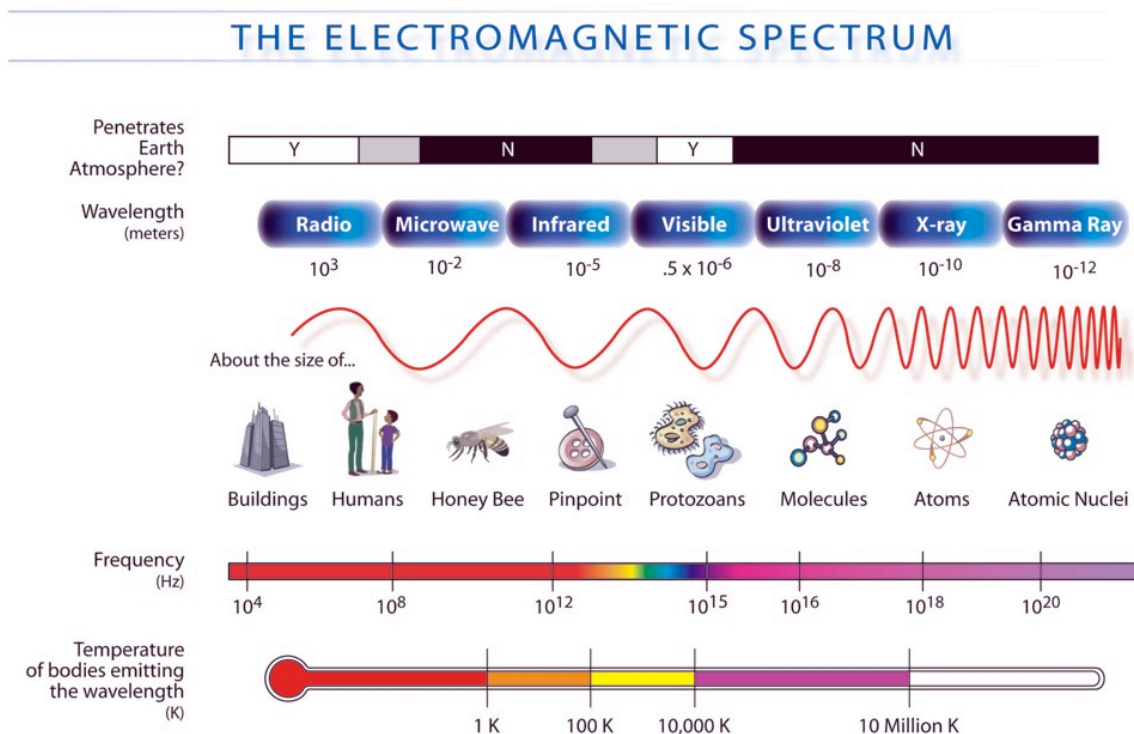
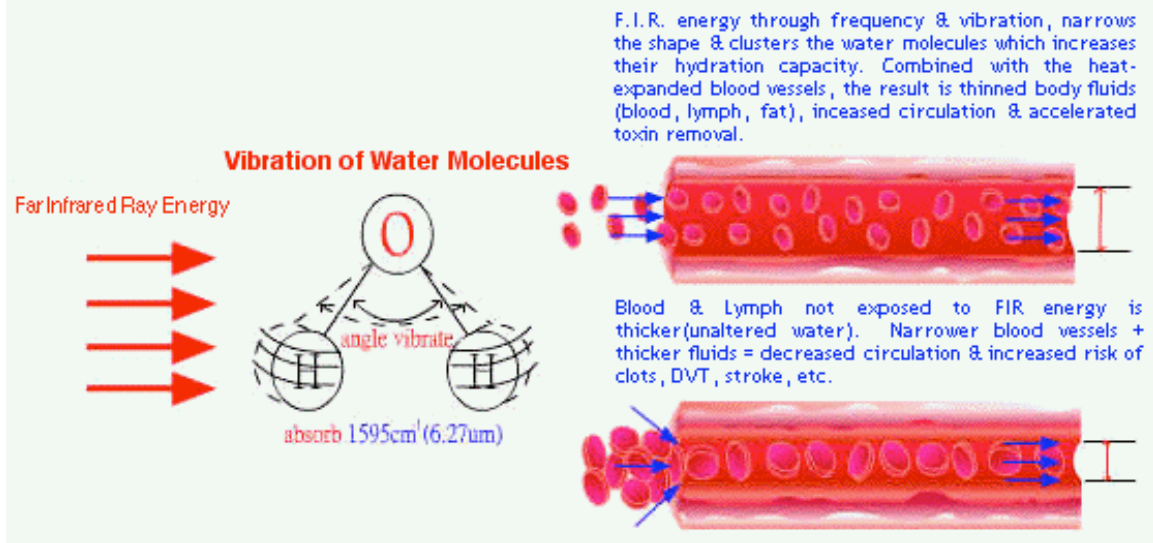


## 1. Far Infrared Heating (FIR)

First and foremost the heat that our heaters produce is obviously safe and approved. There is an international standard called EMC --> Electromagnetic Compatibility. There is a requirement to make sure that any electrical appliances before going to market have been thoroughly tested and are not emitting any harmful substances. E.g. mobile phones, radio transmitters etc... Heat-On heaters produce a very safe and selective wavelength (heat) in the range of 9-14 micrometers. This is well away from Microwaves - refer to the diagram below.



Animals, Plants and of course Humans need thermal rays to survive. No sun no life. The heat that our heaters produce is the most crucial thermal heat required for life FIR (Far InfraRed). Why? Because it has exceptional heating properties and it is able to penetrate molecules (tissue, blood, skin and bones) in animals, plants and humans significantly deeper than any other wave could from the entire thermal infrared spectrum. Humans are made up of 70% water and when you are subject to this heat it warms you from "inside out". It gets you blood flowing and you feel internally warmer as the molecules in your blood get excited and start jumping around faster - the same way they do when you are out in the sun or sun basking.

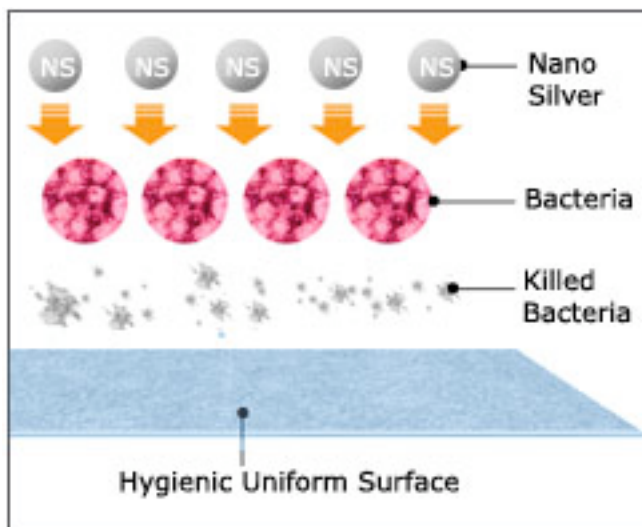


Now this is the most important part, we have developed the heaters one step further and have designed them to produce two more important elements.

## 2. Silver Nano

Silver Nano Is a technology developed by Samsung. Basically it is a trademark name of an antibacterial technology which uses silver nano particles in washing machines, refrigerators, air conditioners, air purifiers, vacuum cleaners and a world first for heating in our Heat-On heating panels. This technology was introduced by Samsung in April 2003.

[http://en.wikipedia.org/wiki/Silver\\_Nano](http://en.wikipedia.org/wiki/Silver_Nano)

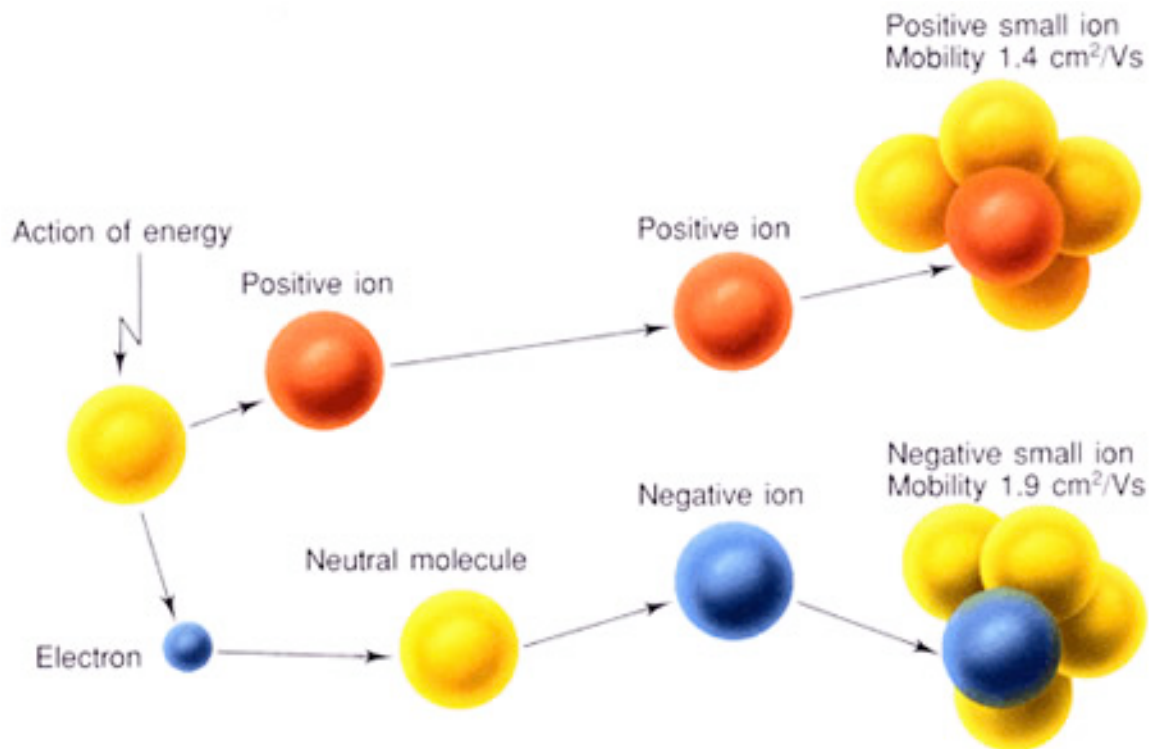


### 3. Negative Ions

There has been plenty of scientific research carried out since Darwin's major voyage around South America in 1813 where he began to pioneer his Evolution Theory. He actually was working on it for over 20 years in secrecy before he voiced it to the world. His theory coincides with magnetism, which forms the basis for energy. All matter consists of molecules. We are going to take a more detailed look at Ions. Ions are charged particles in the air that are formed in nature in different ways.

An Ion is basically a molecule and Ions are broken down into two categories:

- Positive & Negative



Too many Positive Ions and we die. Too many negative Ions and we die, as do animals and plants. Our bodies are complex and require equilibrium. You are already familiar with your own body when it tells you via your appetite that today it really needs to eat meat or you might have a craving for fresh vegetables. This is because your body wants to balance out the Negative & Positive Ions in your system. Remember 70% of your body is water and the majority of water forms part of your skin. It's your skin that is in contact with the outside world.

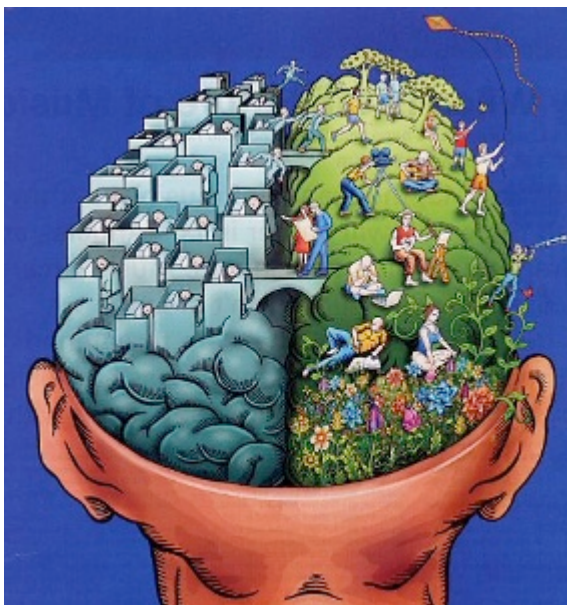
Some facts:

- In major cities, where there is pollution such as carbon monoxide and carbon dioxide from vehicles, factories etc... These harmful chemicals actually attract

positive ions. When enough energy acts upon a molecule such as carbon dioxide an electron is ejected from the molecule, leaving a positively charged ion. There are significantly more positive ions in city environments than elsewhere. I think we have all have experienced this; this is why we develop a desire to head down the coast, or up to the mountains or to a forest - too "get away". As these environments posses a fresh supply of negative ions and less unwanted harmful chemicals.

<b>Concentration of Negative Ions in Different Environments</b>	
Environment	Concentration *
Waterfalls	95,000 – 450,000
Mountains, seashores, breezy forest	50,000 – 100,000
Breezy country meadow	5,000 – 50,000
Cities	100 – 2000
Rooms and offices	40 – 100
Rooms with Air Conditioning	0 – 20
*Approximate Concentration of Negative Ions per cubic centimeter (cc3)	

Negative Ions relax the brain and muscles and have a positive effect on the right side of the brain, which deals with emotion and feelings. So you feel much more tranquil, happier and relaxed when your body is subject to and absorbs Negative Ions in these environments.



Waterfalls in high altitude mountains are one of the strongest natural producing Negative Ion environments. You only need to look around and see the abundance of life, plants, colors, insects and animals - everything is moving, thriving and full of energy. Why? Naturally it is a desired environment. Humans have great similarities and requirements (we are a mutation/descendent of the ape) like many animals with similar instincts. This is also where Darwin spent five years of his voyage collecting specimens and developing the evolution theory based on what he could observe in these jungles.

Their beneficial effects was first discovered in 1932 by Dr. C.W Hansell at RCA Laboratories. Dr. Hansell was shocked by the violent mood shifts of a co-worker who sat beside an electrostatic generator. He observed carefully and discovered that his colleague was cheerful and full of energy when the machine produced negative ions and bad tempered when the machine produced positive ions.

Subsequently researchers have found that negative ions reduce neurosis and anxiety, heighten appetite and thirst and stimulate sexual behavior.

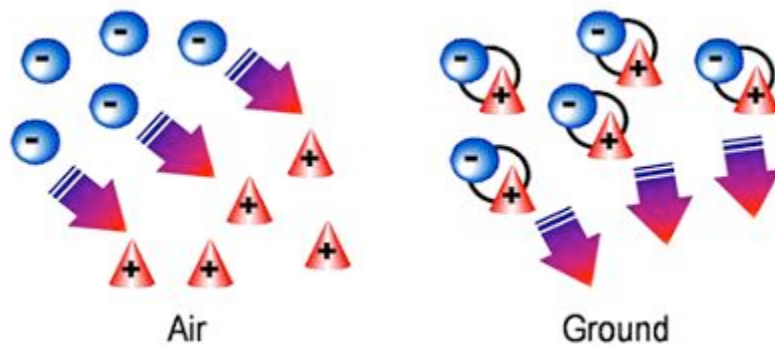
The correct balance of ions for humans to respond most favorably is a questionable topic. Many scientists have different views, however the noticeable trend from my research over the past 50 years seems to be that the majority of scientists are now agreeing that a greater concentration of negative ions compared to positive ones is favorable. In the early 90's it was thought quite the opposite a greater concentration of positive ions. (Personally I believe my body responds best to a far greater concentration of negative ions). According to the latest research a 5-4 ratio is ideal. Five negative ions for every four positive ions.

Once they reach our bloodstream, negative ions are believed to produce biochemical reactions that increase levels of the mood chemical serotonin, helping to alleviate depression, relieve stress, and boost our daytime energy. In fact, Columbia University studies of people with winter and chronic depression show that negative ions can relieve depression as much as antidepressants. "The best part is that there are relatively no side effects, but we still need to figure out appropriate doses and which people it works best on. Generally speaking, negative ions increase the flow of oxygen to the brain; resulting in higher alertness, decreased drowsiness, and more mental energy," says Pierce J. Howard, PhD, author of *The Owners Manual for the Brain: Everyday Applications from Mind Brain Research* and director of research at the Center for Applied Cognitive Sciences in Charlotte, N.C.

Living in Brisbane, Sydney or Melbourne we are never going to get even close to this ratio. Negative ions play a positive roll on many areas such as stabilizing nerves, reducing stress and regenerating cells. All this equals a stronger immune system, less bacteria and a healthier general well being.

Negative ionization of the air does a superb job of eliminating most tiny particles that float in the air. They are normally suspended in the air (even when the air in the room seems calm) just by the normal convective air currents. You've seen dust floating in a beam of sunlight shining in the window, haven't you? Well, when with abundant of negative ions in the room, you see very little (if any) of that. It's really quite impressive to experience. That is the reason they can help people with allergies: they help remove dust, pollen, mold spores, and other allergens from the air.

Negative ions cause allergens such as pollen, mold spores, dust, and animal dander floating in the air (which have either a neutral or a positive charge) to be attracted to and stick to each other, forming 'clumps' (because opposite charges attract). These clumps of particles then become heavy enough so that gravity can pull them down to the floor, where they can be vacuumed up, rather than staying in suspension where they can be breathed in and cause allergic reactions. On the physical side, they have given relief from hay fever, sinusitis, asthma and other allergies.



Our heating panels produce negative ions. Being able to produce negative ions for indoor environments especially in major cities is a fantastic way of artificially creating a more pleasant living environment and come closer to a negatively ionized ratio. This is why our heating technology is ideal for domestic (residential) and commercial (working) applications.

Ideal for medical applications such as age care nursing homes, clinics (dentists, physiotherapists, psychiatric institutes) and hospitals.

Especially in concrete apartment buildings where there is not enough air movement (infiltration) to begin with. If you look at the table above the concentration of negative ions in rooms with air conditioning (personally I never use air conditioning, not in my apartment, not in my car and not when I'm traveling in hotels) is exceptionally poor only a maximum of 20 negative ions per cubic centimeter (cc3). In comparison down the coast the body could be exposed to between 50,000~100,000 negative ions per cubic centimeter.

Written by Paul Tomolowicz  
Buenos Aires, Argentina.  
25<sup>th</sup> AUG 2010.

Heat-On Systems  
[www.heat-on.com.au](http://www.heat-on.com.au)  
[paul@heat-on.com.au](mailto:paul@heat-on.com.au)