

Free Energy?

Not from Lutec

The lure of “free energy” is very seductive. Ian Bryce investigates the Lutec scheme and exposes its flawed claims.



Ian Bryce is an engineer and scientist working in the commercial satellite launching industry. He is a member of the Australian Skeptics Committee.

Energy production is the mainstay of our affluent lifestyle, and possibly the undoing of our planet's climate. Its economic importance is gargantuan. Energy itself is invisible to the eye, but its behaviour is governed by laws of nature that have been known for hundreds of years.

Not surprising then, that a good fraction of the world's scientifically literate people are involved in the production, conversion, storage, distribution, and sales of energy. Little wonder also, that it attracts many not encumbered by such knowledge or scruples.

Most of us know that you can't get money out of thin air. A stack of 20 coins in a sealed jar stays at 20, it does not grow to 25 overnight. In physics classes, our school-children learn that it is the same with energy. You can convert it between forms, say from chemical in fuel to heat inside an engine to mechanical at the wheels of your car, but the total never goes up.

Despite this, we see an endless procession of devices claimed to overcome such inconvenient facts, such as energy polarizers which double your car's mileage, and over-unity generators which enable you to sell power back to the grid.

Why are we regularly faced with people claiming these impossible machines? Clearly because of their enormous economic potential. To

those who actually believe their machine works, the playing field is the world's energy economy. To the many who don't, it is the money of buyers and investors.

In the USA, there is a long history of such scamsters travelling around showing their machines to church groups, elderly people's clubs etc. US Skeptical investigator Eric Krieg has many listed on his site at:

www.phact.org/e/dennis4.html. Scamsters typically build a complex machine, take some bogus measurements, and say it will solve the energy crisis and make investors rich. Sadly, it is often the underprivileged and uneducated who offer their savings.

The Lutec machine

Here in Australia, we have been investigating two people from Queensland who are attracting worldwide interest and investment for their “Lutec” Free Energy machine. It is claimed to be able power your house and you can sell surplus energy back to the grid, thus solving the world's energy crisis.

In researching for this article, I contacted interested parties and experts. These include:

- John Christie and Lou Brits, the free energy machine inventors;
- Cliff Carew, Patent Attorney, who drafted the patent;
- Vivienne Thoms, Australian Patent Commissioner;

□ Steve Brassington, electrical engineer providing reference.

I acknowledge using their inputs in making the article accurate. I have summarised their responses where disagreement remains. In the interests of fair play, the full text is available from Australian Skeptics on request.

Australian Skeptics Challenge

The Australian Skeptics challenge people who claim to achieve extraordinary results which violate the laws of physics. If such people seek or accept payment or investment on this basis, we are even more interested. We challenge them to demonstrate their ability under proper observing conditions.

If the claims turn out to be justified, then we will say so, and we will help to rewrite the physics textbooks. If (as is more common), the claims turn out to be false, then we will also say so, and help put to rest a possibly fraudulent operation.

Machines claimed to produce energy out of nothing used to be called perpetual motion machines. Recently, Free Energy has become the catchcry. There are even Free Energy Associations around the world, selling plans and instructions for these devices. So when the world's media learned of two Queensland inventors with a 3000% efficient generator, just needing some seed capital to go into production, the Skeptics were interested. The inventors even challenged us to test their machine for the \$100,000 prize. Having graduated in physics and electrical engineering, served in Inventors Associations, and worked in rocket propulsion, I work with power flows every day. I was very interested to learn about this machine.

There are further prizes on offer around the world. Eric Krieg offered to fly in from the USA to witness our test, and to offer his own US\$10,000.

James Randi's prize for psychic phenomena covers perpetual motion too.

The Claimants

The inventors are John Christie (mechanical engineer), and Lou Brits (electrician), both of Cairns, in far north Queensland (occupations as per media reports). All publicity to date that we have seen has been about these two men. But who is running the investment campaign? Australian Skeptics has discovered that the Third Man is Alex Witten, a real estate consultant of Cairns.



John Christie (left) and Lou Brits, with their "free energy" machine.

The Claim to The Skeptics

Having heard about our Challenge prize, John and Lou contacted the Skeptics, and in August 1999 were visited by Victorian Challenge Committee member Bob Nixon. They showed him a small motor powered from a battery, and made some general claims about its performance in running longer than it should.

On 23 June 2000, John Christie emailed Australian Skeptics, notifying us of his wish to challenge for the \$100,000. He explained that his motor will run, under load, for twice the time that it should be able to run, as calculated from the capacity of the batteries. I replied that this was not a valid claim, as it could be due to a conservative data sheet for the batteries. We would instead wish to measure the electrical and mechanical power going in to and out of the

machine in real time. He then built a bigger machine, and began taking measurements as I had indicated.

Until December 2000, John was very communicative, sending me a diagram of the machine and test setup, two video tapes of it running and being tested, an Excel spreadsheet, and list of measurements. I explained what would be required for a valid test, and his setup was modified several times.

In an email to me dated 4 January 2001, John sent a copy of a letter to the Institute for Free Energy, in which he stated that:

The motor coils remain at room temperature ... which is of course central to any claim of having 100% efficiency or better.

Oops! This shows two things. Firstly, that when it suits, he recognises the principle of conservation of energy; secondly, if his claimed 3000% efficiency is true, then all that energy coming out with little going in, should make the coils **ice cold**, which they are not! The letter continues:

By reconfiguring the coil, we can pump power back to the battery source, which then holds or even increases in charge level as the motor runs.

Where do the inventors think the energy is coming from? Their response to this article claims that a permanent magnet holding up a heavy iron object for a long time is doing work, ie supplying energy. We point out that the formula for work is the force acting multiplied by the distance moved, thus zero movement gives zero energy.

The inventors know that the term "perpetual motion" does not go down well with investors, and strenuously claim that their machine would stop after maybe 20 years when the batteries failed. I wonder, since they don't get discharged, why not replace them with a capacitor?

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They prefer to use the term “generating power out in excess of power in”. However, the accepted meaning of the entire term “perpetual motion machine” is one which does not deplete its source of energy, and in principle (neglecting bearings and material degradation) could run forever. This device (if it does what is claimed) clearly qualifies.

Promotion and investment

Two websites placed by the inventors showed the thrust of their business plan and targeted investors.

Their Main website was titled:

The World's First Free Energy Machine Also creates an incredible opportunity for you!

It includes:

MOTOR FOR ANY VEHICLE / VESSEL / APPLIANCE WILL RUN INDEFINITELY. NO NEED FOR RE-CHARGE ELECTRICITY GENERATOR. 240 Volt AC

The Australian inventors have spent five years developing a new technology, which is expressed in an invention registered with the Australian Patent Office and protected in one hundred and fifty countries through a PCT International patent application.

The invention is a new motor, which is able to produce more output energy in useable torque, than the amount of energy it requires to run itself. Something that scientists worldwide have been attempting to do for centuries, has now been done in Australia. Free energy, or as the inventors prefer to call it, super high efficiency, is here.

The inventors have in support of their patent claims irrefutable evidence that can be proven physically, mathematically and theoretically. At no point does the motor offend existing thermodynamic laws and principles.

It is NOT perpetual motion, it IS a far more efficient way of utilising what has always been available, no energy is created, no magic is used,

just sound basic principles, and common sense being applied to extract more from what has always been available, and use it better, than in the past.

Their B.A.N.K. Inc website

This web site describes the free energy claims :

“FREE ENERGY and OVER UNITY” [or over 100% efficiency].

It gives a numbered bank account in Singapore, and includes instructions on how to transfer money to it. It describes how they hope to get enough:

little players...to raise the large amounts of money needed....

They offer certificates ranging from US\$50 (Iron Level) to \$2000 (Platinum). When production commences, you can redeem your certificate for twice the face value against the purchase of a machine.

Its about telling your children and grandchildren, and them telling theirs, about how you had the opportunity, the wisdom and foresight...to protect their financial future...and save the planet...

The web site includes the following letter, deliberately linking the patent to the free energy claims:

TO WHOM IT MAY CONCERN

We the undersigned:

Ludwig Emma Brits and Victor John Christie, of Queensland, Australia.

Are the owners and inventors of a new technology expressed in an international patent application number PCT/AU99/00962.

This invention has been applied to develop a device for generating electricity at no cost of fuel to run and without producing any pollution....

Signed: Ludwig Emma Brits.

Signed: Victor John Christie.

What is B.A.N.K. Inc. exactly? There seems to be some confusion. The web site says:

A truly international corporation, B.A.N.K. Inc was formed, registered and incorporated in the Pacific, reaching the world through Hong Kong, and having its geographical and banking hub in Singapore ...B.A.N.K. searches the world for suitable emerging new technologies... BANK Inc became aware of the inventors technology and through Australian agents contacted the inventors...

Amazing, because (with assistance from Eric Krieg at groups.yahoo.com/group/free_energy/message/1901) I spoke to the designer of BANK Inc's web site, Mr Eike Prenzel. He lives in – you guessed it – Cairns, and told me the whole BANK spread was provided by one John Christie! "BANK Inc became aware of the inventors technology and through Australian agents contacted the inventors", indeed. What a nerve!

The two web sites were pulled on about 16 March 2001 following representations from the Australian Securities and Investment Commission. However, it seems the content of BANK has been copied and is still available at:

www.nutech2000.com.au/webcontent13.htm

It also appeared in the Australian magazine *Nemesis*.

Media coverage

An article in the *Cairns Post* of 8 March 2001 is particularly interesting. It may be seen at:

www.rense.com/general9/unveil.htm and is summarised below:

Two Cairns inventors yesterday unveiled a world first commercial machine which can power a house from a permanent, clean, green and virtually free energy source...

Relying on the attraction and repulsion of internal magnets, the Lutec 1000 operates continually on a pulse-like current 24 hours a day – producing 24 kilowatt [hours] of [energy] – once it is kickstarted from a battery source...

The device is more than 500 per cent efficient...

If it were not for the magnets, which have a life of 1300 years, and the battery pack, which has a life of about five years, the machine would be in perpetual motion...

Mr Christie said the next step was to develop a small-scale pilot plant in Cairns to begin distributing the motors to the places they were needed most – such as shops and homes in the power-starved Daintree region and the Torres Strait. It is expected to go on the market for \$4000-\$5000...

The only problem the pair now face is in raising \$500,000 to start their production plant. "We were afraid the kids would be kidnapped or we'd be shot, I'm not kidding," he said...

The pair have begun discussions with Ergon [the local electricity company] as there is also the opportunity of selling energy back to the grid.

Griffith Hack [patent attorneys] partner Cliff Carew, who was speaking from Brisbane, confirmed the device was genuine and unique...

There are some disconnects here. Their current machine, weighing 90 kg, by their own claims generates 35 watts (though limited by the dynamometer). They want to launch immediately into production for houses. The average house can consume up to 20 kW peak. In proportion, a machine to provide this would weigh 51 tonnes! And is no development required?

In March 2001, John Christie appeared with the machine on *Today Tonight* (Ch7) in a four minute segment. There he said the machine will "power your house for free, change the way the world gets its electricity, and replace the combustion engine" (and all before breakfast perhaps?). He said the international patent has been examined. He said Steve Brassington, an electrical engineer, backs it up. And "there is no electrical engineer or physicist, who has seen it, who says it doesn't work".

Well, John, you won't let me see it, but I have the test results. I hereby put my hand up!

The claims of free energy and per-

petual motion are now well out in the open. Note also the direct linking of their patent and free energy claims. This is significant in view of their own patent attorney insisting that their patent covers only an improved-efficiency conventional generator (less than 100% efficient), as will be discussed in Part 2. Even a lack of any real technological basis is no protection, it seems. Infamous American free energy scamster, Joseph Newman, has charged that Brits and Christie have plagiarized the technology which he developed 35 years ago!

(www.randi.org/jr/03-22-2000.html)

I contacted the referee, Steve Brassington, and he did indeed back it up. He believes it works, and that their method of calculating the input and output is sound, but he would like to see a thorough test and analysis. I think we can oblige.

The inventors expect to sell their excess electricity back into the grid. I spoke to Ergon Energy's Grant Behrendorf, who said this was possible, as they buy excess power from sugar mills. He said they get about one call a month from perpetual motion proponents. Ergon was approached by Lutec, and (as usual) responded politely and did not spend any time investigating.

The Lutec inventors have also been active in American late-night talkback radio. On 29 March, John Christie talked for 50 minutes with Jeff Rense. He said the Lutec 1000 works and is in pre-production, will save the planet, and is a golden key to unlock unlimited potential.

Investors

Following the *Cairns Post* item, offers flooded in from both small and large investors. One of the first was Cairns businessman Alex Roma, who said he might be "prepared to help bankroll the production plant". However, after further investigation and requests for testing, he declined to continue his participation. Not all were so wise.

In a *Letter to the Editor* [*Cairns Post*], Larry Andresen said "If 500 local families put in \$1000 each, we

would put a world-beating invention on the market...". John Christie has reported that orders with deposits or full payment flooded in. The investment side has been managed by Mr Alex Witten. The inventors report being swamped with interest from all over the world:

- visit from investors from USA, two of them "well down the track";
- visit from investors from Switzerland;
- eager interest from Russia;
- the Singapore government is ready to invest;
- the Chinese Government is ready to roll out the red carpet;
- Interest from Japan and Indonesia;
- Businessmen from Cairns and other parts of far north Queensland;
- Many others.

Potential investors reported to *the Skeptic* that they were offered deals such as \$500,000 for three years with 50% annual return. They have also been offered franchises to sell the machines in various regions for sums up to \$750,000.

Such investment responses to untested and unlikely notions can only deflect interest and funding away from genuine research into much-needed energy efficiency measures. Not to mention the potential harm done to family budgets.

Attempt to visit the inventors

As the two inventors John and Lou had previously telephoned me many times and appeared very enthusiastic to be tested by the Skeptics for the prize money, I planned to visit them when holidaying in the area. On my arrival in Cairns at 10 am on Friday 27 July 2001, I phoned John's mobile number. They were together, and I told them I accepted their earlier invitation and had the Friday and Saturday available to meet them.

At first they said they were keen to meet me and give a demonstration of the generator. They said they have an office in the Trinity Wharf Complex in Cairns CBD, and the machine

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is kept elsewhere “under lock and key as you would expect”. They would make a time and phone me back.

As I did not hear from them, I phoned again several times. Each time they had a good reason why they had not phoned back: lost my number, were still working etc. Eventually, they discovered that the building containing the machine was securely locked up, had only one key, and the person holding it was away in Sydney!

Then how about a meeting at least? Unfortunately, they needed to “work all weekend on a proposal” and it would be difficult to find time. That evening, by chance, I happened to dine at the well-known Raw Prawn Cafe.

In Eric Krieg’s book *Perpetual Motion - the history of an obsession*, he quotes, regarding attempts by scientists to investigate a previous claim:

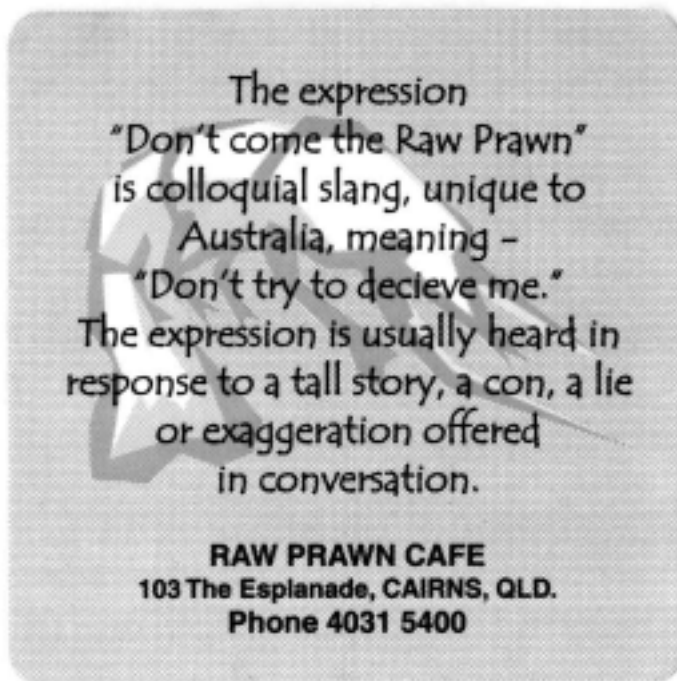
When the team arrived at the house, they found that the door of the room containing the machine was locked, and the key, conveniently, missing...

This occurred in 1813.

Description of the motor-generator

The configuration of the motor-generator and the test procedure put forward to Australian Skeptics by Mr John Christie in December 2000 is of interest.

It is a rotating electromagnetic machine, with electrical terminals, and a mechanical shaft. Mr Christie reports that it contains coils, permanent magnets, and iron laminations. There are 3 banks, each containing a stator [stationary component] with electromagnets, and a 3-part rotor [rotating component] with permanent magnets. The rotors are mounted on a shaft, supported by bearings. There are



also switching devices, operated by rotation of the shaft.

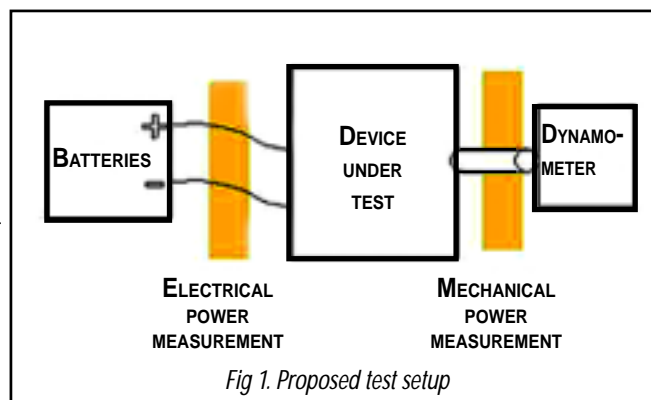
The machine has two terminals to the outside world, to which a battery bank is connected (typically four 12-volt batteries connected in series). Inside the machine, each coil is energised for a small angle, by a brush and commutator.

How sound is the mechanical engineering? One eye-witness reports that the black-painted sections of the frame are actually made of wood.

The shaft is connected to a dynamometer brake. The dynamometer is of the eddy current type, and requires its own power supply (such as mains, variac, and rectifier).

Proposed test method

Australian Skeptics believes that if the claim of “more energy out than



in” is met, this qualifies for the \$100,000 prize. Therefore, the test method is designed to determine whether the claim made is true.

John Christie explained that the battery is needed, firstly to start the machine, and then to provide a small kick each turn, but more current is put back later in the rotation. I suggested that the battery be removed, or replaced with a capacitor, to make testing very easy. He said this was not achieved yet, so we proposed to instead measure the electrical and mechanical power. In consul-

tation with other Skeptics scientists, a test layout (Fig 1) was developed.

The test procedure went on to detail precautions we would take to ensure validity of the measurements, under the following headings:

Electrical power measurement:

Taking into account steady, varying, AC and DC components. The large batteries could be expected to stabilize the voltage sufficiently so that:
power = avg voltage x avg current.

Mechanical power measurement:

Rotation rate (rpm) times torque.

Instruments:

Verify accuracy and correct functioning.

Hidden sources of power:

The claimant has stated that there are no hidden sources of power such as batteries inside the motor-generator. Australian Skeptics may wish to verify that statement by inspecting the motor-generator.

Test duration:

The test duration will be sufficient to establish steady state conditions, such as 5 minutes

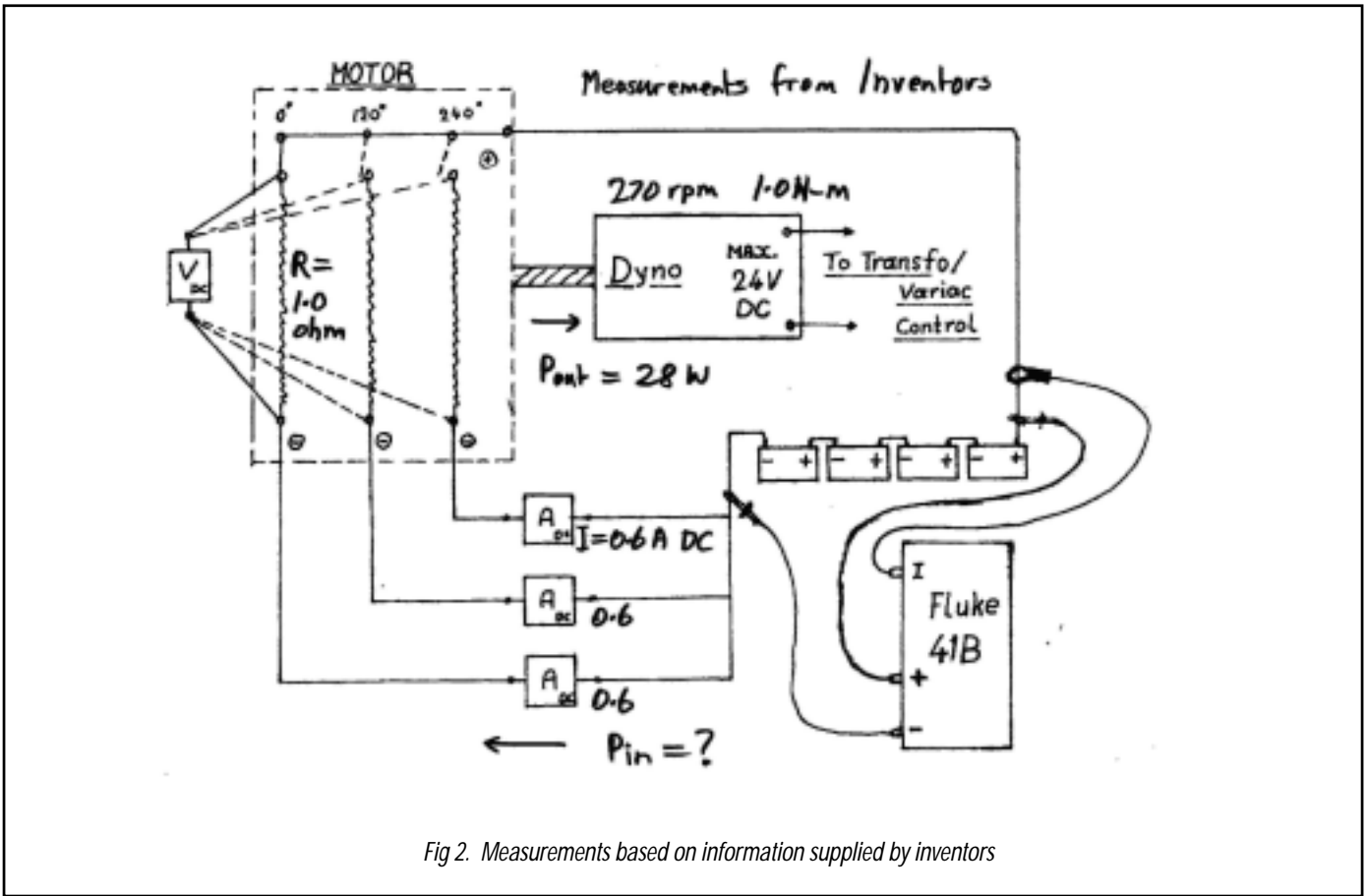


Fig 2. Measurements based on information supplied by inventors

Calculation:

If measuring conditions are valid, the net power out of the device is then the mechanical power out minus the electrical power in. Careful regard will be paid to signs (the direction of current flow, torque etc).

Criterion for Prize:

Science predicts that, due to conservation of energy and internal losses, the net power out will be negative. If it is positive, the prize will be awarded.

Test results

Although the inventors now appear to be avoiding the Skeptics and thus the machine cannot be tested directly, my discussions with them have revealed ample material (videos, diagrams, measurements) to fully analyse their machine and its claimed 3000% efficiency.

Test setup

The diagram (Fig 2.) shows the arrangement of their machine, and the actual test results as reported by

them. This is explained very clearly in the videos they sent. The machine runs relatively slowly, and makes plenty of noise, but they say that is due to it being sited on a table top. Copious arcing is visible at the contacts.

Measurements

The measurements they sent me generally include many conditions of battery current and dynamometer load. I told them that one condition would be sufficient, and they should select one with high output power.

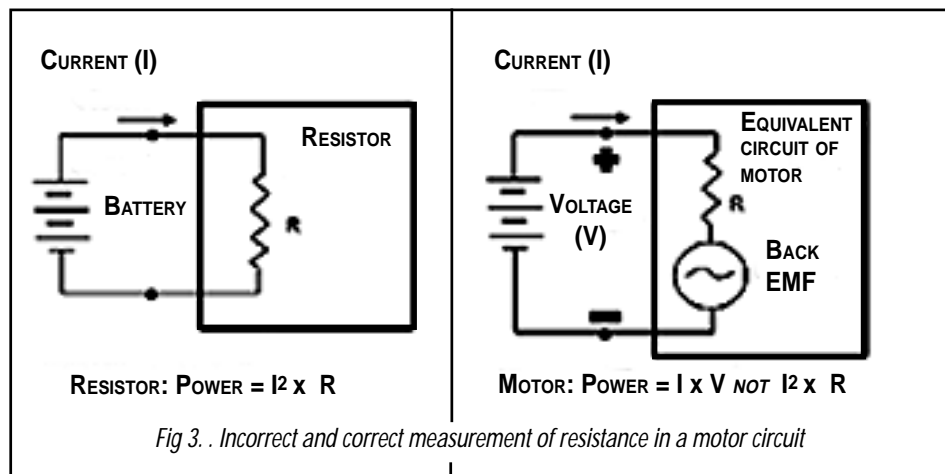
From their calculations, I describe their method as follows (filling in some gaps):

- Shaft speed is measured using a handheld tachometer.
- Output torque is measured by the dynamometer
- Mechanical power output is calculated as the product of angular velocity and torque.

PARAMETER	MEASURED BY	VALUE
Output shaft speed	hand-held tachometer	270 rpm
Output torque	torque meter on dynamometer	1.0 N-m
Hence: mech. power output	speed * torque * 2π/60	28.3 W
Input current to each coil	amp meter	avg. 0.60 A
Resistance of each coil	ohmmeter when stationary	1.0 ohm
Hence: power into each coil	I ² * R	0.36 W
Hence: total electrical power input	3 * power into one coil	1.08 W
EFFICIENCY	Mech power out/ elec power in	26.2 or 2620%

Table 1

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- Input power is more complicated: the DC resistance of each bank of coils has been measured as 1.0 ohm
- The DC current to each coil bank is measured (nearly the same to each)
- The power in a resistor is I^2 times R ; this gives the power to each bank
- The electrical power in is the sum of the powers to the 3 banks
- The efficiency is the power out divided by the power in.

From their measurements dated 20 December 2000, a typical set of results is as shown (Table 1):

So, according to this calculation sent to me by the inventors, their machine produces 26 times more output than input, and is 2620% efficient. (They have since changed their mind on some minor aspects). In any case, it will certainly meet their claims of powering your house as well as selling power back into the grid.

John eagerly reported many measurements to me, which makes me think that at the time, he seriously believed the machine produces free energy.

The flaw in their method

It is true that for a motor at rest, the input circuit behaves like a resistor (as far as DC is concerned). This resistance is just that of the copper coils. However, once the motor is turning, this is no longer true. The motion produces a "back EMF" which makes the voltage at the terminals higher. The figure (Fig 3) shows their assumption, and the correct equivalent circuit for a general motor.

The real efficiency

We are in a position to proceed, because the videos and descriptions show four 12V batteries connected to the machine. Thus the terminal voltage will be about 48 volts, and well stabilised despite the pulsating current. My own calculations follow (Table 2):

The real efficiency of 33% is reasonable, given that the machine was designed without a basis in electrical engineering and is partly made of wood.

Where does delusion end and fraud begin? Some free-energy proponents (who refuse to be tested) clearly know their machine will not work, yet continue to promote it for money or advantage, and thus have fraudulent intent. Others perhaps do not know of the laws of nature, and appear to believe their machines work. Are they fraudulent?

Perhaps not. But if they have been told enough times by scientists that it is impossible and their measurements are wrong, then surely the distinction becomes blurred!

Conclusion

Australian Skeptics will continue to investigate claims of free energy, from both the theoretical and measurement points of view. We will keep an open mind on each case until the evidence is in. Meanwhile, we have an unequivocal message for the Lutec inventors and their associates:

- According to the laws of physics, your machine cannot work.
- You have not provided any theoretical basis to challenge these laws; your description of how it works is flawed.
- Your own patent attorney has told you that your patent provides no basis whatsoever for your "free energy" claims (refer Part 2).
- You have analysed your measurements wrongly, and the 2600% efficiency (and all over 100%) is incorrect.
- Your measurements confirm that useful energy is being lost, not generated; the efficiency is about 33%.
- You have been told this many times, so ignorance is no longer a viable excuse.
- Soliciting or accepting

PARAMETER	MEASURED BY	VALUE
Output shaft speed	hand-held tachometer	270 rpm
Output torque	torque meter on dynamometer	1.0 N-m
Hence: mech. power output	speed * torque * $2\pi/60$	28.3 W
Input current to each coil	amp meter	avg. 0.60 A
Total input current	sum of above	1.8 A
Input voltage	= battery voltage	48 V
Hence: total electrical power input	$I * V$	86.4 W
EFFICIENCY	Mech power out/ elec power in	0.33 or 33%

Table 2

money under false pretences is an offence, and you should desist.

A similar message is issued to free energy proponents around the world. To people considering investing in such schemes, we also have a message. Say to the proponents "Australian Skeptics say it is impossible; have you accepted their challenge?"

Part 2 (next issue)

In the next issue, we will explore the Lutec patents in detail. Patent documents can be very revealing about the development process, the inventor's beliefs at different times, and the key innovations. I will talk to the patent attorney who drafted the Lutec patent.

The Lutec machine will be compared on a complexity scale with other free energy machines from around the world, and we will try to explain why they cannot work.

LUTEC inventors' response

This article in its original form was sent to the Lutec principals for their information and comment. It also included an offer to them to have their response, if any, printed alongside the article.

The inventors' reply was received in late August and we have printed the relevant parts of their reply below.

Some minor points of technical clarification they raised have been incorporated in the article and removed from their response, and certain irrelevant comments and some insulting personal observations regarding the author have been removed.

Dear Ian,

Thank you for inviting us to reply to your draft article and for promising in writing to print our reply beside your effort to discredit, slander and defame us.

There are a number of points you make which we take issue with and we will deal with them in no particular order from which they appear.

(Technical matters attended to.)

We have received literally hundreds of offers of financial support from people from all over Australia and overseas. We have had people knock on our door and offer to invest various amounts, including one for one hundred thousand dollars the morning of the publishing of the newspaper article. We have *not* accepted any money from these people. We do have a business plan which calls for investment of \$500,000 at a time. The only people capable of providing that level of funding are certainly not the sort to invest unwisely or to do so without conducting their own due diligence and seeking independent advice before acting...

Because of the long time between initial contact with you and some agreement being sorted out ... we simply ran out of time and had to raise the money for our patent costs elsewhere...

(Personal remarks deleted.)

Your interpretation of the figures given demonstrates clearly that you have absolutely no knowledge of what is happening in our machine. We are dealing with something new here. We appreciate that this will

shock you as you already know everything. By the way it is interesting to note that the speed of light has been discovered to not be the constant you previously thought, a bumble bee can't fly according to man's rules and laws, and what about air conditioning which provides a definite display of overunity, and we live in an ever expanding universe...

Magnets: Imagine someone holds a 10 Kilo iron weight over his head with both hands, is the person performing work ie expending energy in holding it up. The answer must be yes. If the same 10 Kilo iron weight is held up by a magnet which is fixed to the ceiling is the natural magnetic attraction holding the weight up and so doing the work, or is it the ceiling, or is it both.

The motor coils remain at room temperature: Assume an output of 10 watts, electrical input calculated at 2 watts and that the 2 watts input is only 50% efficient. This means that 1 watt of the 10 watts output comes from the electrical input and the remaining 9 watts is the result of the natural magnetic attraction and natural magnetic repulsion of the magnets. The only way to make these coils ice cold is to put them in a freezer.

There are many other issues we could comment on however we have wasted enough valuable time in making this reply to you and so will leave it as it is.

It would probably be wise for you to re-think your decision to publish your article.

Regards

Lou Brits and John Christie

17 August 2001

