Brings Dire Forecast Of 6.3-Degree Temperature Increase

By JULIET EILPERIN
Washington Post Staff Writer

Climate researchers now predict the planet will warm by 6.3 degrees Fahrenheit by the end of the century even if the world's leaders fulfill their most ambitious climate pledges, a much faster and broader scale of change than forecast just two years ago, according to a report released Thursday by the United Nations Environment Program.

The new overview of global warming research, aimed at marshaling political support for a new international climate pact by the end of the year, highlights the extent to which recent scientific assessments have outstripped the predictions issued by the Nobel Prize-winning U.N. Intergovernmental Panel on Climate Change in 2007.

Robert Corell, who chairs the Climate Action Initiative and reviewed the UNEP report's scientific findings, said the significant global temperature rise is likely to occur even if industrialized and de-

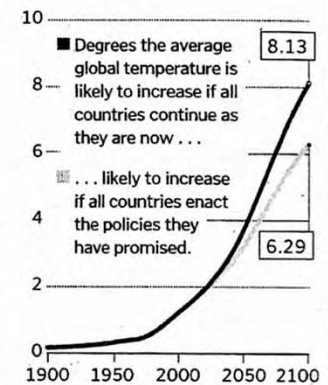


Farmers are overshadowed by a smoke-belching cement factory outside Hanoi. Even with sharp emissions curbs, temperatures may rise disastrously.

Warming Trend

Researchers say global temperatures as likely to rise more than six degrees by the end of the century even if every country enacts all climate legislation it has promised to enact to date.

Temperature increases, in degrees Fahrenheit



SOURCE: Sustainability Institute

THE WASHINGTON POST

1999 Conference on Future Energy



nature

11 March 1999 Volume 398 issue no. 6723

www.nature.com



The First International

Conference On Future Energy

Integrity Research Institute

WORKSHOPS

Holiday Inn Bethesda
Bethesda, Maryland

Saturday, May 1, 1999

Science & Government Report

SHUNNED BY AGENCIES, 'FREE ENERGY' CONFERENCE FINALLY FINDS A HOME

It was billed as a conference on free energy, but its organizers, who'd thought they had their meeting place lined up free of charge from the government, ended up having to pay. Disinvited from the State Department, after one of the few scientists in the agency was tipped off to the "booked gathering's" offbeat nature, organizers then tried to move over to the Commerce Department, where the sizeable audience apparently is available to any department employee who provides sufficient notice. Also, the same person who rated on free energy to State, the American Physical Society's Robert Park, took it upon himself to banish them from Commerce as well, and succeeded.

Park, who calls against fringe science in the APS weekly tip sheet "What's New," admits that he alerted both Peter Zussman, the science adviser at State's Arms Control and International Security division, as well as a top official of Commerce's National Institute of Standards and Technology, whom he won't name, about the conference's true nature. A brief overview to the organizers from the Department of Energy was quickly quashed, apparently without Park's intervention.

In the end, the Washington-based Integrity Research Institute, which organized the event, had to settle for a Holiday Inn in nearby Bethesda for the three-day event that ran through May 1. Cold fusion guru Eugene Mallove, who publishes *Indefinite Energy* magazine, came through with the funds needed to rent the rooms.

All the money helped the conference to attract an enthusiastic, if small, crowd. Various schemes for free energy were presented, including cold fusion, a "radiant energy" device that extracts radio frequency energy from lightning bolts, and meeting before 11 from the moon for clean fusion fuel. An onsite bookstore dispensed works ranging from electromagnetics, the "anti-gravity" technology that claims help to power the B-2 stealth bomber, to biographies and the complete patent collections of Nikola Tesla, the Serbian immigrant who invented the alternating current motor and helped Westinghouse beat out Thomas Edison to establish AC electricity as the standard. What free energy aficionados admit more about Tesla was his research into life of a wireless delivery system for electricity, just as with other free energy schemes, they say, the state of industry could see no way to profit on such a scheme, and pulled their support for Tesla's work.

But the highlight of the conference was an appearance by Steven M. Green, the former emergency room physician



Volume XXXI, Number 9, May 15, 1999
ISSN 0948-9551

who heads the nonprofit Center for the Study of Extraterrestrial Intelligence. Working versions of flying saucers, he informed attendees, have been built by a super-secret consortium of the big defense contractors, and he himself is on the board of a small company, which he won't identify, that is building a prototype saucer.

What do flying saucers have to do with free energy? The same concentrating electromagnetic fields that allow UFO's to annihilate gravity and allow travel at faster than the speed of light could make the world's fossil-fuel based economies obsolete overnight, says Green. He claims the technology that allows UFO's to defy gravity is well-known to the military-industrial complex, but is kept under wraps in order to not destabilize the entire world.

Attendees weren't all there just for free energy. Steven Blawie, an electrical engineer who publishes *Electric Research*, shows in developments on alternative medicine to his magazine for good measure. Blawie lives in a trailer in the desert outside Phoenix, and he'll be just fine when chaos reigns in the cities come January 1, 2000, he told SCG.

Park, who dropped by on the opening day, says he was informed by an organizer that an armed guard was in attendance. SCG, which popped in a day later, was in the middle of a corridor conversation when a bust went up. Park had been sighted again. But this time it turned out to be a false alarm.

NO RECORDS SET AS NINE WOMEN ARE ELECTED MEMBERS OF ACADEMY

No giant step toward gender equality was set last month when the National Academy of Sciences elected nine women to membership. The figure is shy of the record of 11 who were let in during 1996, but is one higher than last year's crop.

The academy admitted a total of 60 new members this year during its annual meeting last month. The number of women who hold membership in the august body now stands at 114, four higher than last year, or just over 6% of a total active membership of 1825.

Two women were among the 15 non-voting foreign associates admitted to the academy. Despite their addition, the number of female foreign members actually declined by one during the year, to 14, even as total membership in the category rose three, to 313.

CD-Proceedings

CONFERENCE ON FUTURE ENERGY



29 April - 1 May 1999

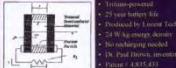


COFE CD-Proceedings

20 Speakers, 9 of whom are PhDs &
15 Audios (All Plenary Sessions) &
14 Audios (All Workshop Sessions)
23 Papers Published
ADOBE ACROBAT

Conference on Future Energy

Betavoltaic Battery



Nuclear Electricity Sources



Dr. Paul Brown Bruce Perreault

in
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US State Department gets cold feet about cold fusion

[WASHINGTON] A meeting that was to have been held at the US State Department next month to highlight research on unconventional energy sources seems likely to be scaled down or cancelled because of doubts about the credibility of the research.

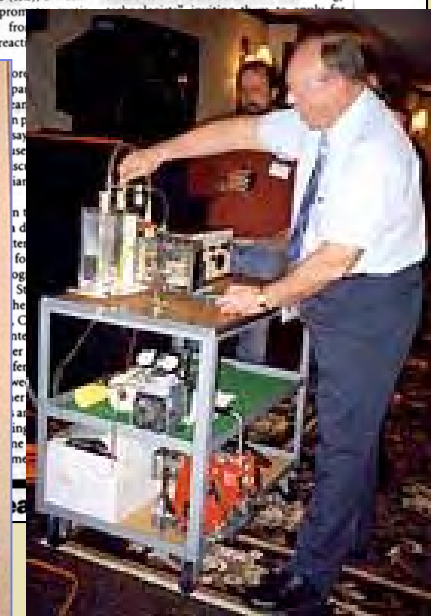
The First International Conference on Free Energy was to have taken place on 29 and 30 April at the State Department auditorium. The conference is sponsored by the Integrity Research Institute (IRI), a Washington-based group that promotes energy concepts ranging from power to 'assisted nuclear reaction'.

After a meeting between Foley, Valone and others on Monday (8 March), the department remained undecided as to whether it will cancel or curtail its involvement in the conference. One source said the organizers were considering moving it to a hotel.

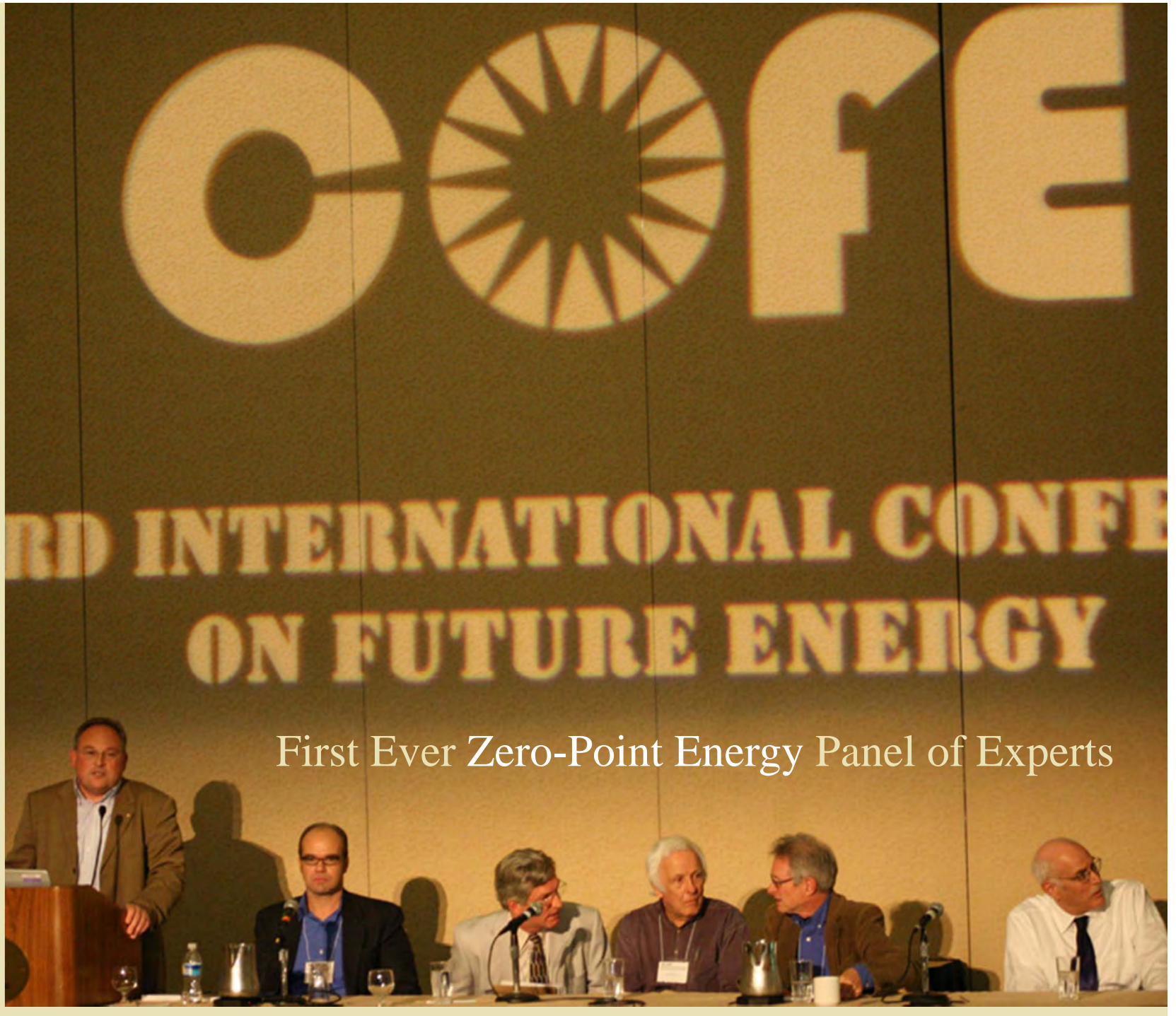
Valone, who is also a patent examiner with the US Patent and Trademark Office, found himself in hot water with his own agency last year when he sent out an Internet notice to "all able-bodied infinite energy



Photo Courtesy of Ms. Jeane Manning







First Ever Zero-Point Energy Panel of Experts

Future Energy Goals

Why “future energy” rather than just more renewables?



- ◆ Expand new energy discoveries including wireless energy
- ◆ Develop the newly discovered modes of propulsion
- ◆ Create optimum health with electromedicine

No Carbon Emissions

Integrity Research Institute (IRI)

Programs Fulfilling IRI's Non-Profit Mission



Energy
Propulsion
Bioenergetics

www.IntegrityResearchInstitute.org

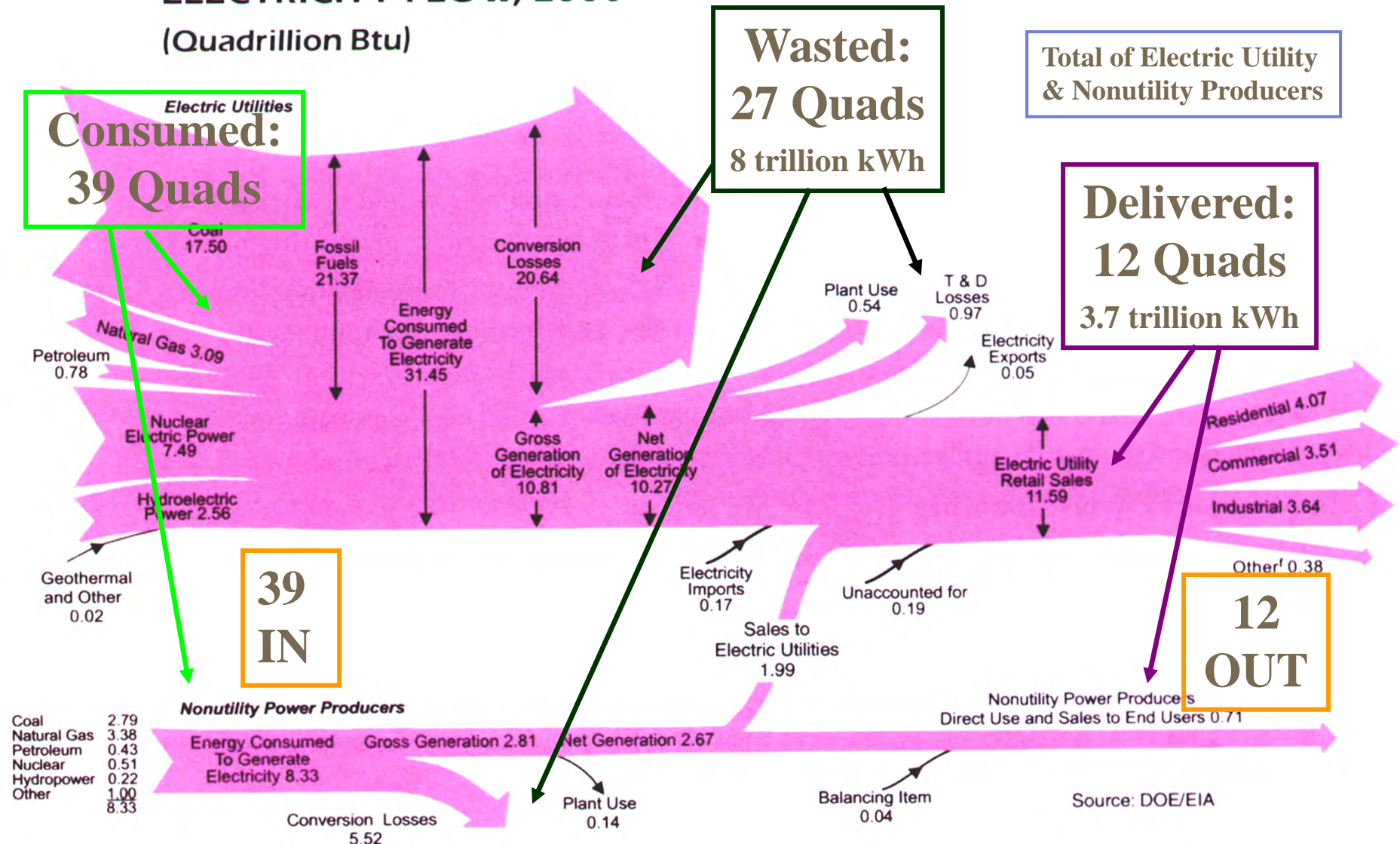
ENERGY PROGRAM



2/3 of US Electricity is Wasted

Ref: DOE & U.S. Energy Association, 2002

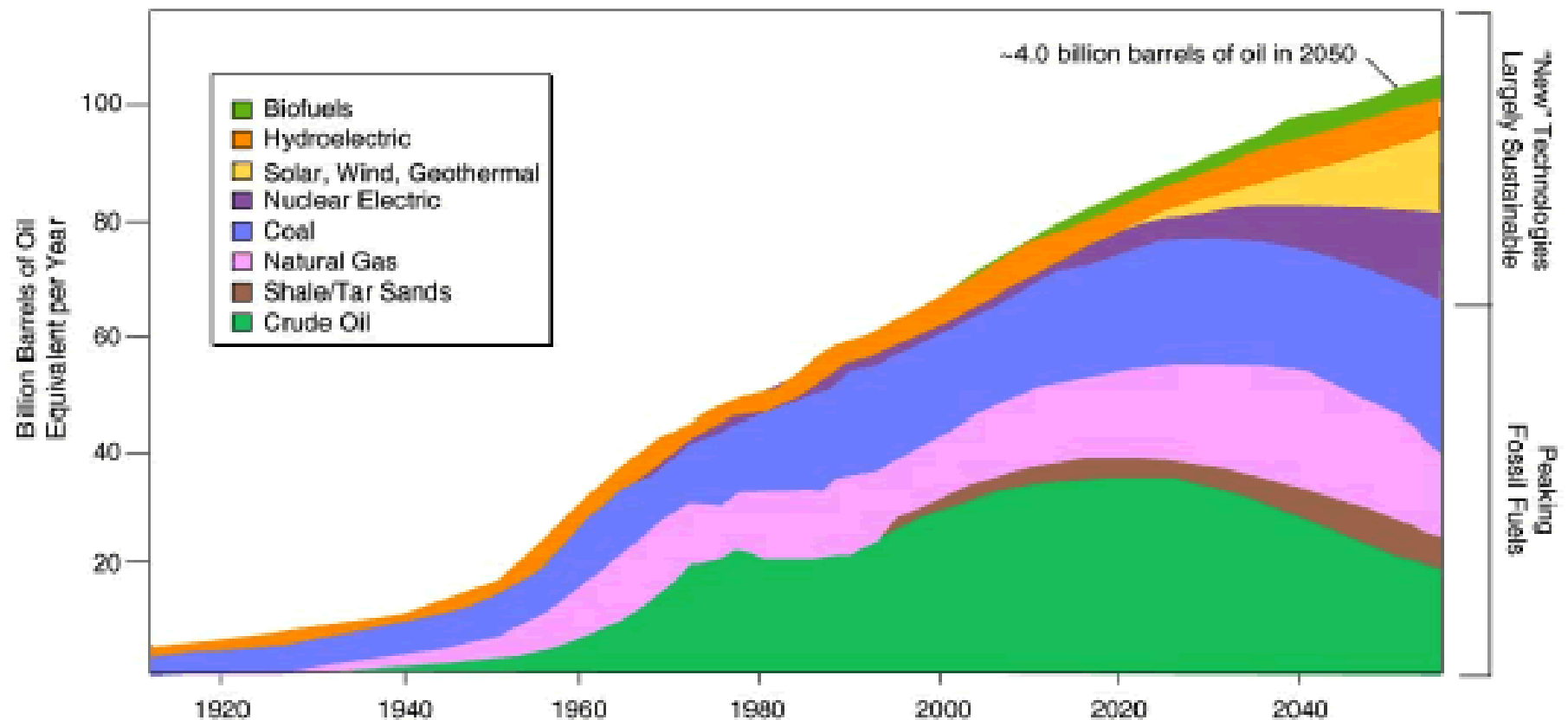
ELECTRICITY FLOW, 2000 (Quadrillion Btu)



Adaptation by Integrity Research Institute

Projected World Energy Demand

World Energy Demand—Long-Term Energy Sources



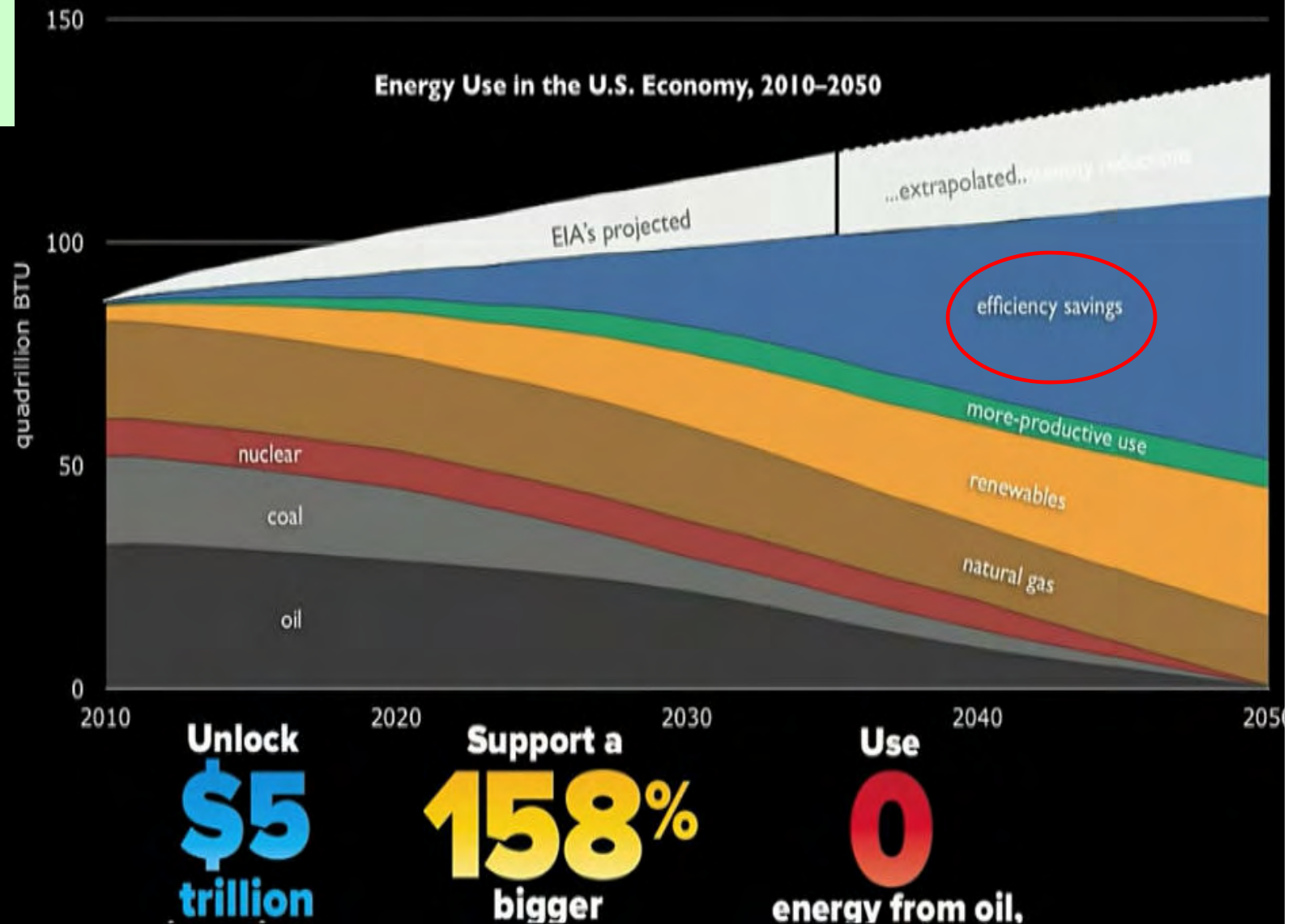
Sources: Lynn Orr, *Changing the World's Energy Systems*, Stanford University Global Climate & Energy Project (after John Edwards, American Association of Petroleum Geologists); SRI Consulting.

Stanford University Global Climate & Energy Project

Reinventing Fire provides a credible path to
a U.S. economy free of oil and coal by 2050

Book release in 2011

Reinventing
Fire video on
YouTube



Rocky Mountain Institute, RMI.org, founded by Dr. Amory Lovins



Innowattech – 500 kW per km

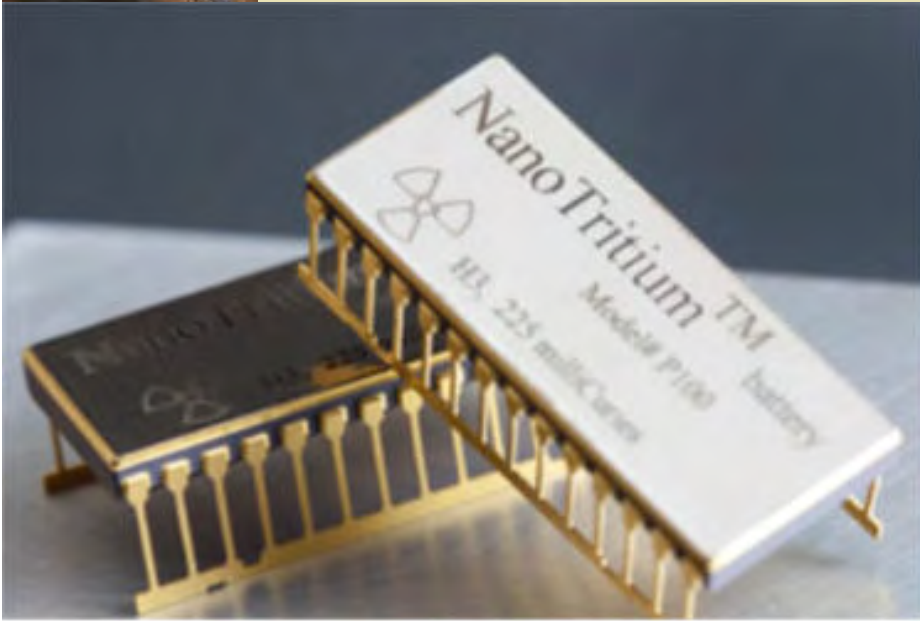
- ◆ Piezoelectric panels for roadways and train tracks
- ◆ Generates electricity from passing vehicles
- ◆ Game changing invention ready for installation
- ◆ Should be developed in this country as well
- ◆ Advocated by IRI in *Future Energy Annual 2012*



Piezo panels ready for insert



Tritium Betavoltaic Battery



- ◆ **ECN magazine 7/2012**
- ◆ **Nanowatt power - AFRL**
- ◆ **20 – 40 year lifespan**
- ◆ **IRI advocacy for 10 yrs.**
- ◆ **Paul Brown, COFE 1999, Patent # 4,835,433**
- ◆ **IEEE Spectrum, 2004 “Daintiest Dynamos”**
- ◆ **Ray Kurzweil “Ten Coolest Technologies - PC magazine, 7/12/06**

CityLabs.net Model P100

BetaBatt Inc. - SBIR grant from NSF

U of Wisconsin solved degradation with liquid electrodes

NewScientist

Polymer Generates Energy from a Wet Surface

<http://bcove.me/31dl8lll>

- ♦ MIT reports a polymer with a piezoelectric layer *generates electricity* only from a **moisture gradient** without any pressure!
- ♦ 30 second video shows movement as polymer dries and then flattens out to get wet again

NewScientist

Moisture turns film into artificial muscle

10 January 2013 by Jacob Aron- New Scientist

Magnetic Field Gradients

The Stern–Gerlach Experiment and Electron Spin

Modern Physics, Schaumm's Outline Series, Gautreau , McGraw Hill, 1978

In the *Stern–Gerlach experiment*, performed in 1921, a beam of silver atoms having zero total orbital angular momentum passes through an *inhomogeneous* magnetic field and strikes a photographic plate, as shown in Fig. 21-1. Any deflection of the beam when the magnetic field is turned on is measured on the photographic plate.

Their experimental setup: The magnetic field B is more intense near the pointed surface at the top than near the flat surface below, creating a slope in a graph of B vs. z , which is the gradient dB/dz .

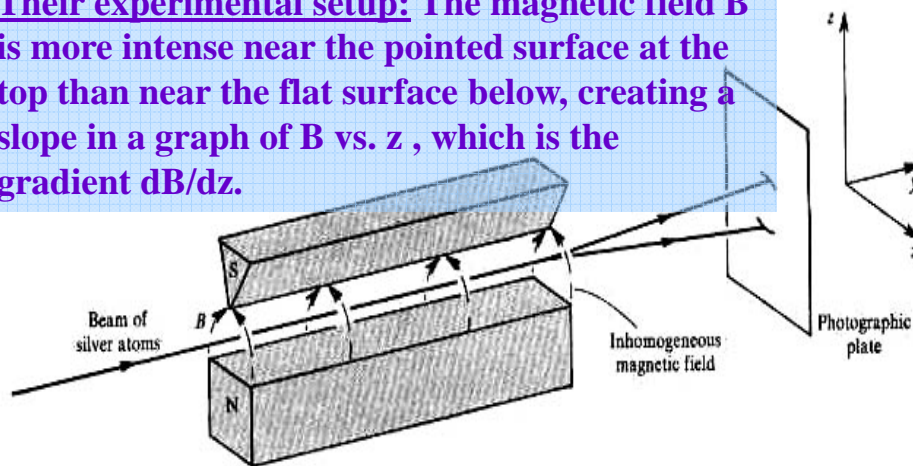


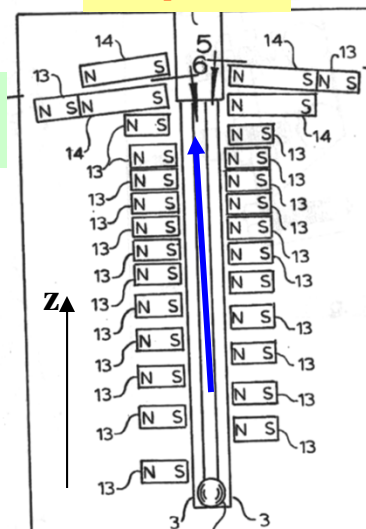
Fig. 21-1

The purpose of the *inhomogeneous* magnetic field is to produce a deflecting force on any magnetic moments that are present in the beam. If a homogeneous magnetic field were used, each magnetic moment would experience only a torque and no deflecting force. In an inhomogeneous magnetic field, however, a net deflecting force will be exerted on each magnetic moment μ_z . For the situation of Fig. 21-1,

$$F_z = \mu_z \cos \theta \frac{dB}{dz} \quad (21.1)$$

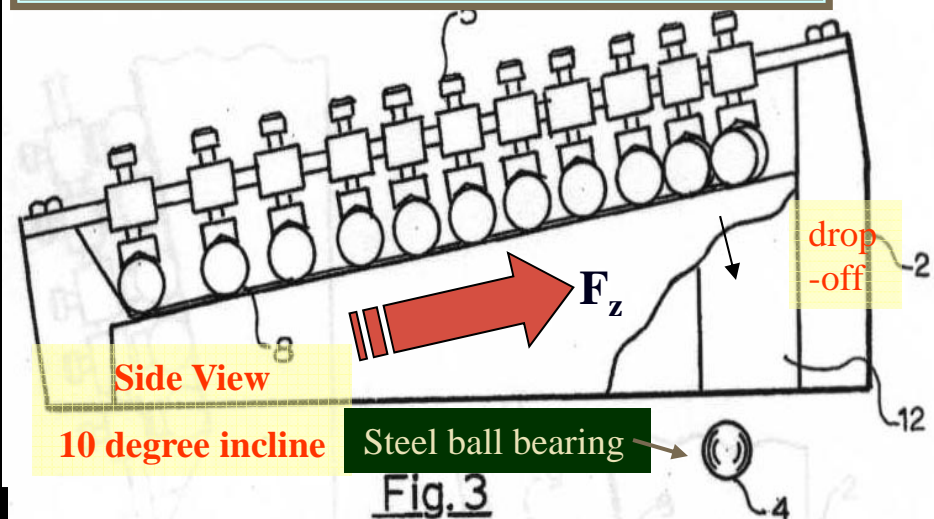
where θ is the angle between μ_z and B , and dB/dz is the gradient of the inhomogeneous field

Top View



The net Force created on the ball bearing = the magnetic field gradient multiplied by the induced magnetic moment, as with the Stern–Gerlach Experiment

Hartman Patent #4,215,330



Spiral Permanent Magnet Motor

Presented to the Space, Propulsion & Energy Sciences International Forum (SPESIF), February 23-26, 2010,
Applied Physics Laboratory – Johns Hopkins University, sponsored by the American Institute of Physics

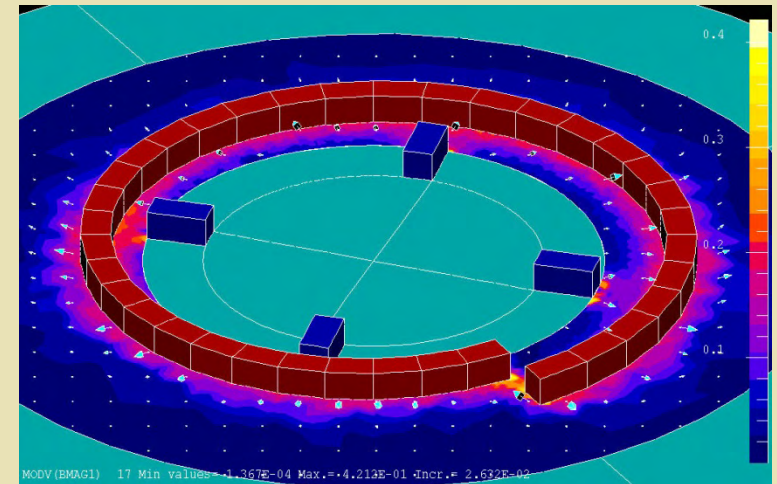
Proposed Permanent Magnet Spiral Motor for Magnetic Gradient Energy Utilization

Thomas F. Valone

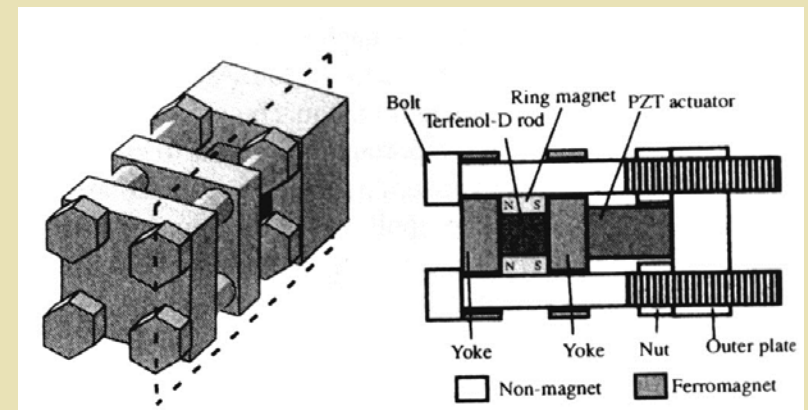
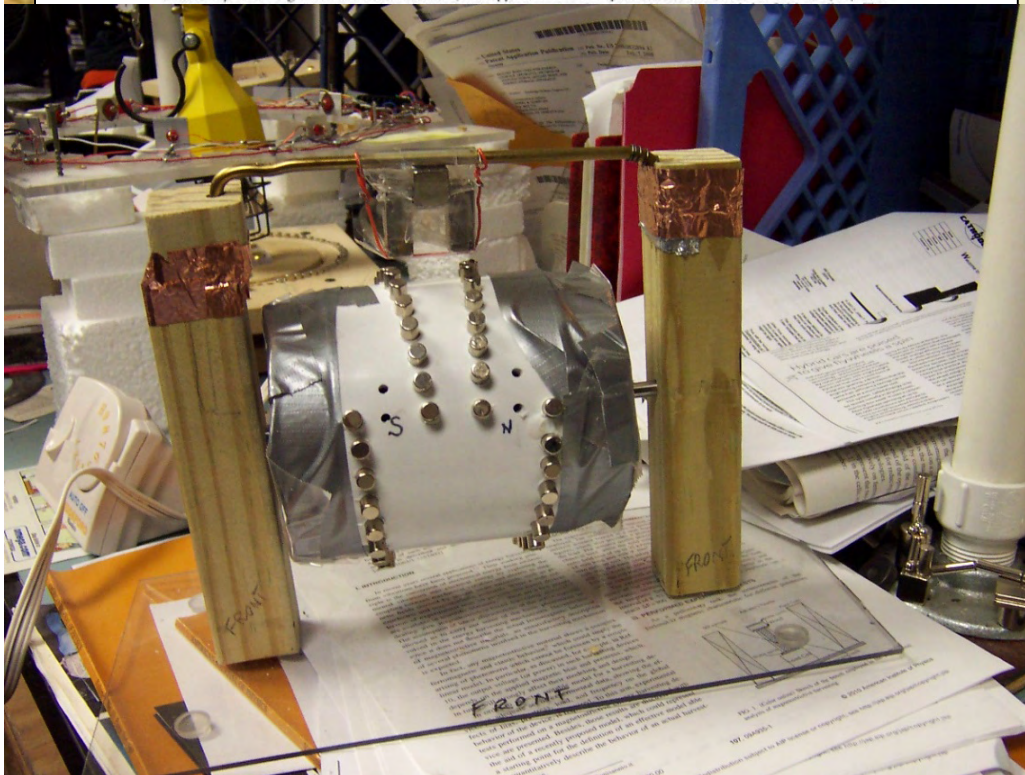
Integrity Research Institute

5020 Sunnyside Avenue, Suite 209, Beltsville MD 20705, 301-220-0440, IRI@starpower.net

Abstract. The Spiral Magnetic Motor, which can accelerate a magnetized rotor through 90% of its cycle with only permanent magnets, was an energy milestone for the 20th century patents by Kure Tekkosho in the 1970's. However, the Japanese company used old ferrite magnets which are relatively weak and an electrically-powered coil to jump start every cycle, which defeated the primary benefit of the permanent magnet motor design. The principle of applying an inhomogeneous, anisotropic magnetic field gradient force $F_r = \mu \cos \theta \, dB/dz$, with permanent magnets is well-known in physics, e.g., Stern-Gerlach experiment, which exploits the interaction of a magnetic moment with the aligned electron spins of magnetic domains. In this case, it is applied to $dB/d\theta$ in polar coordinates, where the force F_r depends



Spiral Wankel Motor design with a Weigand-GMM-PZT switch and no external electricity



Science Times

The New York Times

Jan 21, 1997

TUESDAY, JANUARY 21, 1997

Physicists Confirm Power of Nothing, Measuring Force of Quantum 'Foam'

Fluctuations in the vacuum are
the universal pulse of existence.

By MALCOLM W. BROWNE

FOR a half century, physicists have known that there is no such thing as absolute nothingness, and that the vacuum of empty space, devoid of even a single atom of matter, seethes with subtle activity. Now, with the help of a pair of metal plates and a fine wire, a scientist has directly measured the force exerted by fleeting fluctuations in the vacuum that pace the universal pulse of existence.

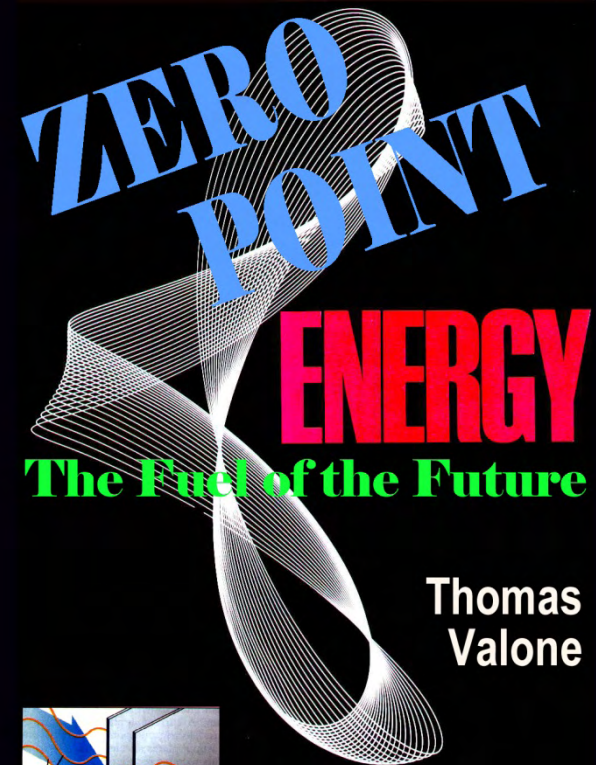
The sensitive experiment performed at the University of Washington in Seattle by Dr. Steve K. Lamoreaux, an atomic physicist who is now at Los Alamos National

Laboratory, was described in a recent issue of the journal *Physical Review Letters*. Dr. Lamoreaux's results almost perfectly matched theoretical predictions based on quantum electrodynamics, a theory that touches on many of the riddles of existence and on the origin and fate of the universe.

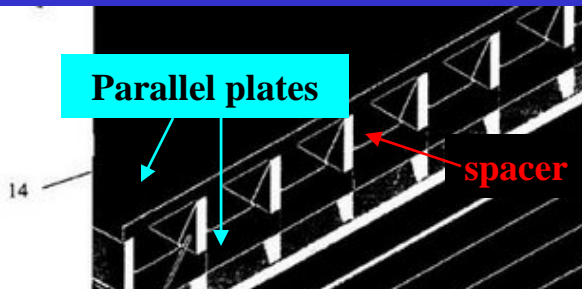
The theory has been wonderfully accurate in predicting the results of subatomic particle experiments, and it has also been the basis of speculations verging on science fiction. One of the wilder ones is the possibility that the universal vacuum — the ubiquitous empty space of the universe — might actually be a false vacuum.

If that were so, something might cause the present-day universal vacuum to collapse to a different vacuum of a lower energy. The effect, propagating at the speed of light, would be the annihilation of all matter in the universe. There would be no warning for humankind; the earth and its inhabitants would simply cease to exist at

Continued on Page C6



Quantum Energy Extraction



Haisch-Model patent 7,379,286

It is reasonable to expect that a 0.1 microns Casimir cavity would result in a release of 1 to 10 eV for each injection of a He, Ne, Ar, Kr or Xe atom into such a cavity.



Test of zero-point energy emission from gases flowing through Casimir cavities

Space, Propulsion & Energy Sciences International
1 March 2012

Olga Dmitriyeva & Garret Model*
Department of Electrical, Computer, and Energy Engineering
University of Colorado
*Presenter (also with Jovion Corporation)

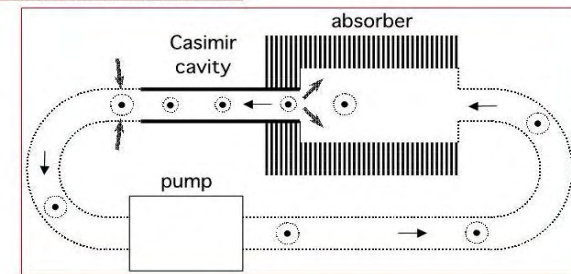
Pumping Gas Through Casimir Cavities

United States Patent
Haisch et al.

Patent No.: US 7,379,286 B2
Date of Patent: May 27, 2008

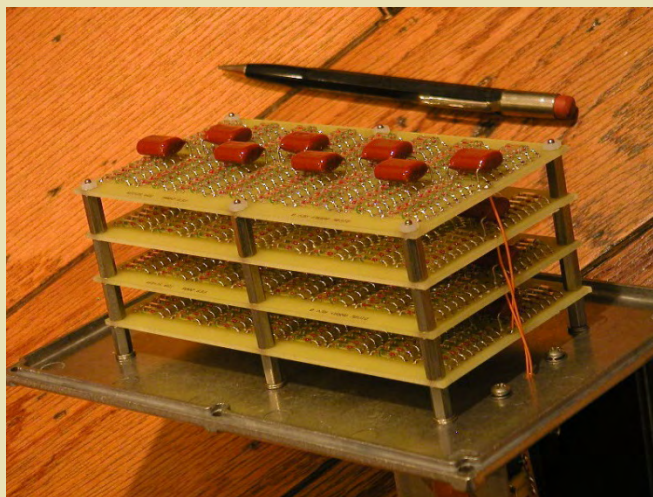
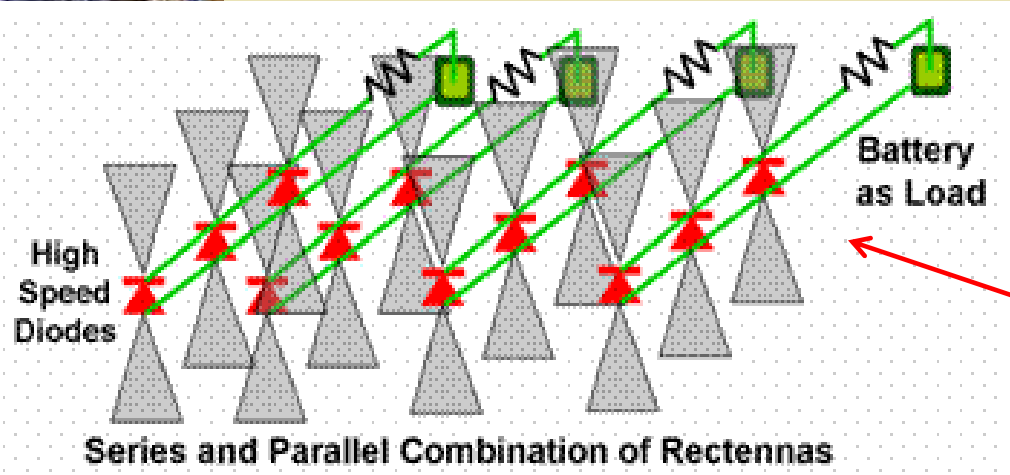
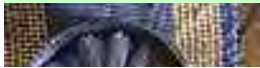
QUANTUM VACUUM ENERGY
EXTRACTION

Inventors: Bernard Haisch, Redwood City, CA
(US); Garret Model, Boulder, CO



This discovery has fueled interest in another noble gas invention: the **Papp engine**, explosive but completely enclosed. See Valone Papp Engine video from COFE6 on futureenergy.org

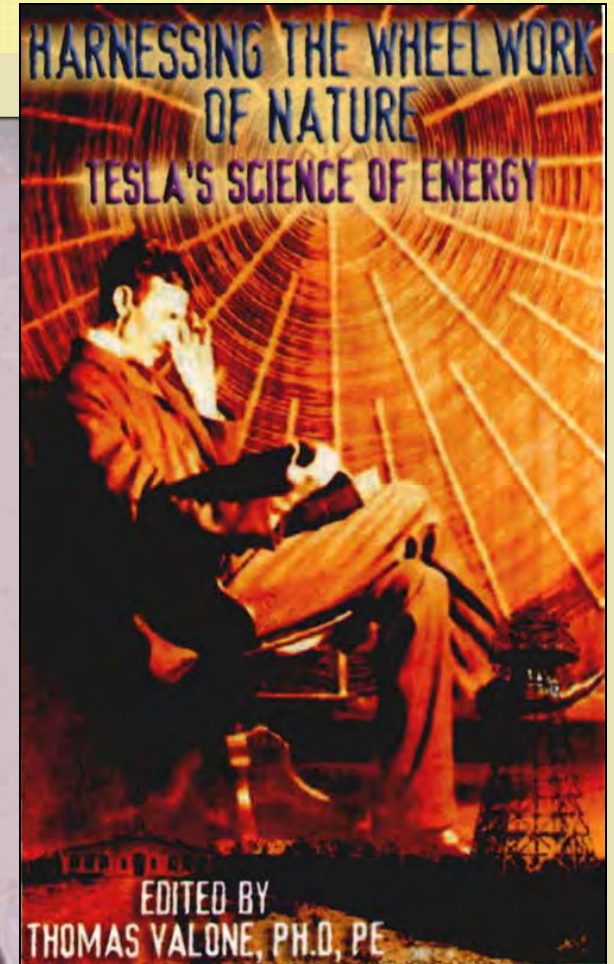
Rectifying Ambient Thermal and Nonthermal Electric Noise



- ◆ Prof. Dagenais amplifies ambient thermal energy harvested with nanoantennas at UMD
- ◆ Zero-bias diodes that need no minimum energy to conduct
- ◆ Backward tunnel diodes
- Example of a Diode Array
24-hour electrical energy source

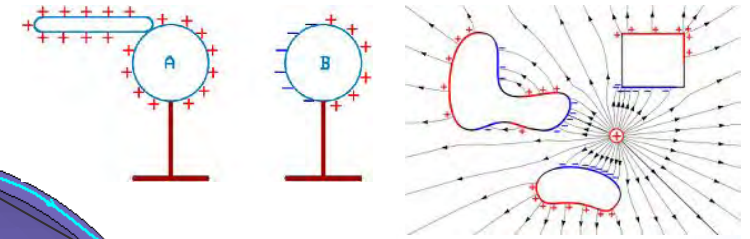
Tesla's Design for Wireless Energy

- ◆ 1905 Earth is resonant LRC circuit
- ◆ Magnifying transmitter 200 ft tall
- ◆ Wardenclyffe sphere 68 foot diameter
- ◆ Resonates with earth-ionosphere natural 8 Hz frequency for 95% efficiency of transmission
- ◆ Longitudinal and transverse EM waves
- ◆ see *Harnessing the Wheelwork of Nature*

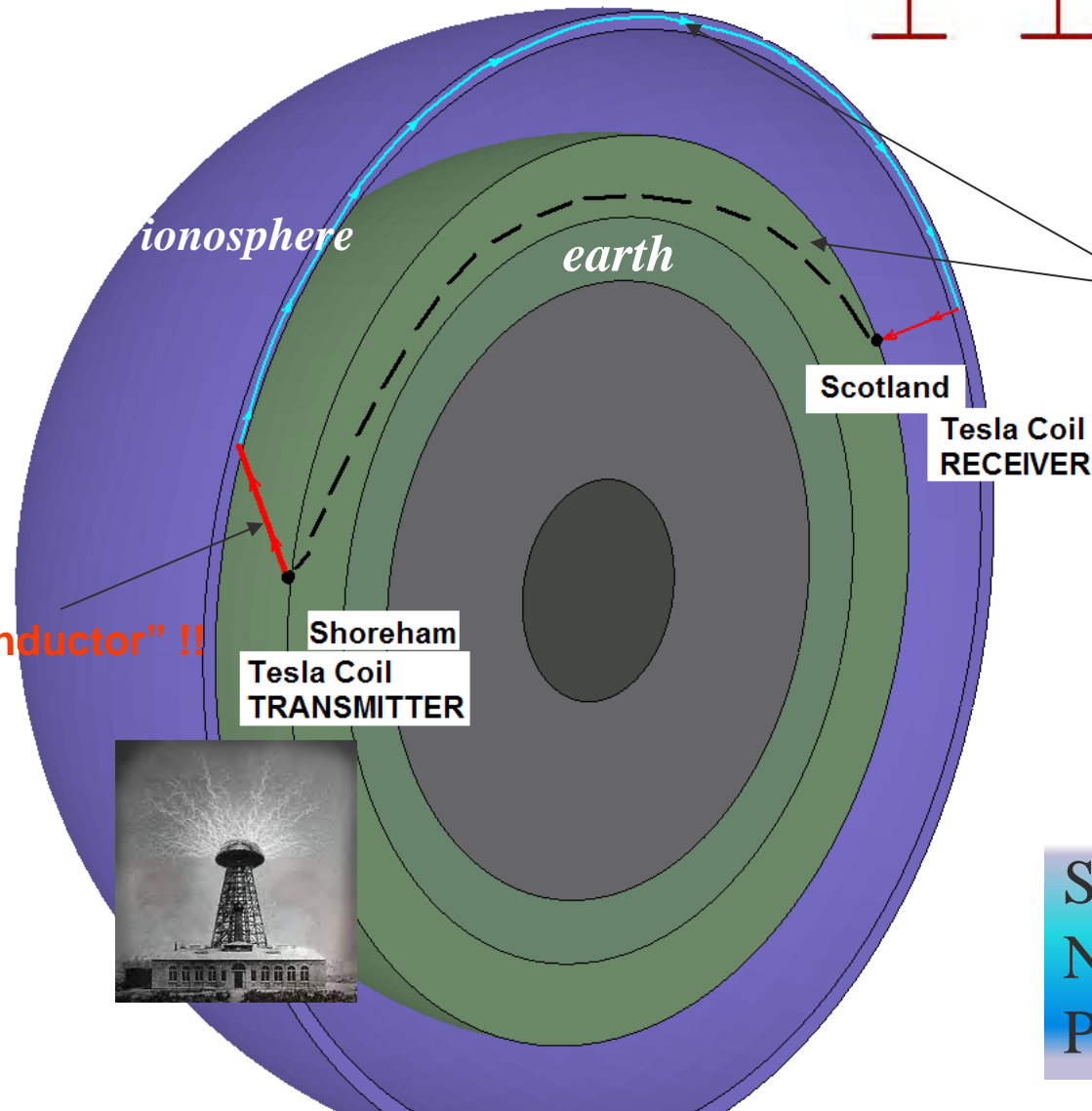


IRI celebrated the Wardenclyffe Tower Centennial in 2003 with a **Tesla Conference and Expo** as well as book release

Electrostatic Induction (capacitive coupling) High-field Gradient or differential capacitance



Also known as the “Tesla Effect” can be described as electrical displacement or the passage of electrical energy through space other than the application of voltage potential



Giant earth-ionosphere capacitor

Scotland

Tesla Coil
RECEIVER

Shoreham

Tesla Coil
TRANSMITTER



Slide from
Nick Simos,
PhD, PE

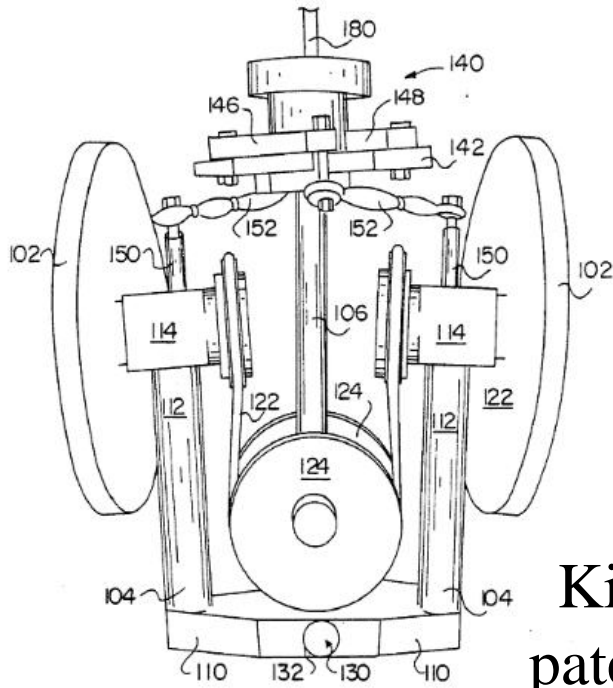
PROPULSION PROGRAM

THOMAS VALONE, PH.D.

**PRESIDENT,
INTEGRITY RESEARCH INSTITUTE**

History Channel, "Ancient Aliens," 2011

IRI Inertial Propulsion Research

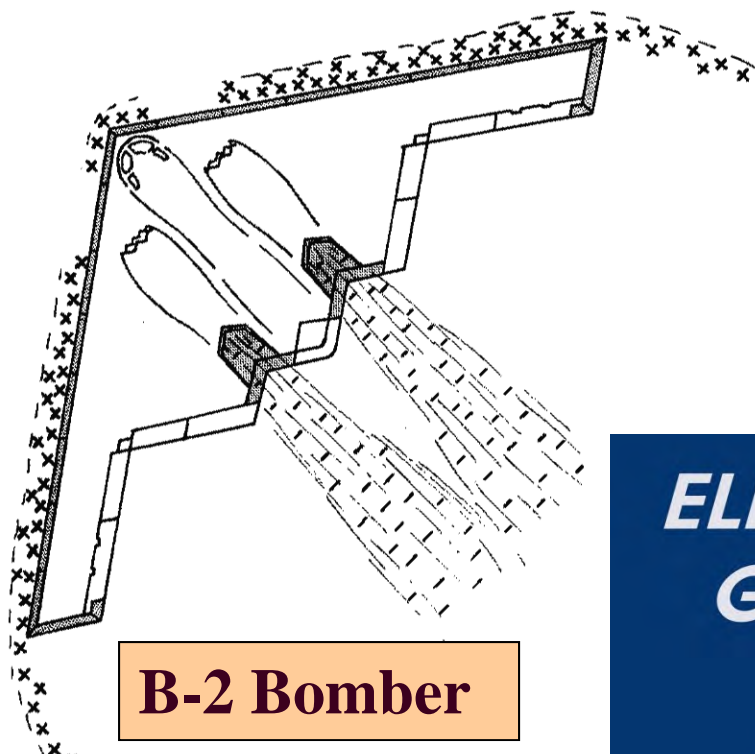


Kidd
patent

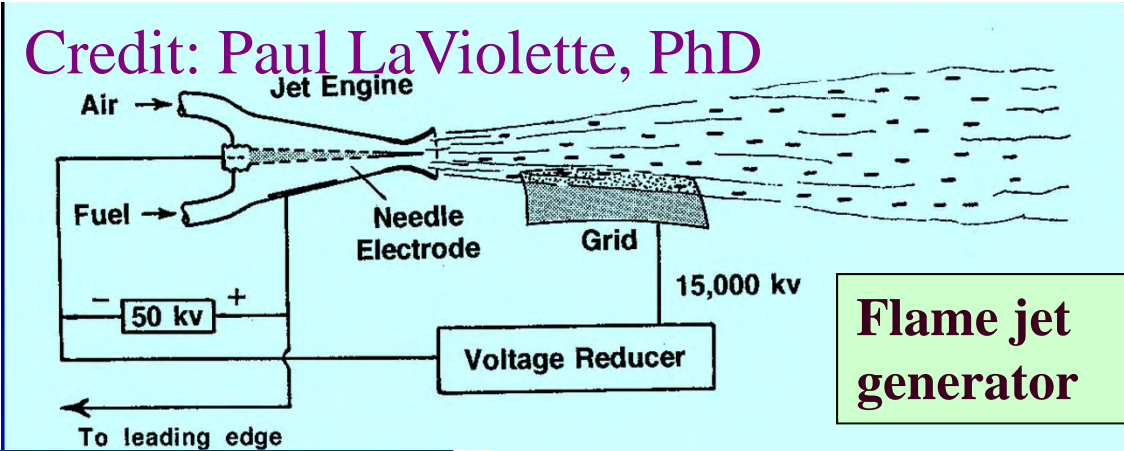
A purely mechanical process of using rotating masses, such as “**scissoring gyroscopes**” to cancel or rectify centrifugal force and produce thrust in ONE DIRECTION, e.g., Kidd #5,024,112

Engineer **Mike Gamble** discloses that **Boeing** has been using inertial propulsion (*scissoring gyros*) on its satellites “for years” at **COFE5** sponsored by **IRI**





B-2 Bomber



ELECTRO GRAVITICS SYSTEMS

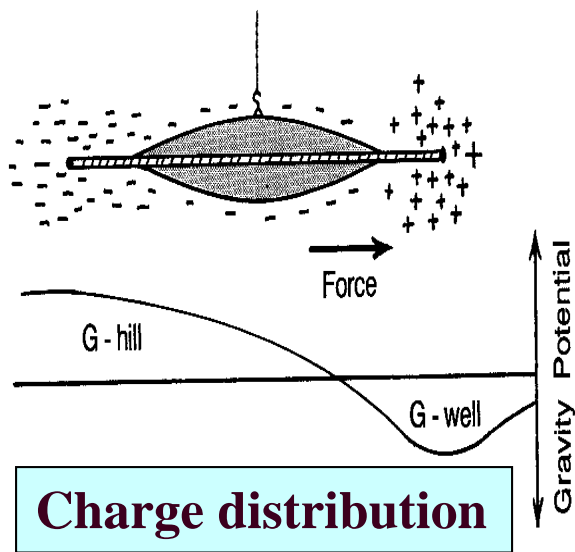
Volume I

Thomas Valone, PhD

ELECTRO GRAVITICS II

Validating Reports on a New Propulsion Methodology

Thomas Valone, PhD





Analysis of Electrogravitics and Electrokinetics for Aviation and Space Travel

Thomas Valone, PhD, PE

STAIF, Albuquerque, NM

www.unm.edu/~isnps/staif/2006

February 16, 2006

and

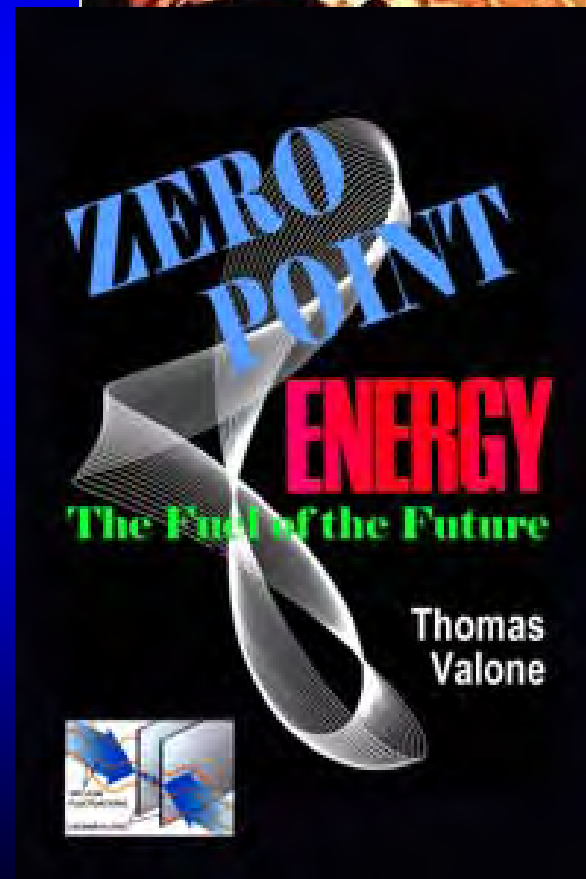
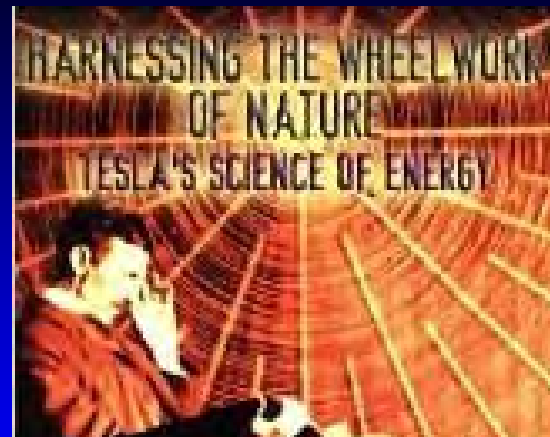
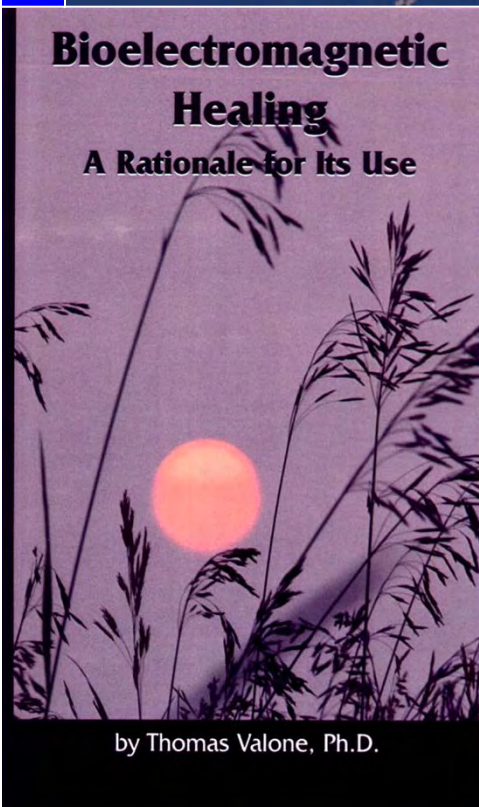
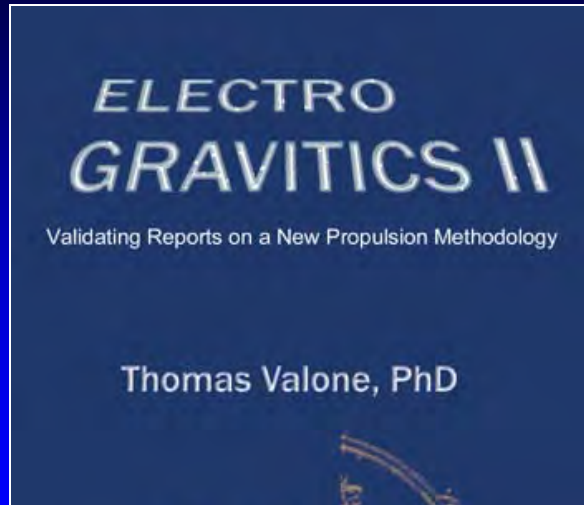
AIAA, Joint Propulsion Conference,

Hartford CT

July 23, 2008

Books that Contain Most of this Slideshow

“We have to move
beyond fossil fuels
anyhow. Why not
now?” – **Jim
Hansen, NASA
climatologist**



IRI Future Energy Projects

- ◆ **Electric Antioxidant Clothes**
- ◆ **PREMIER High Voltage Electrotherapy**
- ◆ **Pulsed Electromagnetics (EM Pulser)**
- ◆ **OsteoPad Electric Bone Hardener**
- ◆ **Tunneling Diode Array Energy Generator**
- ◆ **Spiral Permanent Magnet Motor**
- ◆ **Inertial Shield and Electrogravitics**
- ◆ **Public Education (books, conferences, Future Energy eNews, videos, audios)**

Futureenergy.org and BioenergyDevice.org