

Possible Technical Solutions to Lake Mead Water Shortage

Both Boulder City and Las Vegas, Nevada are jeopardized by Lake Mead's dropping water level. I have selected the following possible technical solutions from my accumulated inventory of energy inventions – nearly all of which are documented in my website www.padrak.com/vesperman.

Brief Summaries

Air Wells – Air wells are structures or devices that collect water by condensing moisture from air.

Hydrosonic Pump – A hydrosonic pump is a mechanical rotating machine which converts plain water to steam at zero pressure without the need for hot surfaces.

Lantz Water and Power System – Robert Lantz combined his Sonofloc System 77 with an ultracentrifuge to purify any kind of water, including seawater. With an auxiliary energy generation system, megawatts of heat and electricity can also be produced without fuel. First tested in 1989, the Lantz Water and Power System could solve global energy and water quality problems.

Spiteri Water Pump – The submerged Spiteri water pump efficiently converts hydraulic energy into mechanical energy without fuel nor pollution. This mechanical energy then pumps water uphill into a reservoir.

Environmental Heat Engines – Efficient and pollution-free environmental heat engines absorb ambient heat to expand a working fluid such as Freon or ammonia and push pistons through sealed chambers to provide useful net mechanical power.

Researchers Discover Massive Freshwater Reserves under the Ocean – Researchers claim to have found 500,000 cubic km of low-salinity water hidden beneath the seabed on the continental shelves around the globe.

Primary Water – Primary water originates through chemical processes deep within the earth. Japanese laboratory experiments have shown that there may be up to five times more water deep underground than in all the oceans, lakes and rivers combined. Enormous quantities of pure virgin water can be located with the aid of dowsing and withdrawn from crystalline rocks – particularly hard desert rocks.

Etheric Weather Engineering – Native American rain/sun dances around circles and carefully designed and built objects no larger than a wastebasket have repeatedly been demonstrated to manipulate weather within several miles in radius.

Atmospheric Water Generation – Post-processing units are added to existing air conditioners and refrigeration units to produce potable water.

OASIS Machine – Produces water by flowing air over a surface colder than the air's dew point temperature.

Air Wells

Everywhere on Earth, even in deserts, the surrounding atmosphere contains at least some water. The quantity of water vapor contained within the air is commonly reported as a relative humidity, and this depends on temperature – warmer air can contain more water vapor than cooler air. When air is cooled to the dew point, it becomes saturated, and moisture will condense on a suitable surface. An air well is a structure or device that collects water by promoting the condensation of moisture from air.

Designs for air wells are many and varied as reflected in that at least five dozen patents have been issued. Active collectors collect water in the same way as a dehumidifier. Although the designs work well, they require an inexpensive source of electricity to be practical. New, innovative designs seek to minimize the energy requirements of active condensers or make use of renewable energy resources.

My new compilation of “Space Travel Innovations” (see www.padrak.com/vesperman) includes this report from David Yurth:

In 1992, I watched a demonstration conducted by two technicians from Kiev, Ukraine’s I. N. Frantsevich Institute of Problems of Materials Sciences (IPMS) in the board room of the law firm of O’Melveny and Meiers in Newport Beach, California. They attached a piece of flat black material to a small clip suspended from a conventional chemistry lab test tube stand [single metal pole extending vertically from a cast iron base]. To the corners of this material they attached the leads from a conventional 9-volt battery, using small alligator clips, one attached at each corner. Within 20 seconds, the top surface of the tarot-card sized flat black card became covered with a layer of ice crystals. Within 30 seconds, a continuous cloud of frozen ice crystals [looking for all the world like the vapor which rolls out of a bucket of water when a piece of dry ice is dropped into it] began to pour off the upper surface of the suspended card and onto the top of the 20-foot long board room table. Within a minute, the cloud entirely covered the board table and was pouring off the edge of the table onto the laps of the people who were seated around the table watching this demonstration.

When the technician offered to allow someone to actually hold the ‘card’ in their hands, everyone who had seen a demonstration of the Peltier effect refused – in our materials science lexicon, Peltier materials get very cold on one surface but demonstrate compensating heat on the opposing side. So when the demonstrator disconnected the card and held it in his hand, everyone who thought they knew what was happening gasped. With a digital thermometer, the demonstrator measured the surface temperature of the opposing side of the card – it was 72 degrees F. The top surface of the card was -68 degrees F. It was extracting heat from the local address and dissipating it non-locally in the presence of a very small activating DC voltage field with sufficient efficiency to freeze free-standing CO₂ from the atmosphere.

(End of excerpt)

It seems that this material could be used to extract moisture from air with small amounts of electricity.

My website includes a link to my compilation of “130 Electrical Energy Innovations”. Some of them may be able to cheaply generate electricity for air wells. For example a doughnut-shaped fuel-less hydro-magnetic dynamo the size of a two-car garage apparently could cleanly and safely generate half the nameplate capacity of Hoover Dam’s 17 generators, 2080 megawatts, for maybe a tenth of the cost of Boulder City’s electricity. Abundant, cheap, safe, reliable, and clean electricity could be a key to obtaining water supplies. A few other candidate generators are documented in my website’s “Space Travel Innovations”.

<http://rexresearch.com/airwell2a/adsorbairwl.htm>

www.rexresearch.com/theilow/theilow.htm

www.rexresearch.com/whisson/whisson.htm

www.rexresearch.com/parent/parent.htm

www.rexresearch.com/ellsworth/ellsworth.htm

www.rexresearch.com/airwell3/airwell3.htm

www.rexresearch.com/airwell2/airwell2.htm

www.rexresearch.com/airwells/airwells.htm

Hydrosonic Pump

The hydrosonic pump seems destined to become a billion-dollar invention with many applications involving heating, evaporating, separating or mixing liquids. It is really a zero-pressure boiler, not a pump. The inventor James Griggs has been calling it a pump so as to avoid entanglement with strict American Society of Mechanical Engineers boiler codes.

Mechanical input power rotates the shaft, and plain water is converted to steam without the need for hot surfaces and consequently without the buildup of scale. The process is essentially based on collapsing microscopic bubbles to momentarily create extremely high pressures and temperatures. This controlled cavitation generates shock waves. Thus another name for the device is shockwave power generator.

The hydrosonic pump works by taking a fluid, pure or impure, into the machine housing, where it is passed over the generator's spinning cylinder. The specific geometry of the holes in the cylinder, clearance between the cylinder, and the housing and rotational speed create pressure differences within the liquid where tiny bubbles form and collapse. These collapsing bubbles generate shock waves. The result is the conversion of mechanical energy into heat energy. The effect is immediate when the shaft rotates in contrast to boilers which often take hours to reach boiling temperatures.

In addition, there is an ultrasonic cleaning effect that occurs on the metal surfaces inside the hydrosonic pump as the shock waves are generated within narrow tolerances. This cleaning effect, in conjunction with the metal surfaces being cooler than the liquid, ensures scale-free heating.

The energy conversion efficiency is around 130%. To prevent confusion, it should be clearly understood that the hydrosonic pump on the macro scale does *not* operate at high temperatures and pressures as is the case with nuclear or fossil-fueled boilers. The physics of the device is not fully understood.

One application is to use a windmill to turn the shaft. Out of the nozzle comes steam which drives a steam turbine to produce electricity. The steam then enters a condenser from which can be obtained potable water and hot water for space heating. For remote islands, for example, the hydrosonic pump would be very useful in its simultaneous generation of electricity and seawater desalination. The efficiencies of nuclear and fossil-fueled power plants could be increased by 3 to 5 percentage points.

As of May 1996, the inventor had 14 units actually installed and operating in Atlanta, Georgia. One application was for producing clean steam on demand for a commercial laundry. The customers included the Atlanta Police Department, a fire station, a dry cleaning plant, and a gymnasium. Interestingly, the hydrosonic pump was installed in the public buildings by the county engineer after evaluating the device. The buildings used the device mainly for heating purposes, and they had been running for more than a year. The customers have bills from their local electric utility company showing a year-on-year decrease in bills equivalent to 30 per cent.

Nevada has large underground reservoirs of useless mineralized water. The hydrosonic pump could be the centerpiece of a large-scale scheme to generate electricity, heat and potable water. The hydrosonic pump could also desalinate seawater for Mexico and California's coastal cities which would remove some of the demand for Colorado River water. The shafts of hydrosonic pumps could be rotated by electric motors powered with cheaply generated electricity in the same manner as air wells.

I was recently told on the telephone by inventor Maurice Bey that Griggs posed enough of a threat to the energy status quo that he was shut down by the US Government.

Maurice Bey has been researching the Schaeffer engine which apparently shares some similarities with the hydrosonic pump. See <http://www.rexresearch.com/schaeffe/schaeffer.htm>.

Michael Waters also apparently has been researching something similar but simpler than the Schaeffer engine.

www.padrak.com/vesperman "130 Electrical Energy Innovations"
<http://rexresearch.com/griggs/griggs.htm>
http://www.youtube.com/watch?v=yh_-DUKQ4Uw

Lantz Water and Power System

My article in "130 Electrical Energy Innovations" on Bob Lantz' water and power system is brief:

"Robert Lantz invented his water purification Sonofloc System 77 for seawater desalination. He also began making new-energy system prototypes for other inventors in 1977 which culminated with his 1989 discovery of an "overunity" energy generation system. Combining his System 77 with an ultracentrifuge results in an overall device that not only purifies any kind of water but also produces sufficient heat to produce megawatts of electricity without any fuel at all – perhaps by "tapping the zero-point energy" with a kind of device the US Department of Energy in 1998 called "the Holy Grail of energy research".

The Lantz Water and Power System was first tested in 1989. It apparently can solve our global energy and water quality problems."

(End of excerpt)

In fall of 2013 I called Michelle Whiteacre in Reno. She has been a long time friend of Lantz. She said it is a 45-47 megawatts device. The ultracentrifuge rotates at 14,000 RPM.

Lantz is 86 years old and is in a Reno nursing home. He was shabbily treated by the US Government according to my story on him in my compilation of 95 cases of suppression of energy inventions – see www.padrak.com/vesperman. Apparently his mind is mostly gone.

Michelle volunteered to copy all of his drawings and writings and mail them to me. However, I have not received them. If I have any questions, I could ask Michelle or Michael Bosch who also lives in Reno and is another friend of Bob Lantz.

www.padrak.com/vesperman "130 Electrical Energy Innovations"

Spiteri Water Pump

An air-conditioner does not generate energy. It transfers thermal energy from a room into the outside air with greatly increased efficiency. When a body is submerged in water there is latent hydrostatic energy in place. The submerged Spiteri water pump efficiently converts this hydraulic energy into mechanical energy.

The Spiteri water pump comprises of a housing containing a fluid. A pump motor is submerged within the fluid. The pump motor is pivotable within the housing about a fixed pivot point. A buoyant member is contained within the pump motor. A ballast member is contained within the pump motor. The ballast member contains a ballast tank. A transfer means is coupled to the buoyant member to transfer the upward movement of the

buoyant member within the pump motor. And last, a pressure differential means is operable to move the ballast tank upwards within the pump motor.

This mechanical energy is then used to pump water uphill into a reservoir. A hydroelectric power system utilizes the reservoir's waterfall to generate cheap electricity without fuel nor pollution. A Spiteri water pump can be placed in any water body in the world to produce energy 24 hours a day, seven days a week.

The Spiteri water pump could be combined with the hydrosonic pump to pump desalinated seawater into onshore reservoirs and water tanks.

www.rexresearch.com/spiteri/spiteri.htm

Environmental Heat Engines

My compilation of "130 Electrical Energy Innovations" describes four different kinds of environmental heat engines. These efficient and pollution-free engines absorb ambient heat to expand a working fluid such as Freon or ammonia and push pistons through sealed chambers.

The inventor of the Stewart cycle engine, Bob Stewart, claimed that his fuel-less engine could lift Colorado River water from below Hoover Dam back up into Lake Mead, thereby doubling Hoover Dam's output of electricity. He also proposed lifting water from the Columbia, Mississippi or Missouri rivers via a canal, generating electricity as the water flowed back downhill to the Colorado River.

Below is the text of Ken Rauen's December 5, 2013 email to Gary Vesperman. Rauen's Rauen cycle and Superclassical cycle engines expand working fluids with environmental heat to provide useful net mechanical power.

Hi Gary,

I like the air well idea. When energy to make electricity is free, heat pumps can refrigerate the atmosphere and condense water from low humidity air easily, an air well.

You may want to know that my current work in environmentally heated engines are two projects being promoted by Mark Goldes' group, Aesop Institute. See www.aesopinstitute.org. The home page says something about the piston engine, and the topics on top refer to the piston engine as one project and the turbine engine as the other project. In both cases, other men invented these engine concepts. I just took the ideas to a better design, understanding how they work. One patent application has been made for Wainwright's piston engine concept, and the Kondrashov turbine idea has spawned another related invention.

Our potential investors are not delivering much yet – survival money – and we are still looking for more support. Your exposure of this work could be helpful. Unlike other free energy possibilities, I can go "nose to nose" with any university physics professor about the science behind these projects. The science is solid. The technology is identified. It just needs resources to acquire facilities, tools, and materials.

Have Fun,

Ken Rauen

www.padrak.com/vesperman "130 Electrical Energy Innovations"

Researchers Discover Massive Freshwater Reserves under the Ocean

We all know that you can't drink saltwater without removing the salt. In many parts of the world, clean fresh water is hard to come by. People drill deep wells, but at times, there is no water to be found. A group of researchers has discovered huge reserves of fresh water under the oceans.

It sounds strange to find freshwater under the salty ocean depths. However, researchers claim to have found 500,000 cubic kilometers of low-salinity water hidden beneath the seabed on the continental shelves around the globe.

The scientists claim that the fresh water has been discovered off Australia, China, North America, and South Africa. According to one of the researchers that discovered the fresh water, the volume of water found is a hundred times greater than the volume of water extracted from the sub-surface of the Earth since 1900.

Previously it was believed that freshwater aquifers under the seafloor only happened under special circumstances. The new research suggests that fresh water is common under the seafloor. The team says that these massive freshwater reserves were developed over hundreds of thousands of years when the average sea level was much lower than it is now. The freshwater was shielded from the salty ocean water by layers of clay and sediment.

<http://www.slashgear.com/researchers-discover-massive-freshwater-reserves-under-the-ocean-09308092/>

Primary Water

Conventional geological theory holds that underground water sources are the result of rain and melted snow soaking into the ground. November 2013 an energy researcher called to tell me about clean abundant "primary water" in the Earth's mantle. I had never heard of primary water.

Primary water originates through chemical processes deep within the earth. Their existence is clearly shown by the vast clouds of water droplets that condense from the emitted water vapor during volcanic eruptions.

In subduction zones at the edges of tectonic plates iron oxide and other minerals are drawn far below the earth's surface where high pressures and temperatures prevail. As the mantle material melts the iron oxide undergoes a chemical metamorphosis in which its oxygen component becomes more reactive.

The mineral majorite is a type of garnet which normally occurs only at a depth of several hundred kilometers under very high pressures and temperatures. The majorite combines with the oxygen from iron oxide. The higher the pressure, the more oxygen can be stored by majorite.

Convection currents in the mantle carry the oxygen-laden majorite to the surface. Near the Earth's surface, without extremely high pressures and temperatures, the majorite decomposes – releasing oxygen. The earth constantly exudes hydrogen, which combines with this oxygen to form water.

If our planet did not have the ability to store oxygen in the deep reaches of its mantle there would probably be no life on its surface. Japanese laboratory experiments have shown that there may be up to five times more water deep underground than in all the oceans, lakes and rivers combined.

Research undertaken by Stephen Riess in 1934 showed enormous quantities of virgin water could be obtained from crystalline rocks. Riess was able to tap straight into formations of hard desert rock of the right composition and produce as much as 8,000 liters per minute.

Yellowstone National Park's Old Faithful geyser originates as primary water.

Near Damascus, Syria there is a spring which resembles an underground river several meters across which flows up and out of a limestone formation. Its total flow has averaged about 132,000 gallons per minute at least since Roman times.

Africa's Great Rift Valley has deep lakes which hold a quarter of the world's fresh water. Hydrothermal springs have been discovered in the last 20 years in the bottom of the lakes which testify to the origin of their water as primary water.

The solar power plant at Primm-Stateline taps into a huge underground river that runs through this area. The 3 towers sit directly over the river. The nearby golf course has 3 wells that tap into it. Each well pumps out 2000 gallons per minute.

Fifty miles northeast of Las Vegas the very short Muddy River flows through Moapa. The Moapa National Wildlife Refuge brochure says the water originates near Ely, flows south on the White River, and then percolates underground in a southerly direction for thousands of years. It finally emerges as five warm springs.



Anyway that is the conventional hydrological explanation. Now that I understand somewhat primary water, I would give more credence to primary water emerging from way down into the mantle as the source of the Muddy River. An awful lot of clear water has been flowing in the misnamed Muddy River for millennia. The photo above shows the Muddy River flowing out from below the Warm Springs Road bridge.

Locating sources of primary water promising enough to justify the expense of drilling usually starts with dowsing and observation of geological and biological indicators generally associated with sources of primary water. Ground electrical resistivity measuring methods often help pinpoint narrow, conductive fractures in the underlying bedrock which serve as conduits for water generated at depth.

I have the phone number of a mining engineer Pal Pauer who has a successful record of finding primary water sources around the world. He has successfully located and drilled over 75 primary water wells in arid East Africa which serve thousands of families. His methods include dowsing for underground water.

My guess is that the mountains to the north and west of Boulder City could be a source of primary water.

www.globalresourcealliance.org/.

<http://cassiopaea.org/forum/index.php?topic=13528.0>

http://issuu.com/sciencetosage/docs/sustainable_ideas_kversion (Turn the pages of the magazine until the article titled "Deep Hydrology" appears.)

Etheric Weather Engineering

(The following is a copy of the "Etheric Weather Engineering" chapter in Gary Vesperman's compilation of "Advanced Technologies for Foreign Resort Project" which is in <http://www.padrak.com/vesperman> and <http://www.fortunecity.com/greenfield/bp/16/advantech.htm>.)

Etheric weather engineering is certainly one of the more spectacular products of the international "underground" science network. Unbelievable as it may seem, what looks like an ordinary tin can or handleless frying pan slowly being turned by an electric motor, in less than a half-hour, can cause heavy rain within 10 miles under conditions of high barometric pressure. (I have a video which shows about 20 demonstrations of etheric rain making.) I personally have seen etheric weather engineering effects at least twice in Las Vegas and twice in the Midwest.

So what is the secret of this crazy thing called 'etheric weather engineering'? To begin understanding this most remarkable phenomenon, we first take a look at just what is the 'ether':

Sound comprises of oscillating waves traveling through water, air, and solid matter. Light propagates through space also as a wavelike phenomenon having frequency and wavelength. Over a century ago, some physicists postulated that light is a form of electromagnetism which travels as an oscillating wave through a medium they termed 'ether'. The famous Morley-Michelson experiment around that time determined that the speed of light is constant. So therefore, it was thought, there can not be an ether.

Subsequently, physics was led on a wild goose chase. For example, the mathematics of Einstein's famous theories of relativity are mostly based on the assumption that the speed of light is constant. Astronomers commonly believe that the Universe started with a big bang and is still expanding because the speed of light is thought to be constant.

It has been claimed that the physics of electromagnetism and gravity as presently taught in academia has over 20 serious flaws. Actual measurements with modern instruments have shown that the speed of light varies with both direction and time. (Morley and Michelson erred in measuring the speed of light with both interferometers in the horizontal plane. They should have instead placed one interferometer in the horizontal plane, i.e., orthogonal to gravity, and the other interferometer in the vertical plane, i.e., parallel to gravity.)

Actual measurements of the speed of light as it varies by as much as 5 miles per second over time show that the ether is not static but, as the earth travels through space, seems to surge and ebb with both time and orientation with respect to the stars.

Astronomers can precisely measure the speed of light with Jupiter's moons. Measurements beginning 1738 have shown that the speed of light since then has slowed down 7%! (See "The Speed of Light is Slowing Down!" in "Space Travel Innovations" www.padrak.com/vesperman.)

Contemporary physics does not answer some of the fundamental questions of magnetism and gravity. For example, just how do magnets attract and repel? What is gravity? How can magnets under specialized conditions produce anti-gravity? What is inertia?

The consensus of some physicists is that two basic changes need to be made to the theory of physics. The speed of light is no longer to be assumed constant. The other change is that admitting the existence of the ether helps to explain many physical phenomena not otherwise satisfactorily explainable by conventional mainstream physics. For example, some physicists are now claiming that the earth's relatively weak gravitational 'pull' is actually the ether pushing objects such as the moon, satellites, and people into the shadow formed by the earth on the ether.

Etheric energy, also sometimes called 'zero point electromagnetic radiation' and 'vacuum field energy', is known as an energy that fills the fabric of all space. Technically, the etheric energy results from an electric flux which flows orthogonally to our perceived dimension or reality.

The energy density of the ether is essentially incomprehensible. The mass equivalence of etheric energy has been calculated by physicists to be on the order of 10^{95} grams per cubic centimeter using Einstein's famous equation $E = mc^2$. To put etheric energy density in perspective, Nobel Laureate Richard Feynman and one of Einstein's protégés, John Wheeler, have calculated that there is more than enough energy in the volume of an empty coffee cup to evaporate all the world's oceans! We fail to easily recognize this humongous energy field as it is analogous to trying to weigh a beaker of water deep underneath the ocean's surface.

Dan A. Davidson has published a book "Shape Power: A Treatise on How Form Converts Universal Aether into Electromagnetic and Gravitic Forces and Related Discoveries in Gravitational Physics" reporting on his many years of measuring and studying the effects of the geometry of objects on the ether. In his book he explains how geometric forms, for example the famous "pyramid power", convert etheric energy into electromagnetic and gravitic forces.

Etheric weather engineering researchers not only claim but have demonstrated many times that precisely machined metal objects similar in shape to cones, tin cans, handle-less frying pans, etc., when slowly turned by an electric motor (but not simply rotated on the axis of their hollow interiors), bore holes in the ether and cause weather upsets and changes. Only by linking the enormously high energy density of the ether with etheric hole boring can the disproportionately immense leverage of small objects upon the weather be understood.

The foregoing is referred to as 'active' etheric weather engineering. There is also a 'passive' version which generally comprises of a box about two feet high, wide, and deep. The tops, bottoms, and sides are about an inch or so thick and comprise of a thick layer of electrical insulation sandwiched between two thin layers of an

electrically conductive material such as aluminum foil. Pieces of a wrecked RV camper's foam shell sometimes have been used.

Along the four inside edges around the bottom of the box are four magnets. Each magnet is placed in the center of each inside edge. To make rain, the polarities of the magnets are set one way, and to cause fair weather, the magnets are reversed. (I have actually seen this demonstrated in the Midwest.) On the center of the bottom of the box is set a truncated concrete cone about a foot high and a little over a half-foot in diameter. The concrete contains some special materials including mono-atomic gold and is sometimes wetted.

I stuck my head inside the box and could detect a faint mustiness. The experimenter thinks there is something like 20 megawatts of etheric power vertically streaming through the box.

The weather control box is termed 'passive' because it takes about a half-day for the weather to react in a large circle of several miles in radius as compared to the half-hour for several miles in radius of weather to react to the rotating metal objects. In the awesome demonstration of the weather control box I saw in the Midwest, an otherwise cloudless day went completely cloudy from horizon to horizon in about an hour, after a buildup of several hours in the morning. I could even see lines or bands in the clouds that were possibly caused by the horizontal aluminum sidings of the garage inside of which the weather control box was located. Then the magnets were reversed, and the clouds had dissipated by the end of the afternoon. I was overwhelmed by seeing, for the first time, jaw-dropping etheric weather engineering. It was simply magnificent.

It has been suggested that the precision of etheric weather engineering could possibly be increased by using both passive and active forms of etheric weather control in a mode of operation similar to alternately pressing the gas and brake pedals of a vehicle.

Some of America's Indian tribes were able to break up droughts by dancing counter-clockwise around a circle, or to stop rain by dancing clockwise around a circle. To illustrate, the summer of 1931 Nevada was suffering through a drought. An elderly Shoshone Indian, Wagon Jack, suggested to the tribal members living in the vicinity of Austin, Nevada that they devote some time to a rain dance. With considerable skepticism, Indians from all over central Nevada showed up beginning August 14 for continuous rain dancing plus of course feasting and political meetings. On August 19, the skies clouded over and rain began coming down in torrents. After four days of heavy rainfall, flooding caused extensive damage. (Nevada Historical Society)

I remember reading another story when during a severe two-year California drought during the mid-1970's, an environmental group in San Francisco just for fun decided to hold a rain dance in nearby Marin County. They had to cut it short because it started raining! Of course, I didn't understand then what was really happening and why.

Etheric weather engineering research Trevor James Constable has produced a video "Etheric Weather Engineering" on his weather engineering experiments. Thomas J. Brown has authored a book on etheric weather engineering titled "Loom of the Future: The Weather Engineering Work of Trevor James Constable".

It was reported in Brown's book that in September 1994, Hurricane Iniki was bearing down on Honolulu. Constable's ship happened to be located between the hurricane and Honolulu so he was able to divert Iniki. Unfortunately, the hurricane ended up damaging the island of Kauai instead.

Installing local etheric weather engineering capabilities, probably under contract to an etheric weather engineering researcher, should be a relatively trivial expense. One weather control machine or box should be able to cover the entire resort area. By being able to cause rain or sun on demand, the resort project could achieve a competitive advantage.

I do not know whether local weather control, set to sun, would be sufficient to break up a hurricane should one approach the resort complex. It is possible that weather control machines would have to be installed on ships or planes and located in the path of the hurricane such as happened with Iniki. Being able to break up or at least divert hurricanes should noticeably reduce insurance costs.

(End of excerpt)

To break the severe drought that is currently plaguing the Southwestern United States it appears to be a worthwhile low-tech experiment to hold a rain dance near Lake Mead. A guess is that it would require 50-100 volunteers to continuously dance counter-clockwise around a circle day and night for at least half a week. Other volunteers would be on standby to relieve dancers taking breaks.

If the rain dance does result in local rainfall, would the local disturbance cascade or propagate elsewhere within the drought region to eventually break up the area of high pressure stubbornly hanging over the Southwestern United States?

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Many thanks are due to Las Vegas energy expert Robert Nelson for his comprehensive compilation of numerous energy inventions in his www.rexresearch.com.



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BUSINESS PLAN for LAS VEGAS

August 9, 2010

To : Chuck Sprague
From : Kent Bingham
Project : Rivers In The Sky in Las Vegas
Subject : 2nd Phase Business Plan Concepts

NOTE: This plan is written for a startup in Las Vegas. Other locations include all major cities, casinos, resorts, etc. in arid regions, with large air conditioning and refrigeration systems.

This letter follows our phone conference earlier today. We have agreed to form a company in Las Vegas that will open up vast new water resources for that community. The source of this water is the water vapor present in the atmosphere, as defined in the presentation sent to you last week concerning Atmospheric Water Generation (AWG).

CONCEPT

The atmosphere contains an unlimited supply of fresh water in the form of water vapor. In the past, mankind waited for this water vapor to condense as rain. Today, the AWG business uses refrigeration processes to cause water to condense onto cold surfaces.

The water is collected and processed for human consumption. The AWG business plan is based on sale of equipment to accomplish this. The cost to the consumer includes the initial cost of the equipment, plus the cost of the electric power to operate it.

The AWG units are functionally identical to air conditioners, dehumidifiers, freezers, etc. These other systems that condense water vapor typically waste the collected water. The AWG process adds a post processing unit to a typical air conditioner to produce a clean water made acceptable for human consumption.

The AWG process is much better than other forms of producing potable water such as rivers, lakes, wells, processed sea water, etc. The cost of producing AWG water eliminates the need for very expensive water treatment plants, and eliminates problems caused by chemical and biological contaminants by starting with water that has never touched the ground.

THE RIS PLAN

Our plan is to produce AWG quality water, but at a much reduced cost by eliminating the following cost factors:

- 1- Eliminate the cost of acquiring new air conditioning or other refrigerated machinery.
- 2- Eliminate the cost of power to produce the refrigeration.

How can this be accomplished? Simply by harvesting the condensed water from large commercial refrigeration systems that are presently operating for other reasons such as air conditioning, refrigeration, freezing food and water, etc.

THE POST PROCESSOR UNIT

Condensate water from an air conditioner contains airborne contaminants such as dust, pollen, and other items that get through their filter systems. When you buy water from a dispensing machine in front of your local supermarket, you are buying local tap water that has a POST PROCESSOR UNIT inside it.

The POST PROCESSOR functions are:

- 1- Activated Carbon Filter for chlorine and odors.
- 2- Micron Filter for dirt, rust, and other particles.
- 3- Reverse osmosis for salts and other impurities.
- 4- Post Carbon Filter improves taste of water.
- 5- Ultraviolet Light to ensure safe, high quality water.

The POST PROCESSOR described above is appropriate for processing chlorinated tap water from the Municipal Water Treatment Plant. For AWG water, the needs are slightly different. One of the largest AWG firms describes their POST PROCESSOR below.

AIR2WATER POST PROCESSORS - BASIC CONCEPT

<http://www.air2water.net/solutions.html>

Air2Water products are best described as atmospheric water generators (AWG). Air2Water AWG units use technology (developed and patented by Worldwide Water, Inc.) that extracts clean drinking water from the air.

1. The unit first pulls air through an electrostatic filter removing 93% of all air borne particles.
2. As it collects, water drops into a collection tray and immediately passes into Ultraviolet (UV) light, where the water stays in contact with UV rays killing germs and bacteria in the water.
3. The water is then pumped through a sediment screen into a water pump and through a series of solid carbon block, UF or no waste R/O water filters.

4. The water is then re-circulated through UV or treated by ozonation.
5. It is then circulated back into the dispensing tanks.
6. Finally, the water is chilled or heated and dispensed to the consumer.

MARKETS

Any location that has a large number of refrigeration devices presently operating would be a good location to establish an office with the following functions:

- 1- Sell RIS concept to owners of refrigeration systems, or better to create legislation requiring owners of refrigeration equipment to provide condensate holding tanks, and forbid them to dump condensate into the sewer system (if they are producing more than 1000 gallons per day).
- 2- Install holding tanks to collect the condensate water.
- 3- Collect and process the water at the central plant.
- 4- Bottle and distribute the water to local merchants.
- 5-

OASIS MACHINE

The following first concept sketch was produced as a means of defining this device as we prepare for funding applications. Also to communicate with our several development teams relative to their supplying the Electric PowerUnit:

- GEMs
- David Yurth of Nova Institute Of Technology
- Bo Tomlyn

All other components for this OASIS machine are easily available open market, EXCEPT FOR THE POWER SUPPLY.

COMPONENTS

ELECTRIC POWER UNIT

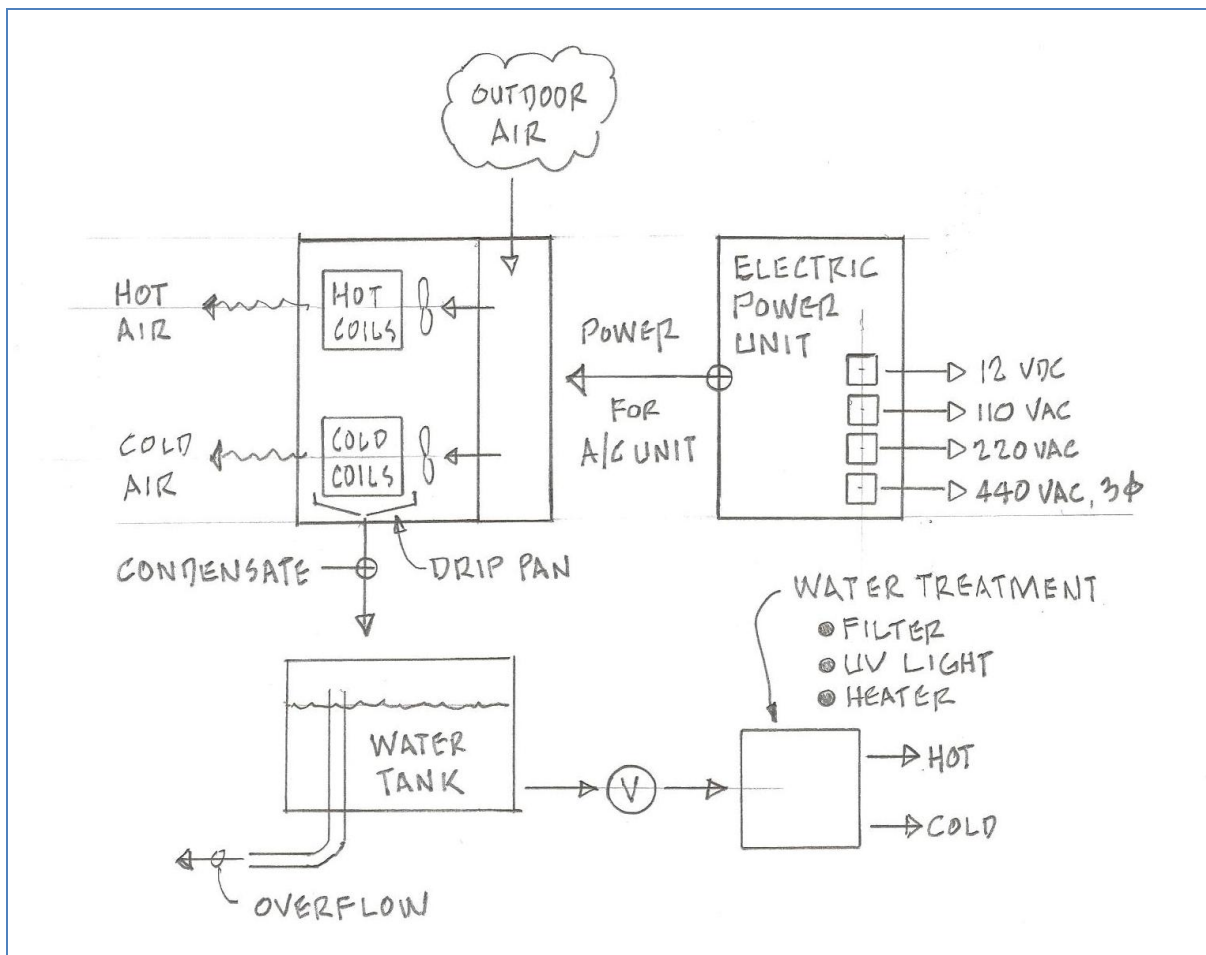
- New technology, over unity device, requires no external power or fuel.
- Power output from 25 to 50 KW, voltages as noted.
- Internally powers pumps, fans, UV unit, refrigeration unit, lights.

ATMOSPHERIC WATER GENERATION (AWG) UNIT

- Atmospheric water is condensed out of the air by a cold surface that is colder than the dew point temperature. Any commercially available refrigeration or air conditioning unit could work in this application.
- Filters, fans, cold coils, and condensate collection pan.

WATER PROCESSING UNIT

- Agricultural water does not require processing. It flows directly from the condensate collection pan into ponds and reservoirs.
- Potable water is filtered and treated with UV light.
- Hot and cold water is produced for cooking, drinking, washing, etc.



REFRIGERATION UNIT

- The refrigeration cycle produces both hot and cold air.
- Cooling coils are used for condensing water from the atmosphere.
- Heating coils are used for heating homes, greenhouses, barns, etc.

BASIS FOR DESIGN

This unit is intended to open up for farming vast tracts of arid land that is now not being used due to lack of water. This unit runs continuously, for months and years without mechanical malfunction, and with minimum or no maintenance. Excess water will flow into ponds and reservoirs where fish and other native life forms will be nourished by this water.

The refrigeration unit would be like the old Servel Gas Flame unit, except that an electric heating element would be used to replace the gas flame. Bo Tomlyn's refrigeration unit would be used if it meets or exceeds this objective.

Bearings will be magnetic, and be designed for a minimum life of 25 years. All other components in this unit must be designed for maximum life.

This unit would be designed to create a farming operation that could be as small as one or two families, or as large as a small community. The objective is to create a continuous supply of fresh water free of contaminants found in ground water, at no cost to the consumers.

The economic validation for this system is that it permits the creation of a strong food production base and the small farm concept that has been proven historically as a firm foundation for community building. It is the best way to provide freedom and independence for those to whom it is made available. It would be community owned and operated, and paid for by a consumption tax as the community matures and gains in economic strength.

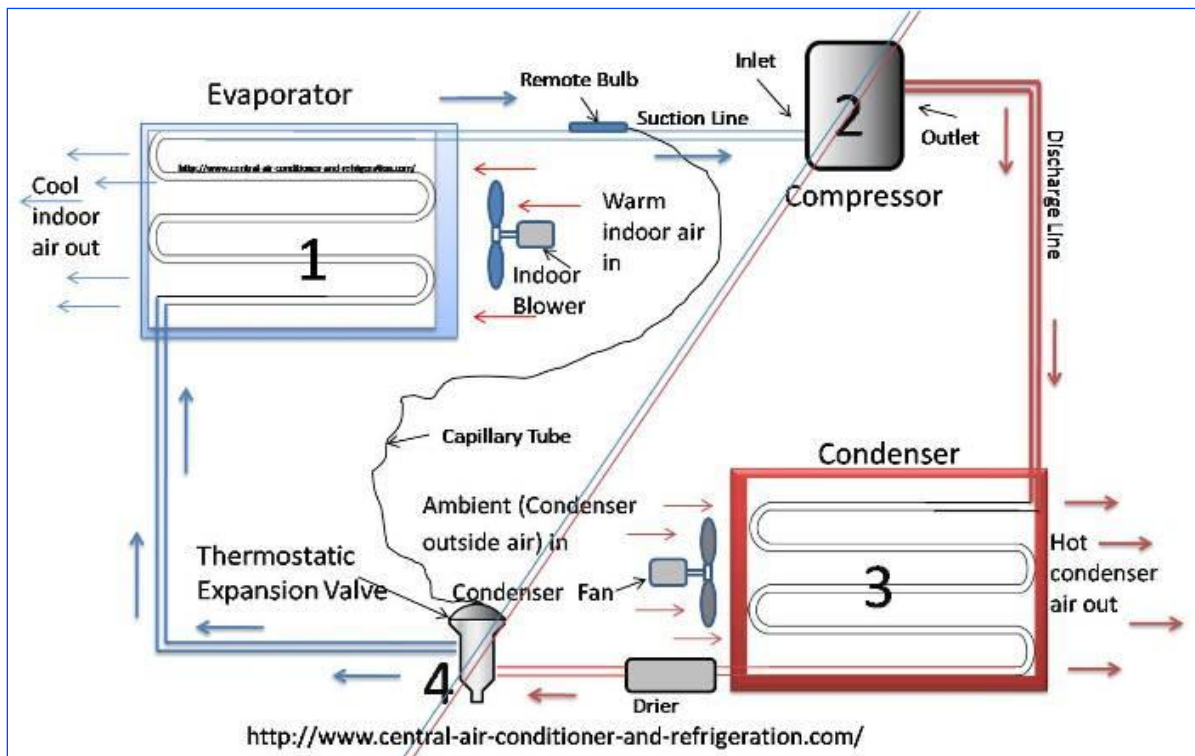
The wealth of the community would be based on the industry of the members of that community growing enough food for their own needs, and enough beyond that for export and sale to others.

Initial target markets are those areas of Earth where they cannot afford energy or fuel, and are living with inadequate supplies of food and water. This unit is the best way to regenerate healthy living as God intended it to be.

WATER PRODUCTION FROM THE ATMOSPHERE can be produced by flowing air over a surface that has a temperature below the dew point temperature of the air. By this method, an inexhaustible supply of water can be produced by an airship in flight, or by an OASIS unit operating in any arid region on Earth. The cooling coils on an air-conditioning system provide this water.

Heat pump and refrigeration cycle

From Wikipedia, the free encyclopedia: Thermodynamic heat pump cycles or refrigeration cycles are the conceptual and mathematical models for heat pumps and refrigerators. A heat pump is a machine or device that moves heat from one location (the 'source') at a lower temperature to another location (the 'sink' or 'heat sink') at a higher temperature using mechanical work or a high-temperature heat source.[1] Thus a heat pump may be thought of a "heater" if the objective is to warm the heat sink (as when warming the inside of a home on a cold day), or a "refrigerator" if the objective is to cool the heat source (as in the normal operation of a freezer). In either case, the operating principles are identical.[2] Heat is moved from a cold place to a warm place.



SOURCE: http://en.wikipedia.org/wiki/Heat_pump_and_refrigeration_cycle

Thermodynamic cycles

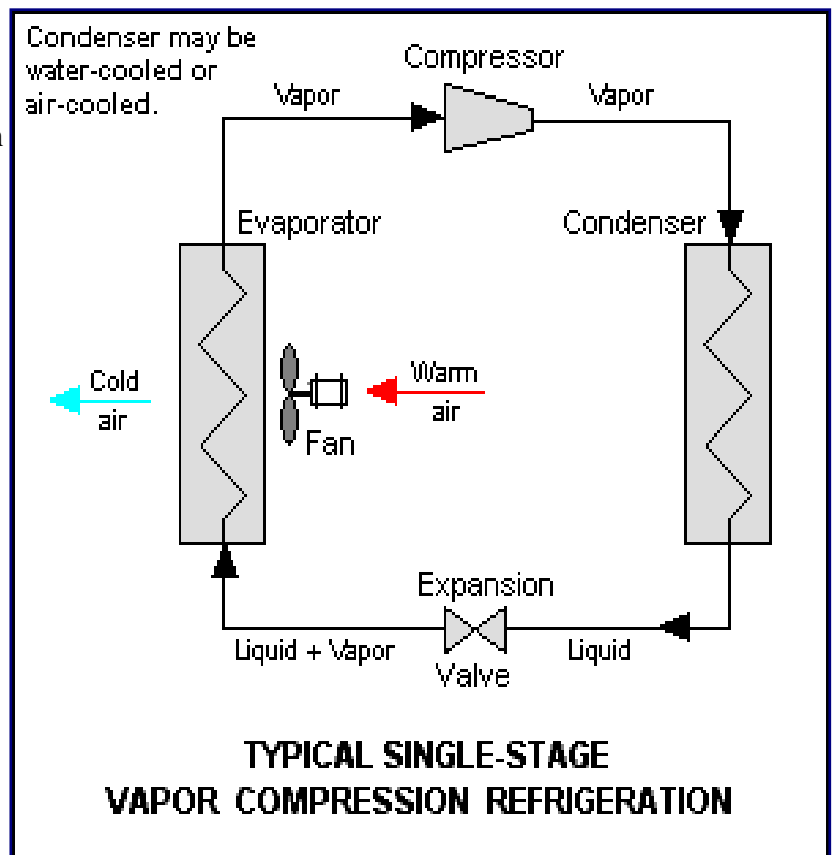
According to the second law of thermodynamics heat cannot spontaneously flow from a colder location to a hotter area; work is required to achieve this.[3] An air conditioner requires work to cool a living space, moving heat from the cooler interior (the heat source) to the warmer outdoors (the heat sink). Similarly, a refrigerator moves heat from inside the cold icebox (the heat source) to the warmer room-temperature air of the kitchen (the heat sink). The operating principle of the refrigeration cycle was described mathematically by Sadi Carnot in 1824 as a heat engine. A heat pump can be thought of as heat engine which is operating in reverse. Heat pump and refrigeration cycles can be classified as *vapor compression*, *vapor absorption*, *gas cycle*, or *Stirling cycle* types.

Vapor-compression cycle

The vapor-compression cycle is used in most household refrigerators as well as in many large commercial and industrial refrigeration systems. Figure 1 provides a schematic diagram of the components of a typical vapour-compression refrigeration system.

Figure 1: Vapor compression refrigeration

The thermodynamics of the cycle can be analyzed on a diagram as shown in Figure 2. In this cycle, a circulating refrigerant such as Freon enters the compressor as a vapor. The vapor is compressed at constant entropy and exits the compressor superheated. The superheated vapor travels through the condenser which first cools and removes the superheat and then condenses the vapor into a liquid by removing additional heat at constant pressure and temperature. The liquid refrigerant goes through the expansion valve (also called a throttle valve) where its pressure abruptly decreases, causing flash evaporation and auto-refrigeration of, typically, less than half of the liquid.



Gas cycle

When the working fluid is a gas that is compressed and expanded but does not change phase, the refrigeration cycle is called a *gas cycle*. Air is most often this working fluid. As there is no condensation and evaporation intended in a gas cycle, components corresponding to the condenser and evaporator in a vapor compression cycle are the hot and cold gas-to-gas heat exchangers in gas cycles.

The gas cycle is less efficient than the vapor compression cycle because the gas cycle works on the reverse Brayton cycle instead of the reverse Rankine cycle. As such the working fluid does not receive and reject heat at constant temperature. In the gas cycle, the refrigeration effect is equal to the product of the specific heat of the gas and the rise in temperature of the gas in the low temperature side. Therefore, for the same cooling load, a gas refrigeration cycle will require a large mass flow rate and would be bulky.

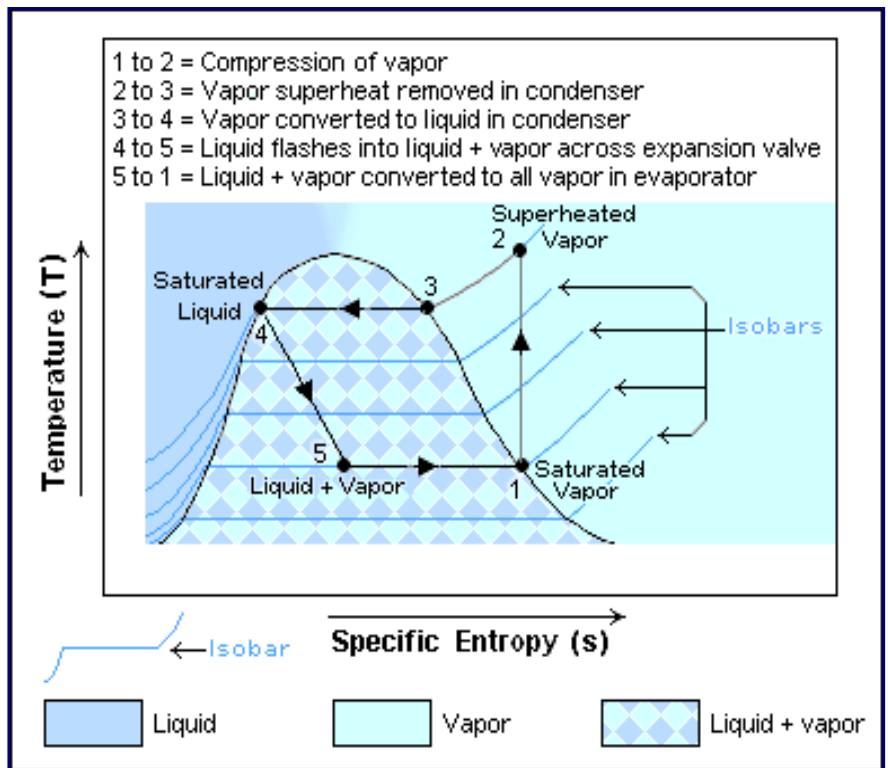
Because of their lower efficiency and larger bulk, *air cycle* coolers are not often applied in terrestrial refrigeration. The air cycle machine is very common, however, on gas turbine-powered jet airliners since compressed air is readily available from the engines' compressor sections. These jet aircraft's cooling and ventilation units also serve the purpose of pressurizing the aircraft cabin.

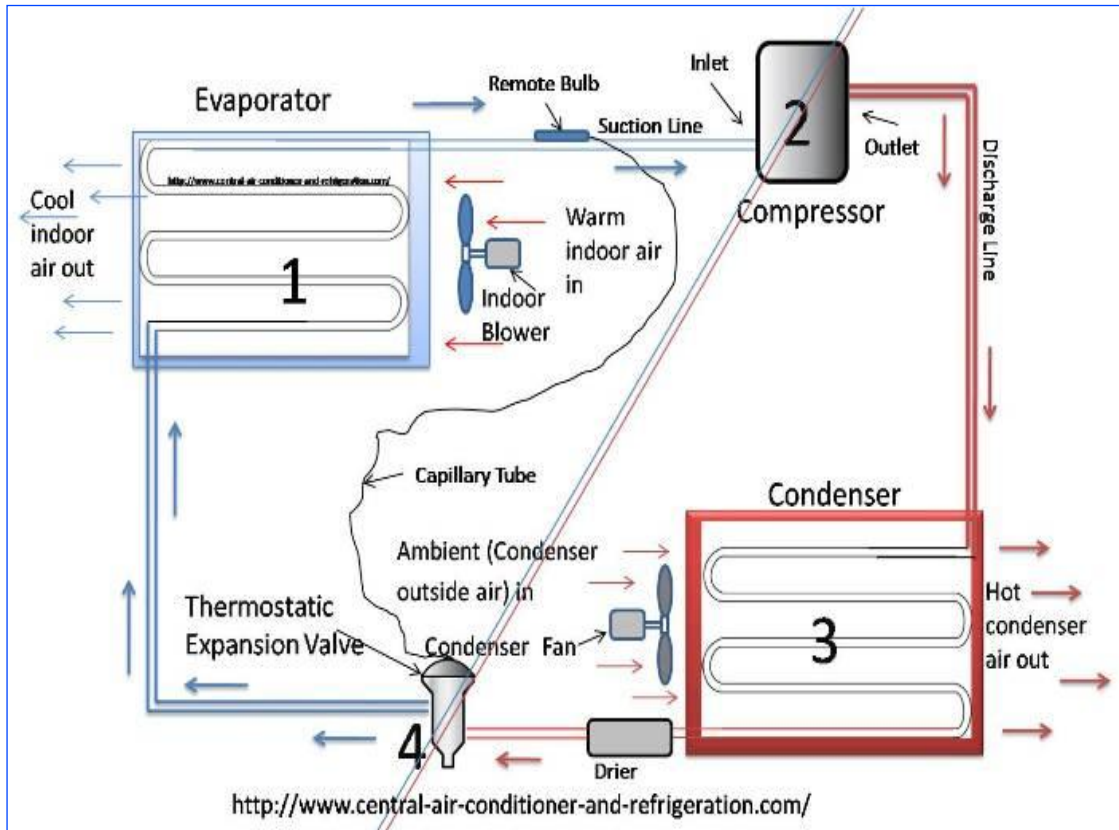
Figure 2: Temperature–Entropy diagram

That results in a mixture of liquid and vapor at a lower temperature and pressure. The cold liquid-vapor mixture then travels through the evaporator coil or tubes and is completely vaporized by cooling the warm air (from the space being refrigerated) being blown by a fan across the evaporator coil or tubes. The resulting refrigerant vapor returns to the compressor inlet to complete the thermodynamic cycle.

The above discussion is based on the ideal vapor-compression refrigeration cycle, and does not take into account real-world effects like frictional pressure drop in the system, slight thermodynamic irreversibility during the compression of the refrigerant vapor, or non-ideal gas behavior (if any).

More information about the design and performance of vapor-compression refrigeration systems is available in the classic "Perry's Chemical Engineers' Handbook".





Vapor absorption cycle

Main article: Absorption refrigerator

In the early years of the twentieth century, the vapor absorption cycle using water-ammonia systems was popular and widely used but, after the development of the vapor compression cycle, it lost much of its importance because of its low coefficient of performance (about one fifth of that of the vapor compression cycle). Nowadays, the vapor absorption cycle is used only where waste heat is available or where heat is derived from solar collectors.

The absorption cycle is similar to the compression cycle, except for the method of raising the pressure of the refrigerant vapor. In the absorption system, the compressor is replaced by an absorber which dissolves the refrigerant in a suitable liquid, a liquid pump which raises the pressure and a generator which, on heat addition, drives off the refrigerant vapor from the high-pressure liquid. Some work is required by the liquid pump but, for a given quantity of refrigerant, it is much smaller than needed by the compressor in the vapor compression cycle. In an absorption refrigerator, a suitable combination of refrigerant and absorbent is used. The most common combinations are ammonia (refrigerant) and water (absorbent), and water (refrigerant) and lithium bromide (absorbent).

Stirling cycle

Main article: Stirling cycle

The Stirling cycle heat engine can be driven in reverse, using a mechanical energy input to drive heat transfer in a reversed direction (i.e. a heat pump, or refrigerator). There are several design configurations for such devices that can be built. Several such setups require rotary or sliding seals, which can introduce difficult tradeoffs between frictional losses and refrigerant leakage.

The Free Piston Stirling Cooler (FPSC) is an elegant, completely sealed heat transfer system that has only two moving parts (a piston and a displacer), and uses helium as the working fluid. The piston is typically driven by an oscillating magnetic field that is the source of the power needed to drive the refrigeration cycle. The magnetic drive allows the piston to be driven without requiring any seals, gaskets, O-rings, or other compromises to the hermetically sealed system. Claimed advantages for the system include environmental friendliness, cooling capacity, light weight, compact size, precise controllability, and high efficiency.

The FPSC was invented in 1964 by William Beale, a professor of Mechanical Engineering at Ohio University in Athens, Ohio. He founded and continues to be associated with Sunpower Inc., which specializes primarily in researching and developing FPSC systems for a wide variety of military, aerospace, industrial, and commercial applications. Sunpower also makes cryocoolers and special pulse tube coolers capable of reaching below 40°K (around -390°F, or -230°C). A FPSC cooler made by Sunpower was used by NASA to cool instrumentation in satellites.

Since 2002, another leading supplier of FPSC technology has been the Twinbird Company in Japan, which also markets a broad line of household appliances. Both Sunpower and Twinbird appear to work in collaboration with Global Cooling NV, which is located in the Netherlands, but has a research center in Athens, Ohio.

For several years starting around 2004, the Coleman Company sold a version of the Twinbird "SC-C925 Portable Freezer Cooler 25L" under its own brand name. But it has since discontinued offering the product – in spite of favorable customer reviews on Amazon. The portable cooler can be operated more than a day – maintaining sub-freezing temperatures while powered only by an automotive battery. This cooler is still being manufactured and distributed worldwide, with Global Cooling now coordinating distribution to North America and Europe. Other variants offered by Twinbird include a portable deep freezer (to -80°C), collapsible coolers, and a special model for transporting blood and vaccine.

In addition to the technical information available on the websites referenced above, a step-by-step photographic teardown of the Coleman (Twinbird) FPSC cooler is viewable online.

Kent Bingham's technical solution to California's potentially catastrophic drought includes the above "Rivers in the Sky" (truncated) and the "OASIS Machine". Kent Bingham was the chief engineer of at least two of the Las Vegas Strip's famous attractions including Treasure Island's sinking pirate ship and the Rio's Carnival Ride. He also was the Chief Structural Engineer for Disney Corporation's EPCOT. Kent's resume is at <http://www.smartskyways.com/corporate/management/resumes/KentBingham.htm>.