

Name: Richard P. Cheripka

Title: The Energy Saving Solution,LLC

Organization: President

County: Out of State

Comment: Dear Mr. Murray, We spent over 5 years to develop and perfect what will only take 5 minutes or less to read. Therefore, I respectfully encourage you to please take the time to read the attached White Sheet that explains this century's best technology for saving a considerable amount of energy on all heating, cooling, refrigeration and hot water tank systems. It also greatly reduces the "carbon Footprint" in every home, building or facility in which it is installed. At the very least, this technology deserves the funding necessary to get it tested by at least 2, third party, National Testing Laboratories, to prove to US Government, the validity to our claims that this technology should be in every home, business and facility in the USA because of the considerable energy that it saves and because of the amount of pollution that it can eliminate. America needs this technology now. After proving itself here, then the US Government can take the lead in sharing this technology with the world, to finally and honestly reduce green house gas emissions and, as a added bonus, save earths resources while doing so. We are also in the process of layering our Technology with the Demand Response Technology thereby creating the best of both worlds for the Utility companies and their consumers. Our Sincere Thanks, Richard (Dick) Cheripka President The Energy Saving Solution,LLC. 412-287-7991

Dear SEP Administrator,

Thank you for allowing us to send additional information to you. If you need any further assistance, Please let us know. We do hope that you can see how our product can save the State of New York an exceptional amount of energy while reducing an enormous amount of pollutants. In fact, if our energy saving control were installed in all 7,096,035 + houses in New York State it would only cost the State \$1,774,008,750 with an average pay back of 1 year or less. Since most all HVAC contractors would qualify to install our control, then savings can begin immediately and increase rapidly. Imagine the economic impact for the State of New York; especially if the commercial and industrial facilities were completed simultaneously? What a huge impact that would be! Please consider this our offer to your energy efficiency programs. If there is any doubt as to the whether our product can save what we claim, please partner with us to have it tested at, Brookhaven, Lawrence Berkly and the Living Lab in Tennessee, so that there will be substantial proof for the US Government to make this a mandatory install program for every home, in every State, in the USA. Whatever State takes our proposal seriously first and acts on it, will receive a substantially greater discount. Our offer is sound, therefore please give this your most serious consideration.

Our Sincere Thanks,

Richard (Dick) Cheripka  
President  
The Energy Saving Solution,LLC.  
412-287-7991

## *The Energy Saving Solution, LLC*

**Thermostats do not have complete or efficient control of heating, cooling, or refrigeration systems!**

Some people have a good idea of how heating and cooling equipment operates in their own home. If you are a person that has no idea at all, that's alright, allow me to share a little insight with you.

**A brief explanation of a how a high efficiency furnace operates with a thermostat setting of 70°.**

- 1) The temperature drops approximately 1°, and the “thermostat” signals the burners to come on.
- 2) Approximately, 60-90 seconds later, a “timer” located in the furnace, and “not the thermostat”, signals the fan to start circulating the heat that is being produced.
- 3) During this time, the temperature continues to drop, until enough heat is produced to reverse this process and start raising the temperature once again.
- 4) When the temperature reaches 70°, the “thermostat” shuts off the burners, completing “its” job.
- 5) However the “timer” continues circulating the fan for approximately 60 to 120 seconds, which:
  - i) Allows the heat exchanger to cool down to a safe temperature.
  - ii) Extracts much of the super heated air produced to so call “efficiently save energy”.
- 6) However, this last action does not save energy at all. In fact, it wastes energy by over-heating the house by one or two degrees. Does this sound familiar? I'm sure that it does! Oh, by the way, the same is true with boiler heat, air conditioning, refrigeration and even hot water tank systems.

**What should be of greatest concern to you about this in-efficient operation?**

- The thermostat shut off the burners at 70 degrees, but didn't shut off the fan as well?
- Why was the heat exchanger at its “hottest” when the thermostat was satisfied? Or, why did the furnace “fan timer” force this super heat into the house after the thermostat was satisfied?
- Why couldn't, either the furnace timer or the thermostat, shut off the burners before the heat exchanger got over heated? In fact, why was the heat exchanger over heated in the first place?
- Why didn't the thermostat cause the burners to shut off long before reaching 70° allowing the fan to harvest all the residual heat, or in other words, “the relatively free heat”, and then satisfy the thermostat at exactly 70 degrees? Surely, this would be a lot more efficient!
- Since a “**thermostat**” controls the temperature of a home or building, and “**not the furnace**”, why should a furnace have any control at all? Why can't a thermostat have total control of how efficiently furnaces or boilers heat a facility, or how efficiently compressors cool a facility, or how efficiently hot water tanks heat domestic water, , or even how coolers, refrigerators, or freezers efficiently cool and freeze products in their particular environment?

**The one correct answer! “Thermostats” & “Equipment controls” have no linked intelligence!**  
***Environmental Paradise™ Technology! And The EP101 Thermostat & Controller!***  
**Environmental Paradise™** is the only Energy Efficiency Technology ever developed that is, Completely Analytical! “Infinitely”, Self Learning and Self Tuning! This technology is so

advanced that when the software is imbedded into our **EPior Thermostat**, or into our more robust **EPior-BAS Controller**, it commands the “highest efficiency imaginable” from all heating, cooling and refrigeration equipment, even high efficient equipment!

A simple investigation with the Patent Offices will provide positive proof of this fact. **EP Technology** can also reduce the “Carbon Footprint” of communities and countries.

**Environmental Paradise™ Technology** is so “analytical”, that it can efficiently control small equipment, in homes or a small business, or large equipment, in the largest of facilities, without making any programming changes at all; except, the temperature of course. This is a most highly advanced, highly intelligent, highly efficient, temperature controlling technology of its kind! Bar None!

The **EPior Thermostat** does not wait for the temperature to drop a degree before it commands a “**call for heat**”. Instead, if the temperature drops from the set point temperature, even by an unnoticeable mille-fraction of a degree, the **EPior** will instantly command both the burner and “the fan” to come on, immediately harvesting heat. In that same instant, from a uniquely “infinite array” of run and harvest algorithms; the **EPior** “learns” the least aggressive runtime strategy, that will keep the fuel burning only long enough to allow just enough “freer heat” to be produced; compute just the right amount run time for the fan to harvest this heat so that the **EPior** can shut down this now, “**completely linked system**” exactly at the desired set point temperature, without “Over-Heating” the heat exchanger!

The tiniest “departure from” the desired set point temperature will invoke the **EPior** to compute and command, more aggressive burn and harvest algorithms. Conversely, the tiniest aggression “towards” the desired set point temperature will signal the **EPior** to compute, less aggressive burn and harvest algorithms. The **EPior** can compute a uniquely different algorithm, in a millisecond, for each mille-fraction of a degree of deviation. Then it commands the most absolute, energy efficient strategy, for reaching the exact set point temperature, creating more building comfort, while greatly minimizing Ecosystem Pollution.

In larger buildings or facilities you may need our more robust, **EPior-BAS** controller that has more I/O's, to control much more equipment. If your building or facility is already equipped with a Building Automation System, then **Environmental Paradise™ Technology** software can be securely installed, over the Web, to control all of the buildings' heating, cooling, and refrigeration equipment. What ever your need, the **EPior, with Environmental Paradise™ Technology** is the only thermostat control of its kind, that can “**Intelligently link a System**” to “command” peak efficiency from all heating, cooling, or refrigeration equipment in the envelope in which it is installed. Help make “**EPior**” the “Perfect Partner” for, Smart Grid programs, Utility efficiency Programs, Weatherization Programs, as well as, State and Federal Energy Efficiency Programs! Please join us in proving that the **EPior** is the most effective energy saving control, by choosing it as your, “Energy Saving Solution”!

For further information, call 412-287-7991, or email us at,  
[The.Energy.Saving.Solution@comcast.net](mailto:The.Energy.Saving.Solution@comcast.net)

## *The Energy Saving Solution, LLC*

**Thermostats do not have complete or efficient control of heating, cooling, or refrigeration systems!**

Some people have a good idea of how heating and cooling equipment operates in their own home. If you are a person that has no idea at all, that's alright, allow me to share a little insight with you.

**A brief explanation of a how an air conditioner operates with a thermostat setting of 74°.**

- 7) The temperature rises approximately 1°, and the “thermostat” signals the compressor to come on.
- 8) In most cases, approximately, 60-90 seconds later, a “**timer**” located in the furnace controls, and “**not the thermostat**”, signals the fan to start circulating the cooled air that is being produced.
- 9) During this time, the temperature continues to rise, until enough cold air is produced to reverse this process and start lowering the temperature once again.
- 10) When the temperature reaches 74°, the “thermostat completes its job” and stops the compressor.
- 11) However the “timer” continues circulating the fan for approximately 60 to 120 seconds, which:
  - i) Allows the oils to return to the compressor.
  - ii) Saves energy by extracting much of the cooled air remaining in the evaporator coil.
- 12) However, does this last action really save energy if it over-cools the house by one or two degrees? Does this sound familiar? I'm sure it does! Oh, by the way, the same is true with heating, refrigeration and even hot water tank systems.

**What should be of greatest concern to you about this in-efficient operation?**

- The thermostat shut off the compressor at 74 degrees, but didn't shut off the fan as well?
- Why was the evaporator coil at its coldest when the thermostat was satisfied? Or, why did the “fan timer” force this super cold air into the house after the thermostat was satisfied?
- Why, was the evaporator coil over cooled in the first place? Why couldn't, either the fan timer or the thermostat, shut off the compressor before the evaporator coil got over cooled?
- Why didn't the thermostat cause the compressor to shut off long before reaching 74° allowing the fan to harvest all the residual cold air, or in other words, “the relatively freer cooling”, and then satisfy the thermostat at exactly 74 degrees? Surely, this would be a lot more efficient!
- Since a “**thermostat**” controls the temperature of a home or building, and “**not the fan timer**”, why should a “fan control switch” have any control at all? Why can't a thermostat have total control of how efficiently compressors cool a facility, or, how efficiently furnaces or boilers heat a facility, or, how efficiently hot water tanks heat domestic water, , or even how coolers, refrigerators, or freezers efficiently cool and freeze products in their particular environment?

**The one correct answer! “Thermostats” & “Equipment controls” have no linked intelligence! *Environmental Paradise™ Technology! And The EP101 Thermostat & Controller!* Environmental Paradise™ is the only Energy Efficiency Technology ever developed that is, Completely Analytical! “Infinitely Self Learning” and Self Tuning! This technology is so**

advanced that when the software is imbedded into our **EP101 Thermostat**, or into our more robust **EP101-BAS Controller**, it commands the “highest efficiency imaginable” from all heating, cooling and refrigeration equipment, even high efficient equipment!

A simple investigation with the Patent Offices will provide positive proof of this fact.

**EP Technology** can also reduce the “Carbon Footprint” of communities, and countries.

**Environmental Paradise™ Technology** is so “analytical”, that it can efficiently control small equipment, in homes or a small business, or large equipment, in the largest of facilities, without making any programming changes at all; except, the temperature of course.

This is a most highly advanced, highly intelligent, highly efficient, temperature controlling technology of its kind! Bar None! And soon will have Demand Response capability, as well.

The **EP101 Thermostat** does not wait for the temperature to rise a degree before it commands a “call for cooling”. Instead, if the temperature rises from the set point temperature, even by an unnoticeable, mille-fraction of a degree, the **EP101** will instantly command both the compressor and “the fan” to come on, immediately harvesting cooling. In that same instant, from a uniquely “infinite array” of run and harvest algorithms; the **EP101** “learns” the least aggressive runtime strategy, that will keep the compressor on, only long enough, to allow just enough “freer cooling” to be produced; compute just the right amount run time for the fan to harvest this cool air, so that the **EP101** can shut down this now, “**completely linked system**” exactly at the desired set point temperature, without “Over-Cooling” the home or facility!

The tiniest “departure from” the desired set point temperature will invoke the **EP101** to compute and command more aggressive compressor run and harvest algorithms. Conversely, the tiniest aggression “towards” the desired set point temperature will signal the **EP101** to compute, less aggressive run and harvest algorithms. The **EP101** can compute a uniquely different algorithm, in a millisecond, for each mille-fraction of a degree of deviation. Then it commands the most absolute, energy efficient strategy, for reaching the exact set point temperature, creating more building comfort, while greatly minimizing Ecosystem Pollution and of course with out short cycling the equipment.

In larger buildings or facilities you may need our more robust, **EP101-BAS** controller that has more I/O's, to control much more equipment. If your building or facility is already equipped with a Building Automation System, then **Environmental Paradise™ Technology** software can be securely installed, over the Web, to control all of the buildings' heating, cooling, and refrigeration equipment. What ever your need, the **EP101, with Environmental Paradise™ Technology** is the only temperature control of its kind, that can “**Intelligently link a System**” to “command” peak efficiency from all heating, cooling, or refrigeration equipment in the envelope in which it is installed. Help make the “**EP101**” the “Perfect Partner” for, Demand Response Utility efficiency Programs, Weatherization Programs, as well as, State and Federal Energy Efficiency Programs! Please join us in proving that the **EP101** is the most effective energy saving solution, by choosing it as your, “**Energy Saving Solution**”!

For further information, call 412-287-7991, or email us at, [The.Energy.Saving.Solution@comcast.net](mailto:The.Energy.Saving.Solution@comcast.net)

Dear Mr. Murray,

We respectfully encourage you to please take the time to read the attached information that explains this century's best technology for saving a considerable amount of energy on all heating, cooling, refrigeration and hot water tank systems. We would like to introduce to you "Our Energy Saving Solution"! The "EP101 Thermostat is an infinitely self learning computerized thermostat" that we are offering for \$380 each for residential units. They will come programmed for heating and A/C only. They will arrive fully programmed and ready for a very quick installation by your own qualified hvac contractors. You should be able to have them installed by your local hvac contractor for \$80 to \$120, since it is as simple as a thermostat replacement. Please keep in mind that the savings will be between 15% and 35% on average. Please read our attached product information to see how and why our computerized Thermostat can save more than anything else that you can do in a home or business to save energy. Its Quick, its relatively inexpensive, and it saves energy and reduces pollution/the carbon footprint. Depending on the volume, price breaks will be considered. We will be installing a demo for the Pennsylvania Department of Energy in Harrisburg in the very near future. Stay in touch!

My Sincere Thanks,

Richard (Dick) Cheripka  
President  
The Energy Saving Solution, LLC.  
412-287-7991

## **Our Energy Saving Solution!**

### **Existing Systems Operate Like This:**

Most people believe that a thermostat has total control of the furnace or air conditioner and that isn't the case at all. The thermostat tries to control the indoor temperature but it always fails. Why?

#### **In the heating mode:**

1. The indoor temperature drops approximately 1 degree and the thermostat turns the burners on.
2. When the desired temperature is reached, the thermostat turns the burners off.
3. Hot air continues to circulate into the indoor space raising the temperature beyond the desired set point temperature by 1 or 2 degrees.
4. Why? Because the circulator, (fan or pump), is "not" controlled by the thermostat. It has no knowledge of the indoor temperature. The circulator is controlled by a mechanical limit switch, or a pump aqua stat, or an electronically timed switch.
5. Why? Because the circulator must extract the excessive heat, from the "overheated" metal of the heat exchanger, in order to cool it down safely; and to harvest that same residual heat before it is wasted up the flue or lost throughout the ducting system.

#### **In the cooling mode:**

1. The indoor temperature rises approximately 1 degree and the thermostat turns the a/c unit on.
2. When the desired temperature is reached, the thermostat turns the a/c unit off.
3. Cool air continues to circulate into the indoor space lowering the temperature beyond the desired set point temperature by 1 or 2 degrees.
4. Why? Because the circulator, (fan or pump), is "not" controlled by the thermostat. It has no knowledge of the indoor temperature. The circulator is controlled by an electronically timed fan switch or, if it's a chiller system, by either a pump aqua stat or an electronically timed switch.
5. Why? Because the circulator needs to extract any excessive cooling from the "over-cooled" metal of the evaporator coil in order to minimize coil frosting, to maximize oil return, and to

equalize pressures; but also to harvest that same residual cooling before is lost to the over-heated compressor motor or wasted throughout the ducting system.

#### **In Either case:**

Neither a heating system nor a cooling system is able to harvest energy efficiently because a thermostat does not control “**both**”, the energy source and the circulator source. This is what causes “under and over shooting” of indoor temperatures. It is also what causes all heating and cooling equipment to fail to reach their inherent ability to save energy and to create that “warm and fuzzy feeling” in the indoor environment. This is true whether the equipment is older and low efficient, or newer and highly efficient. You do need, The EP101 controllers powered by Environmental Paradise™ Logic Technology!

#### **Brief Presentation of Our Energy Saving Solution:**

Environmental Paradise™ is an Energy Efficiency Technology that was designed specifically to save energy and to reduce pollution on all types of heating, cooling and refrigeration equipment. It has the added benefit to maintain building temperatures that rarely drift more than 1 or 2 “tenths of a degree”. This very unique technology is embedded into our computerized temperature controller which is named the “EP101”. The EP101 compliments all types of heating or cooling equipment by instructing them to consume less energy. It cuts off the energy source long “before” reaching the set point temperature. It “harvests” all of the remaining energy in the system, then shuts off the circulator fan (or pump) “exactly” when the thermostat is satisfied. This new methodology results in very significant energy savings and large reductions in the proliferation of pollution. Therefore, by the universal use of our EP101 temperature controllers, the World Goal of significantly reducing the “Carbon Footprint” can and will be realized!

#### **Further Description:**

The EP101 computerized controller is powered by Environmental Paradise™ Logic. The EP101 controller performs harmoniously with existing heating, cooling equipment by instructing them to operate with extremely unique, unlimited energy efficient strategies. Environmental Paradise™ Logic is an “Infinitely self learning” and “self tuning” technology. It “totally” controls the burner/compressor “**and the circulator**” fan (or pump) by the “**indoor temperature alone**”. Each time that Environmental Paradise™ Logic senses the slightest deviation from the set point temperature, it instructs the EP101 to instantly “learn” the following:

1. The rate at which heating or cooling Btu’s are leaving the building in any given second.
2. The amount heating or cooling Btu’s that can be produced each second by the heating and cooling equipment.
3. The amount of heating or cooling Btu’s that can remain in the “energized exchangers” of the heating and cooling equipment “after” the EP101 terminates energy consumption.
4. The required time to operate the circulating fan (or pump) in order to, “harvest” the Btu’s that are produced both, during the cycle of consuming energy, and the Btu’s “remaining” in the “energized exchangers”, after the energy consuming cycle is terminated.

After learning these conditions, Environmental Paradise™, shows its capabilities of being “self tuning”, by instantly creating very unique algorithms from an unlimited array of energy saving strategies. It then commands the EP101 to adjust the amount of energy consumed while it satisfies the indoor temperature “exactly” at the desired set point temperature. While carrying out these very unique energy saving strategies, the EP101 commands the heating and cooling equipment to:

1. Stop the “production” of Btu’s, by terminating energy consumption, “**Before**” the indoor temperature reaches the desired set point temperature.
2. Stop the” harvesting” of Btu’s of energy, by stopping the circulator fan (or pump), “**Exactly**” at desired set point temperature.

Imagine a computerized thermostat controller that can learn unlimited energy saving strategies? Now imagine that this thermostat can learn the least amount of energy required, “before” the thermostat becomes satisfied, while simultaneously learning exactly how long to continue running the circulator in

order to “harvest” virtually all of the residual energy remaining in the system, to meet the exact desired temperature without over-shooting that your set point temperature. That’s Energy Savings at its Best!

## **You may stop imagining, this is real. This is 21st century cutting edge technology!**

### **Novel Features:**

1. Environmental Paradise™ is a one of a kind, infinitely self learning, self tuning, energy saving software program designed specifically for the, “in tuned, green generation” of today, tomorrow and the future. The EP101, with Environmental Paradise™ Logic embedded, lacks nothing in the field of energy efficiency; because it is capable of learning infinitely endless arrays of energy saving strategies to meet, any and all, indoor or outdoor conditions. If the older equipment is changed out and replaced by new high efficient equipment. It can and will re-learn instantly!
2. Due to its unique capability to learn an infinite array of energy saving algorithms, it is not only “one of a kind”, but, the “last of its kind. There is nothing that needs to be added! The EP101, powered by Environmental Paradise™ Logic, can perform an infinite array of energy saving strategies that are capable of reducing energy consumption and pollution proliferation in residential homes, in commercial buildings, and even in the largest facilities, without the need to change any programming in the EP101 controller; the only exception of course, is changing of the set point temperature to suit your desired environment.
3. Our, uniquely diverse energy saving controller can save energy and reduce pollution on most all types of heating, cooling, refrigeration and hot water tank systems with only two distinct, yet infinitely self learning, self tuning software programs.
  - a. One program for all types of heating systems, even multiple boiler systems, or commercial domestic hot water tank systems.
  - b. One program for all types of air conditioning systems, or refrigeration equipment, such as, walk-in coolers and walk-in freezers, or other like refrigeration systems.
4. The EP101 single controller can be used as a stand alone controller, or as an “end of line” control in buildings, that already employ a building automation system.
5. The EP101-BAS controllers can be installed in buildings or facilities where no type of control system exists. They are capable of controlling an indefinite number of HVAC equipment, boilers, chillers, or refrigeration equipment with maximum efficiency and minimum pollution.
6. The EP101 controllers are empowered by Environmental Paradise™ Logic. This new technology greatly improves the efficiency of the older less-efficient equipment, as well as, the present newer Higher Efficient equipment.
7. Even where the source of energy is provided by wind energy, by solar panels, or by any other new form of pollution free energy, it will always be prudent for the world to operate heating, cooling and refrigeration equipment efficiently to minimizing unnecessary waste. It is equally wise to minimize the need to build more costly wind farms and solar panels. For many people, That’s called Visual Pollution!

**Please, join us in sharing the responsibility to make our Earth truly **Green!****