Slide Lock Systems Inc.
Biodomes

Kurt Haberman

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Executive Summary

COMPANY NAME: Slide Lock Systems Inc. - Biodomes
CORPORATION: "C" Corporation
FOUNDED: 1999
INDUSTRY: Bio-Technology
SEEKING FUNDING: Above $10 Mil
WEBSITE: http://www.zetatalk.com/shelter/slideloc/index.htm

PROBLEM
The world is becoming a more dangerous place to live. Planet Earth has entered into a cycle where earthquakes are on the increase, volcanic eruptions are on the increase, spewing ash into the atmosphere, and storms and erratic weather is on the increase, creating the specter of crop shortages and starvation. Fukushima has shown us that even the danger of nuclear pollution spread around the planet by the jet stream looms as a possibility.

An enclosed, self-sustaining biosphere would allow mankind to avoid these danger. But to date, there has not been one, single biosphere that has been built with success on this planet. The best definition of a biosphere is essentially a self-sustaining environment where humans could survive for an indefinite period of time on the food, oxygen, and water that would be provided by the environment. It would also provide protection from serious outdoor conditions such as earthquakes, hurricanes, tornadoes, and floods.

The only attempt at this sort of biosphere - Biosphere 2 in Arizona - required the input of light from our sun and gave no protection from serious outdoor conditions. Inside this unsuccessful biosphere human life was sustained for only a short period of time.

SOLUTION
A biosphere or biodome can be built to create a sustainable, living environment where residents can be insulated from natural or man-made events that can cause disaster. In order to respond to the forces of extreme seismic activity and the darkened skies of extreme volcanic activity, all the processes that would take place within the biodome would be completely self-contained for an indefinite period of time. Conditions outside the biodome could be ignored as inhabitants go about their daily lives.

Slide Lock Systems has designed the best possible biodome structure. In concept, the biodome as a traditional "dome" on the top with an "inverted dome" structure underneath for support. When properly constructed, then, the shape of this enclosure is the strongest building shape there is against every type of live load or dead load, including lateral loads, vertical loads, bending forces, and shear forces. The structure cannot be flattened or bent in any direction without ripping or tearing.

The structure would be built entirely of a high-strength steel or alloy. All walls and floors of the biodome would be completely interlocked with the perimeter wall of the biodome, thereby acting as vertical and horizontal structural ribs that would strengthen the perimeter wall. The enclosure of this biodome, then, would be built mostly of curved panels. These panels would interlock in a way that would give maximum structural integrity to this enclosure, enough, in fact, for the enclosure to span distances of 1,000-feet or more.

These panels would be interlocked together in a way that would eliminate visible seams, so that all the water and air of the biodome would be prevented from escaping the enclosure. There would be no seams, thereby permanently eliminating freezing and thawing problems.

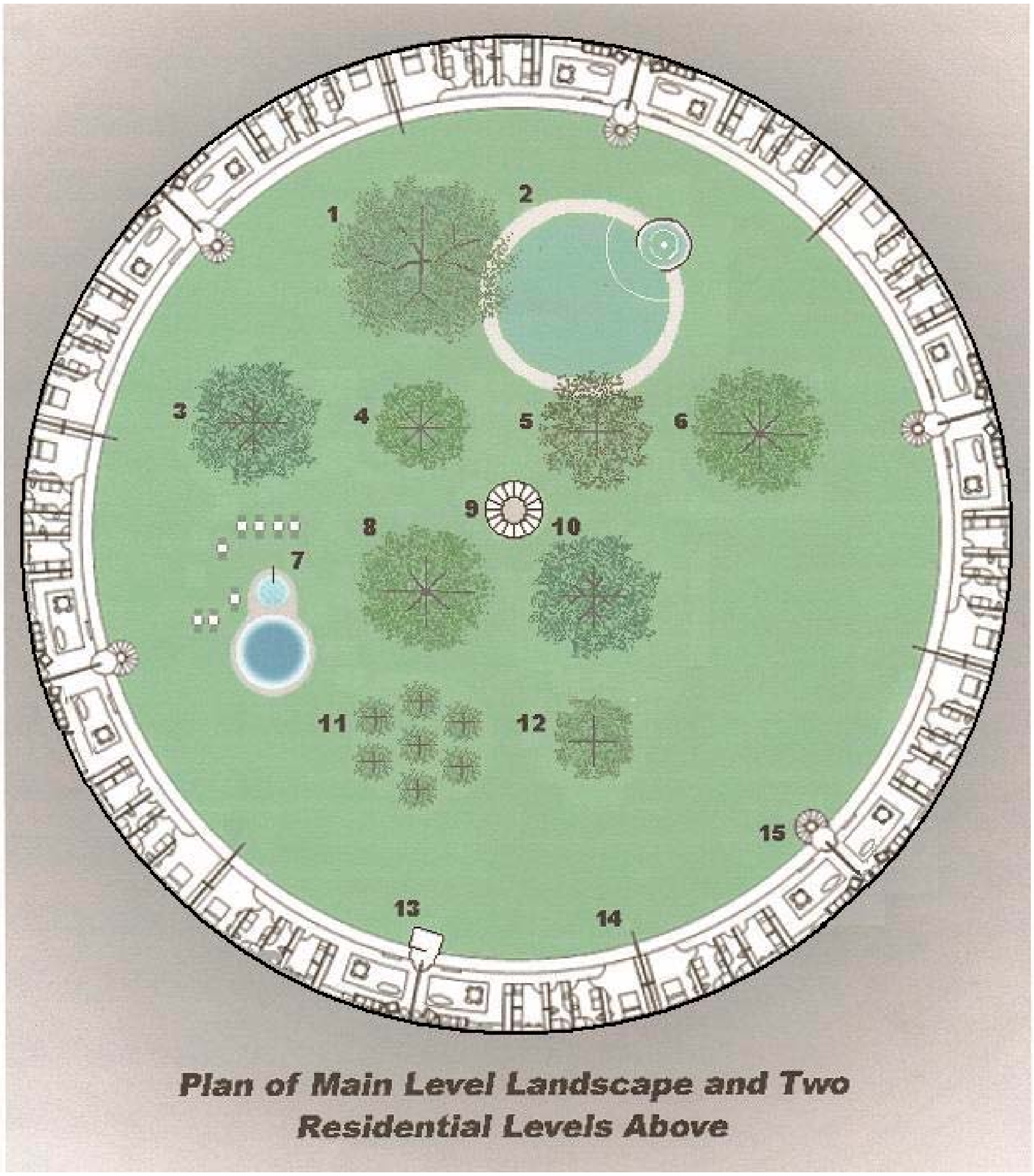
In terms of size, small, medium and large biodomes have been designed using state-of-the-art architectural principles. The largest structure would encompass just under 1,000 acres and provide enough living space for up to 800 people. All of the internal systems and ecosystems required to support life within the biodome are designed to be self-sustaining.

Building biodomes of this size and scope will require substantial funding. Several alternatives are being pursued including private investor capital, venture capital funding, government funding and sustainability initiative funds. To build the first, livable biodome on planet earth, alternative investments from both private and public investors will be considered.

For the initial or prototype biodome, Slide Lock Systems proposes the following design, specified as the Plan, Cross Section, and target interior Climate.

Plan

The diameter of the metal enclosure is 320 feet. Atrium height is 84 feet. Sleeping capacity for 96 beds.



Key to the Plan

1. Live Oak
2. Maximum Output Oxygen Pond
3. Blue Oak
4. Black Oak
5. Cherrybark Oak
6. Burr Oak Tree
7. Pool / Jacuzzi Area
8. Burr Oak Tree
9. Earth Tube Air System
10. Blue Oak Tree
11. Southern Sugar Maple Grove
12. Thornless Honeylocust
13. Windowed Elevator
14. Structured Walls
15. Spiral Stairs.

Maximum Output Oxygen Pond
77 foot diameter, 6 foot depth, Phytoplankton Algae produces more Oxygen than any other source on Earth. In this pond, the algae is consumed by Talipia Fish that return waste nutrients to the algae for continued growth and oxygen output.

Pool / Jacuzzi Area
32 foot pool diameter, 16 foot Jacuzzi diameter. Each of these has underwater Ultraviolet downlighting for safe, continuous, water purification and surface cleaning that requires no maintenance, no chemicals, and no water draining.

Earth Tube Air System
Earth tubes are proven air-systems that dehumidify and oxygenate air while continually adjusting its temperature to the region's annual average. This particular design has several advantages over earlier models.

1. Dispersed UV light keeps the system free of bacteria.
2. The tubes are buried as deep and long as possible for maximum temperature transfer.
3. Any condensate easily drains from the system's smooth stainless steel tubes to its core where it is continually vacuumed out.
4. The system is close-looped to avoid bringing in hot or cold outside air.
5. Its multi-vaned all-electric fan would be sized and powered to push central atrium air through all perimeter spaces. When supplied with long-term "on-demand" hydrogen, PEM fuel cells would easily power this system's electric fan with efficiency and reliability.

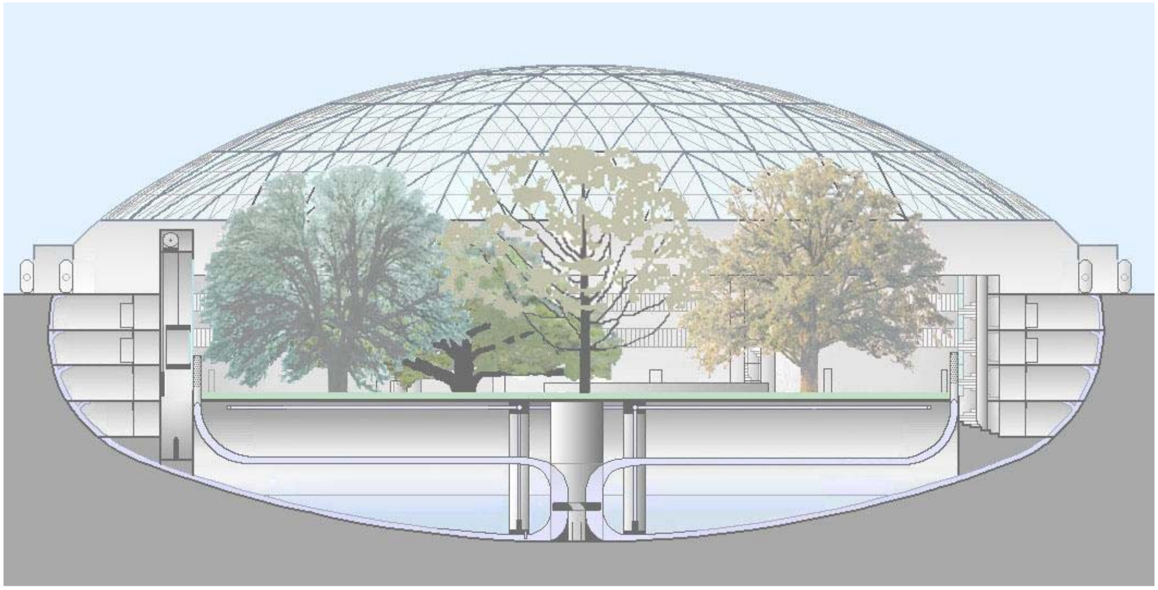
The only real drawback of the system is that the UV lamps and wet vac pumps would require periodic replacement.

Windowed Elevator
5 foot by 6 foot, serving the upper concourse, four elderly / handicapped apartments and the basement.

Structured Walls
1 major wall per apartment, 4 minor walls per apartment.

Spiral Stairs
5 total, serving the same 5 levels as the elevator.

Cross Section



Cut-Away View of the Proposed 320-Foot Biodome   Drawing Scale: 1" = 32-Feet
Drawing, Design, and Inventions by Kurt Haberman

Climate
USDA Hardiness Zones are geographically defined by the average annual minimum temperature of each region in 10 degree Farrenheit segments. These zones are based on temperatures alone and do not take other critical factors into account, such as moisture, soil, winds, and solar exposure. Once a specific country or continent is divided into such zones, one can easily see where particular plants and trees will thrive and where they will probably die.

The Slide Lock Systems biodome is home to plants and trees that thrive in zones 7 through 8, where the Average Annual Temperature is optimal for the Earth Tube Air System. These zones extends southward from Maryland to Georgia, westward through central Texas and New Mexico, then northward across the Sierra Desert. These zone also have optimal Average Daily Sunshine for the plants selected for the biodome.

BUSINESS MODEL
Due to the high cost of initial development, which includes development of a completed plan and computer driven manufacturing systems to produce panels of varying sizes, it is envisioned that an initial outlay of funds would be required before sales to the general public could be started. Once a model dome has been constructed, and a dome has been occupied and proven to be selfsustaining, production would be hard pressed to keep up with demand, particularly among the wealthier segments of society.

The business model is thus one for a long-range project. The initial cost of development would be returned to the investors by these initial sales, making the biodomes available to those less able to afford them eventually. The wealthy would pay for the development, but eventually humanity overall would benefit. Construction costs are expected to require substantial investments.

Recently, construction of a related biodome structure -- using a more traditional but inferior design -- at the Zoo in London to support a rainforest climate recently cost an estimated $100 Million (USD). In order to construct the large sized biodome for human habitation -- including building all of the infrastructure and support systems within the biodome itself -- is likely to cost at least that much, if not more, for the initial or prototype biodome. Mass production, which can take advantage of an approved plan and existing ceramic molds, would have a greatly reduced cost.

To the extent that other companies and corporations want to be involved in helping construct the first biodome, we are also considering charging fees to participate. Brand recognition, press releases and corporate image tied to our first biodome manufacture and build out can be seen as another potential source of revenue.

Market Analysis

MARKET SEGMENTATION

The market for biodomes or biospheres is relatively limited, though the interest in survival bunkers is a market rapidly increasing of late. The market today is serviced by Monolithic Domes and Geodesic Domes.

Most of the market for domes is in the residential or commercial realm, with interest in the dome shape itself primarily due to the lofty spaciousness of the interior and the many advantages the dome shape offers.

> *The dome structure is impervious to tornadoes, landslides, avalanches, earthquakes, fires, snow and ice storms. Studies at Idaho State University determined the Dome of a Home will withstand 500 + mile an hour winds. Its curved shape and massive weight resist storm surge damage. These qualities combined with an absence of a roof to be compromised makes the dome extremely hurricane resistant. The shape is strong and not vulnerable to the weight of avalanches, landslides, or snow and ice build up. The strength of the dome shape also makes it impervious to earthquakes.*
> (http://www.earthmountainview.com/domes/monolithic-dome- homes.html)

Monolithic Domes are structured in concrete, sprayed onto a balloon shape. Concrete simply cannot compete with a metal dome. Though Monolithic Domes state their residential domes are FEMA approved, the Slide Lock Systems designs are superior in that they are shatter proof and made of metal.

Monolithic Domes are also limited in size, the largest noted on their website 148 feet in diameter (http://www.monolithic.com/topics/featured-sports) where Slide Lock Systems designs can sustain huge domes 1,000 feet or more in diameter which do not require supporting beams. Thus, Monolithic Domes are primarily found in the residential market.

Monolithic's technology meets FEMA criteria for a structure that can provide near-absolute disaster protection.
(http://www.monolithic.com/)

Geodesic Domes For residential or single-home units, a traditional geodesic dome built with a triangular-based support system is what most people think of when they hear the word "biodome". Buckminster Fuller invented or created the design for the first dome home in the late 1940s in part as a way to improve on the housing choices that humans have. And, many of today's domes are constructed using the same principles as the first creations.

The largest Geodesic Dome is 710 feet in diameter at Fantasy Entertainment Complex in Kyosho Isle, Japan. Where the Geodesic Dome structure, assembled from triangles, is the strongest architecural structure, its weak point is in the frame itself, which can snap and shatter, thus breaking the dome shape. Large domes also must be divided into triangles that are not equilateral, thus diminishing the inherent strength.

Buckminster Fuller suggested that, for domes of larger spans, each of these triangles can be subdivided. It must be pointed out that during such a subdivision the resulting triangles are no longer equilateral. This is no doubt one of the reasons why geodesic domes, in spite of their undoubted advantages for smaller spans, do not compare equally well with other systems for larger spans.
Analysis, Design and Construction of Braced Domes
(edited by Z. S. Makowski; ISBN: 089397191X)

The Slide Lock Systems designs, utilizing the interlock assembly, prevents this frame shattering potential. Nevertheless, Bucky's designs are world reknowned, and paved the way for acceptance of the Slide Lock Systems designs. For example, the Montreal Biosphere uses the triangle-based foundation for its construction. Similarly, the Spaceship Earth exhibit at Epcot Center in Walt Disney World uses similar, traditional Geodesic principles.

INDUSTRY ANALYSIS

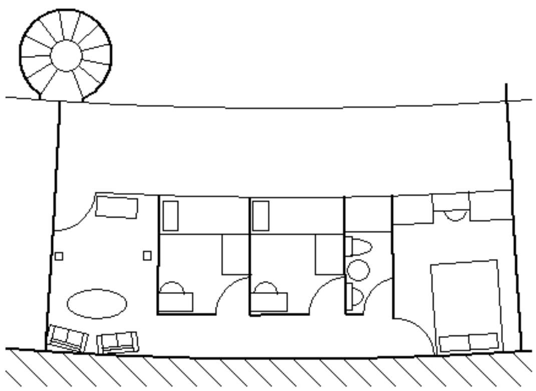
To date there have not been any successful biospheres or biodomes constructed or built. The best operating definition is a "self sustaining environment where humans could survive for an indefinite period of time on the food, oxygen, light and water that would be provided by the environment within the biodome. In addition, the structure needs to offer protection from serious outside conditions such as earthquakes, hurricanes, tornadoes, floods, or man-made disasters.

Most of today's market is tied up in inadequate Monolithic and Geodesic Dome concepts and ideas. A true biodome or biosphere, though, requires thinking outside this box. The industry at this point is very limited. New design and engineering is needed to support effective biodome manufacture and construction.

Products / Services

BIODOME DESIGN
Slide Lock Systems offers many services during the design of biodomes for enclosed sustainable living.

The biodome designs done by Slide Lock Systems integrate gracious living in a pleasing environment that include both privacy within the apartments with opportunity to socialize in the interior gardens and pools. All aspects of community living have been considered.

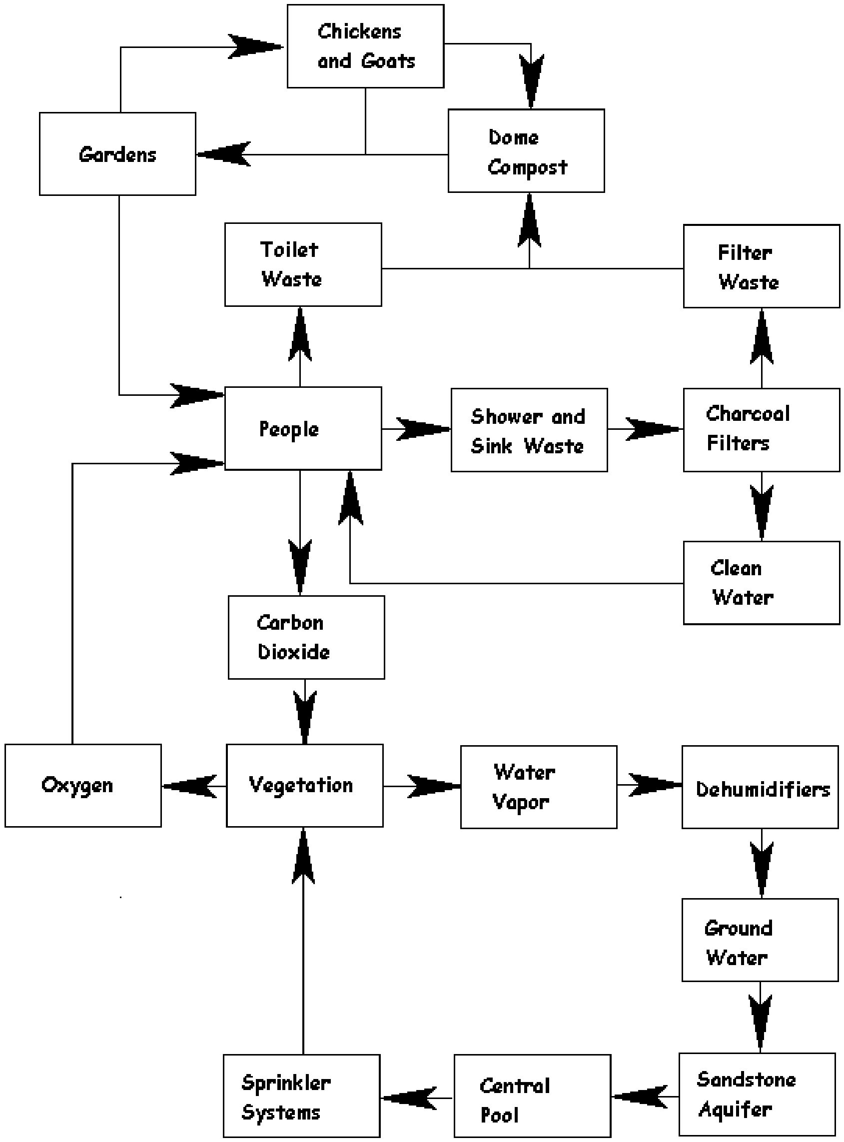


Food Production for the community can be integrated into the overall design, seamlessly. The residents of the biodome might look out upon the interior gardens and see what appears to be a park, though fruit trees, vegetable gardens, and grazing goats and ranging chickens are part of the complex.

Any crops within these biodomes that could be produced more readily in a hydroponic system, such as feed for goats or chickens and vegetables for people, could be produced via hydroponic trays in rooms along the perimeters of the biodome. Likewise, housing chickens or goats could be done in enclosed perimeter pens, or in a completely separate farm dome.

In the crop and farm biodomes on a biodome campus, all crops would be fertilized by nutrients that would be obtained from the composting toilets of the complexes. Crops would be irrigated by a nutrient-rich water supply that would also be continually obtained from composting toilets as part of a closed-loop nutrient cycle. Any manure produced in these farm biodomes would of course be gathered and incorporated into the nutrients that fertilized the crops.

Any Methane gas produced inside the biodomes from rotting vegetation or sewage or digestive processes would rise to the top of the dome. Methane is lighter than air. It will always rise to the uppermost regions of these biodomes, where it can then be periodically ignited by a spark, producing water vapor and Carbon Dioxide. A light rainfall washes dust off the leaves, and Carbon Dioxide incites plant growth.



Water Cycles: All water used by the vegetation of the biodome would be returned to the groundwater cycle in some way. High humidity levels produced by vegetation would be condensed and transferred into the groundwater cycle of the biodome by dehumidifiers. Humidity from dead vegetation and natural mulch would be returned in the same way.

These dehumidifiers would be raised just above the level of the ground where humidity levels are the greatest inside the biodome. These would drain condensed water directly into the purifying sandstone aquifer that rests on the alloy foundation of the biodome—down beneath the layers of soil and gravel of the biodome.

Once this water has entered this sandstone aquifer it would flow through the sandstone towards a clean pool of water located in the lowest part of the biodome at the center of the foundation, where it would establish a new, slightly-raised water table. Clean water would be periodically pulled from this pool of water into the sprinkler system of the biodome. After the watering process, water would be returned to the groundwater cycle, and this water cycle would be complete.

Controlling humidity levels throughout a biodome and all of its apartments is primarily for health reasons. In order to do this it is important to keep the relative humidity of the biodome and all of its apartments within “the optimum zone,” which typically lies between 45% and 55%.

Keeping relative humidity within this zone would inhibit the survival of various viruses, including cowpox, influenza, measles, polio, and herpes. Bacteria and mites and fungi are inhibited. Conditions such as respiratory infections, allergic rhinitis, and asthma would be completely eliminated when this optimum range is maintained, and certain harmful chemical interactions and the production of ozone would be minimized as well.

Atmosphere: There is a natural exchange of Oxygen and Carbon Dioxide that occurs between the vegetation of the biodome and the people or other creatures living in the biodome. Vegetation takes in Carbon Dioxide and emits Oxygen. Almost all free Oxygen within the atmosphere of this biodome would be produced by this process.

The large Phytoplankton Algae pond in the center of the biodome is a primary oxygen generator. Phytoplankton Algae produces more Oxygen than any other source on Earth. As mentioned in the Plan, in this pond, the algae is consumed by Talipia Fish that return waste nutrients to the algae for continued growth and oxygen output.

> *Phytoplankton account for half of all photosynthetic activity on Earth.[3] Thus phytoplankton are responsible for much of the oxygen present in the Earth's atmosphere – half of the total amount produced by all plant life.*
> (http://en.wikipedia.org/wiki/Phytoplankton)

All the gases inside any biodome will stratify according to their weight because they will have no wind to stir them around. This would leave Oxygen occupying the lowest 21% of the atmosphere where it is most needed, along with Carbon Dioxide and water vapor, which are also most needed at this level. This, in turn, would leave all the trace gases at the top of the biodome, and Nitrogen occupying the remaining 78% of the atmosphere below that.

The Nitrogen Cycle takes place between the atmosphere of the biodome and its soil. Put simply, the plant life in these biodomes will use whatever Nitrogen comes into contact with its soils in very small amounts, primarily from certain

Nitrogen-based compounds. When a given life form dies, it will return that Nitrogen back into the soils around it and the atmosphere above it.

So, once again, another natural cycle that will occur within the biodome will keep itself in balance without any work on the part of the people within the biodome. Plant forms that fix Nitrogen into the soil can be utilized inside the biodome as they are today in crop production. Soybeans and Alfalfa are examples of such Nitrogen fixing plants.

In a strictly residential biodome, reliant upon trees and grass and flowers for oxygen production, special consideration on the choice of trees is needed. Deciduous ecosystems produce the highest levels of Oxygen in temperate climates, but these trees drop their leaves in the fall and cease to produce Oxygen until the springtime. Thus certain types of evergreen trees would need to be incorporated into these ecosystems so that a balance of Oxygen could be maintained during these periods.

The two types of evergreen trees that would probably cure this problem the best would be Magnolias and Hollies. They not only produce an adequate level of Oxygen throughout the year, but unlike other evergreens, their root systems are very shallow, just like those of deciduous trees. Virtually all the vegetation of the biodome could be planted into a relatively shallow layer of earth.

In a temperate climate, if the biodome is left uninsulated, the annual temperature fluctuations within the biodome would be the same as those outside the biodome, because the alloy structure of the upper dome would transfer heat in and out of the biodome very readily. But in the summertime, because heat would accumulate in the biodome from its upper regions on downward, it would take time for indoor heat to reach the level of the people.

Conversely, in the wintertime, cold would occupy the lower level of the biodome immediately and work its way upward through the biodome atmosphere. In any case, if a biodome was located in a cold climate, the biodome would definitely need to be insulated and heated, and in a hot climate, the biodome would need to be insulated and cooled.

Lighting and Power: A full spectrum of natural light would emanate downward into the biodome from the entire inner surface of the dome from a special "Phosphor." This was developed by Sylvania of GTE long ago, and would be stimulated by a ring of ultraviolet lights that would be located around the perimeter of the dome. These ultraviolet lights would be shielded in such a way that the ultraviolet light would only shine upward onto the inner surface of the dome

This full spectrum of natural light would be used to power photovoltaic cells located on every balcony of every apartment in the biodome. There would be no need for electrical conduits routed throughout the biodome power the apartments.

Optimally, power would be generated by wind or water mills. Windmill farms dedicated to a community of biodomes are non-polluting. If the biodome community is located in a high-head area where water natually cascades, hydroelectric power is an alternative. Pebble bed reactors are an alternative, though do not have the guaranteed safety that wind and water generated power carries.

Recycling: Optimally, the biodomes would produce no trash at all. Products would always be transferred directly to the point of consumption without ever being packaged and unpackaged, and when containers would be produced and used for consumables, the containers would always be reusable or recyclable. Finally, because all food in these biodomes would be served in restaurants, instead of in homes, the whole process of distributing food in the biodomes would be greatly simplified.

Items such as paper napkins would be replaced by cotton napkins, for instance. The presence of paper or wood products of any kind would not be used inside the biodome. In this way, flamable materials are reduced, preventing a potential fire within the biodome. All visual information inside these biodomes would be communicated with the use of electronic devices instead.

The only types of cleaning solutions that would ever be used in these biodomes would be vinegar or citrus-based cleaners, because they can clean just as effectively as other cleaners without harming the environment.

Restaurants: Preparing and serving food entirely within restaurants has several advantages over any other method. For one, building a biodome without any home kitchens and home dining areas is cheaper and allows for a more dense population. Restaurant preparation is more energy efficient.

If food were delivered to hundreds of homes within a biodome, the amount of food packaging material that would need to be recycled would be greater than the amount of packaging that a restaurant would require.

The only distinct difference between the restaurants of these biodomes and a typical restaurant would be the dishwashing area. Instead of having a labor-intensive rinsing sink and a sanitizing dishwasher to the side of the sink that uses high heat to kill off bacteria, there would only be a specialized sink that could perform the function of the sink laborer and the dishwashing unit.

An amazing but simple unit would employ two simple types of energies - ultrasound and ultraviolet light. Ultraviolet light would shine into this specialized sink from the sides of the sink to kill off bacteria, and the ultrasonic part of the sink would pass high-frequency sound waves through the water in the sink to vibrate all the food and particulate matter off of the dishes.

All that would be necessary would be to put dishes into the sink and flip a switch. After about ten seconds the dishes are clean and ready to be put away. The total amount of personal energy expenditure required to accomplish this task would be minimized, and heat and humidity would be reduced.

INTERLOCK PANELS

Where the primary product of Slide Lock Systems is the biodome designs, these are intrinsically associated with the interlocking panel system for structural strength. These panels use only two types of joints, and can be fabricated with three sides or four sides, with their faces having no curvature, a single-curvature, or a double-curvature. These panels, then, would interlock in a way that would give maximum structural integrity to an enclosure, enough, in fact, for the enclosure to span distances of 1,000-feet or more. The President of Slide Lock System holds the patent for these interlocking panels.

U.S. Patent Apr. 17, 2001 Sheet 11 of 19 US 6,216,410 B1

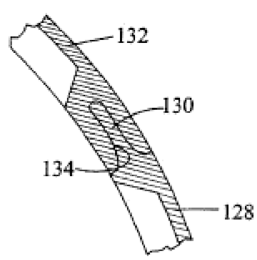


FIG.37

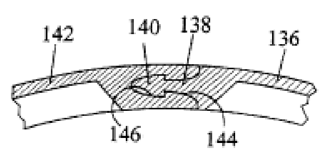


FIG.38

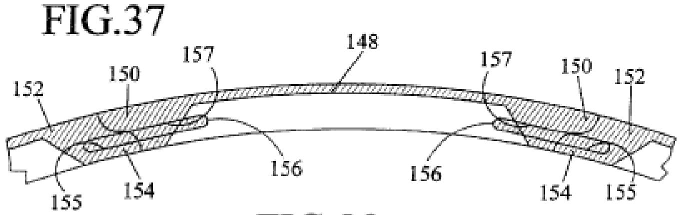


FIG.39

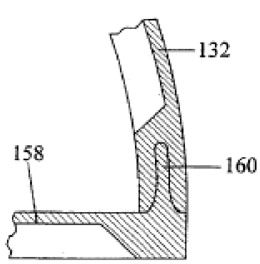


FIG.40

Any building that uses the Slide Lock System can be built of nothing more than the panels themselves and the fine lubricant that would be applied to their joints for sliding purposes. In other words, there would be no need for bricks, concrete, steelreinforcements, or any other construction system. There would be no need for nails, screws, nuts, bolts, welds, rivets, glues, sealants, or adhesives of any kind.

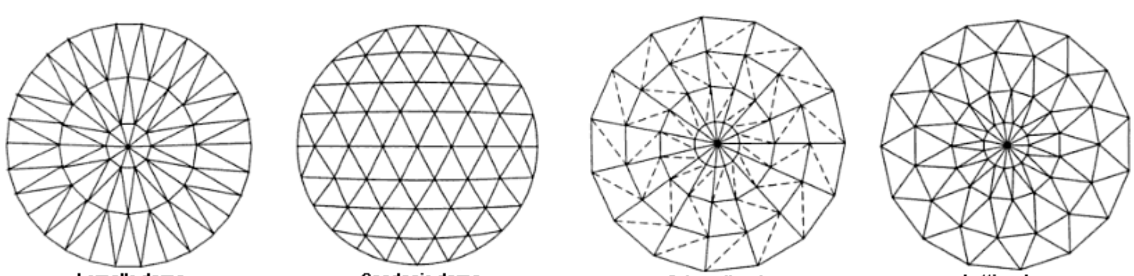
Buildings of any size that would use our design would be perfectly sturdy without posts, columns, beams, frames, trusses, or foundations because of the rigidity of all the membranes of the building, which would constantly support one another as a collective structural totality.

However large flat walls, flat walls that bear heavy loads, large areas of flat roofing, and large expanses of unsupported floor above the base floor would all need to be supported by continuous ribs or grids. But in all these cases, these ribs could easily be formed by the panels and would firmly interlock with the wall, floor, or roof concerned.

Because the spacing between interlocked panels would not exceed .020”, and because panel joints would always be subjected to tension or compression, at least one inner feature of every joint of the design would come into firm contact with another after panels have been placed and loaded.

This prevents air and water from moving in or out of the joints, making a structure that is completely airtight and watertight and completely free of problems that involve freezing or thawing. The panel system could be used to build domes, inverted domes, cylinders, toroids, curved walls, straight walls, pyramids, conventional rooftop shapes, floors, and structural ribs.

Dome Structure: The Parallel Lamella shape would be employed to join the interlock panels in both the dome ceiling and inverted dome base.



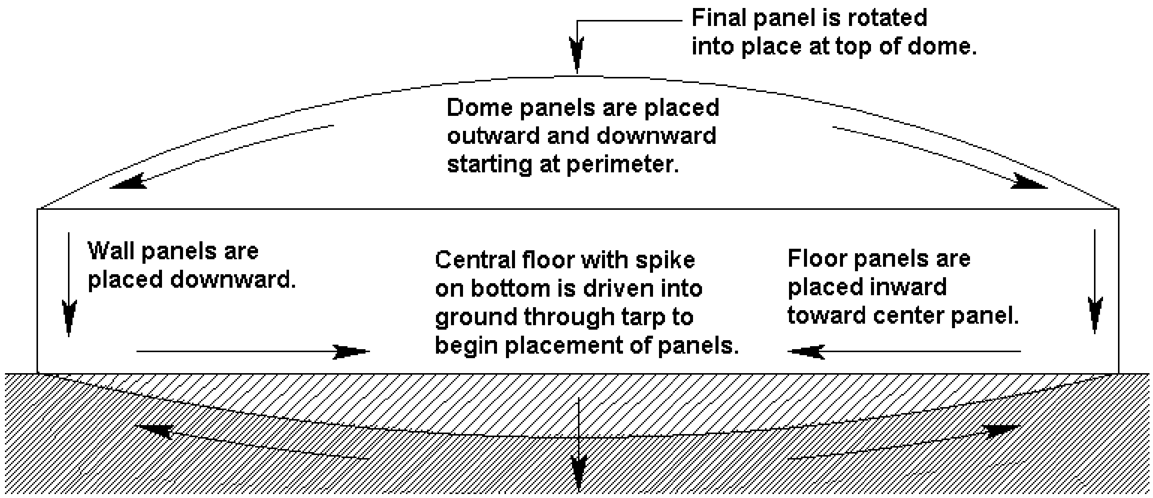
Lamella dome
Strength 70
Stiffness 100

Geodesic dome
Strength 100
Stiffness 100

Schwedler dome
Strength 30
Stiffness 4

Lattice dome
Strength 50
Stiffness 54

Dome Assembly: A low-profile dome reduces the weight of the dome and the total number of panels needed. It would also be easier to construct because of its shallow slope, would be more wind-resistant, and would blend into a landscape more effectively than a high pitched dome.



Panel assembly proceeds from the bottom up.

Alloys: Most high-strength steels and alloys will not soften until they have reached a temperature of almost 2,000-degrees F, which is the temperature of a high-temperature fire. So if a fire could be extinguished within a reasonable period of time after it has started, it is unlikely that the fire would soften the steel or alloy at all, because it would take time for the fire to reach 2,000-degrees F.

Most steels and alloys that could be incorporated into the panels have excellent resistance to corrosion. The lowest grade of stainless steel, for instance, would never corrode due to repeated exposure to water, and there are many steels and alloys that have particular resistance to a variety of chemicals as well. In addition, because any given building would be built of only one steel or alloy, there would be no corrosion in that building due to electrogalvanic action between dissimilar metals.

Because all panels would exhibit extreme corrosion resistance, excellent fire resistance, and extreme toughness, any building employing the building would last for an extremely-long almost indefinite period of time.

Marketing Plan

COMPETITORS
Our nearest competitors are:

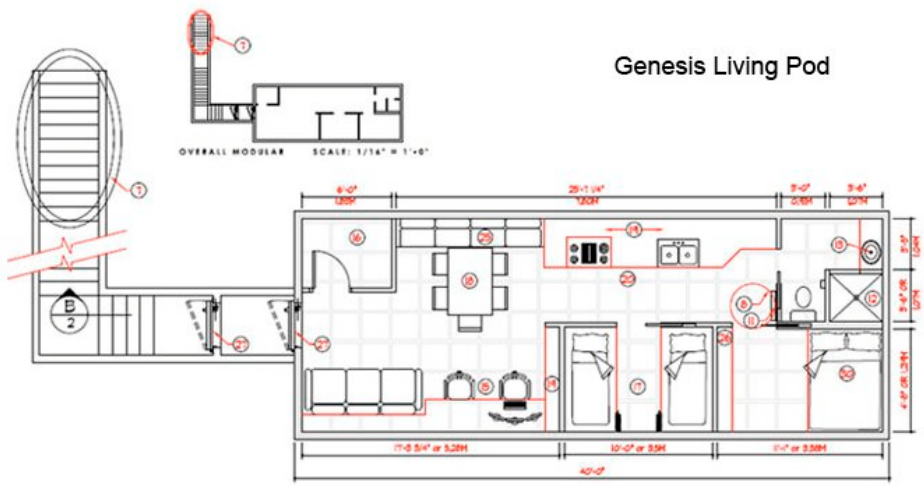
Biodome2 in Arizona, an experiment in enclosed living. Here the emphasis was on being self-sustaining but not on protection from earthquakes and/or severe weather. The most significant lesson from this experiment was the importance of building materials, as curing concrete extracted oxygen from the air.

> *Constructed between 1987 and 1991, it was used to explore the complex web of interactions within life systems. Biosphere 2 suffered from CO2 levels that "fluctuated wildly" and most of the vertebrate species and all of the pollinating insects died. Carbon dioxide was reacting with exposed concrete inside Biosphere 2 to form calcium carbonate, thereby sequestering the carbon dioxide and, as part of it, the oxygen that had disappeared.*
> **(**http://en.wikipedia.org/wiki/Biosphere_2)

Hardened Structures including their Genesis Series which are small completely buried domes for an extended family. The only price given on their website is for a pre-fab fallout shelter (about the size of a shipping container) for a family of 6 which sells for $38,000 (http://www.hardenedstructures.com/fallout-storm-shelter.html). This does not support sustained living. The Genesis Series appears to be very expensive but they do not offer a price.

While each risk situation is unique and requires a methodical threat assessment tailored to the client's needs, Hardened Structures experience across the spectrum of threats has enabled us to design a modular, configurable system that enables survivability in even the most demanding scenarious. Called the Genesis Series, this underground shelter system provides protection against a wide range of disasters including 2012 scenarios. For protecting your family or family group, the Genesis Series is unmatched in the industry.
(http://www.hardenedstructures.com/)

Single Genesis Living Pods can be purchased to suit small families offering a very high level of safety and security.



Survival Bunkers offer protection but do not offer sustained living. Based on an ABC video (http://abcnews.go.com/Nightline/video/vivos-survival-bunkers-sell-11019475) on survival bunkers, they featured a remodeled bomb shelter in the Mohave Desert with perhaps 1,000 beds which is selling beds for adults at $50,000 each and $25,000 each for children. Another feature was a converted nuclear missile silo in Kansas, perhaps a couple dozen floors, where a full floor cost $1,750,000

SLIDE LOCK SUPERIORITY
Our product offers many features that our competitors don't:

Durability: Architecturally, an oval or sphere is one of the strongest shapes, resisting pressure from all side without bending or snapping. When properly constructed, though, the shape of the biodome enclosure is the strongest building shape there is against every type of live load or dead load, including lateral loads, vertical loads, bending forces, and shear forces.

This is because this enclosure is entirely non-developable. In other words, the structure cannot be flattened or bent in any direction without ripping or tearing. And considering that the structure would be built entirely of a high-strength steel or alloy that would exhibit high toughness, this is not likely to happen.

All walls of the structure would be completely interlocked with the perimeter wall of the structure, thereby acting as vertical structural ribs that would strengthen the perimeter wall beyond its own capacity as a structural membrane. So, with this type of perimeter structure in place at the base of the dome overhead, all loads that the dome would place on the structure would be resisted readily.

Historically housing has been constructed of reinforced concrete or wood, which either shatter or burn. When constructed out of metal, as in high-rise structures, the shape is rectangular. The Slide Lock Systems biodome design does not shatter or burn, nor does it flatten.

There are numerous alloys that could be chosen, depending upon strength and heat resistance vs cost. There are even alloys that can resist the heat of lava from erupting volcanoes. Compared to the industry standards of wood, reinforced concrete, and square or rectangular structures in steel, the interlocking panels offered by Slide Lock Systems provide durability, simplicity and efficiency, fire resistance, corrosion resistance, longevity, airtightness, and versatility.

Too many buildings have been designed that place efficiency over durability, when the reverse should be taking place. Our designs are capable of building the most durable buildings available for any function, in any size, and in almost any shape, because these panels can be cast and heat-treated of the most durable high-strength alloys and steels. These would undoubtedly remain completely intact through the most severe destructive forces of hurricanes, tornadoes, and extreme seismic activity.

Safety: Our biodomes offer a safe and secure living environment without peer in the industry. In these insecure times, when families of means are seeking to have a second home where they can escape nuclear pollution or weather extremes, the popular solution has been to purchase space in a bunker or to build a private bunker. Bunkers have the built-in disadvantage of being subject to being crushed during an earthquake, thus creating a living tomb for those unfortunate residents inside.

Another solution for families of means is the monolithic dome built of concrete. Where the dome shape does offer resistance to winds, and has even been known to resist tornadoes passing overhead, reinforced concrete will shatter during earthquakes.

Using lightweight materials in the construction of a large dome, such as the thin skin of the Super Dome, also does not avoid the shattering problem, as it does not resist wind. This was shown during Katrina when the roof of the Super Dome peeled away.

Long Term Survival: During the current times, when even the air we breathe may carry dangers, a closed biosystem such as the biodomes provide offers a competitive advantage. Radioactive dust from Fukushima has recently reached the West Coast of the US and on to Europe. The biodome design includes recycling water and waste, for a complete closed system.

Spaciousness: If a biodome were boldly built to a diameter of 1,000 feet, 50 families of 4 members each could be accommodated per level, which would amount to 200 people per level. So if 4 levels were built around the perimeter of the biodome, the occupancy rate of the biodome would come to 800 people.

The way in which the perimeter of the biodome is designed, each apartment would be afforded 352 square feet of interior space, with 186 square feet of balcony space provided for each apartment, for a total of 538 square feet per apartment.

As small as this space amounts to, it is important to recognize that each apartment looks over 43-million square feet of biodome vegetation in a private way, so these apartments provide a great deal of enjoyment for every square-foot that they provide.

Concept Model of a 600-ft Biodome (6-ft Diameter)
Designed and Built from 09/1999 to 04/2000 at a Scale of 1/8-inch = 1 foot
Designer/Builder: Kurt Haberman, President of Slide Lock Systems, Inc.

INTERNET UTILIZATION

Niche

Biodomes are a one of a kind product that is going to provide Slide Lock Systems designs with a way to preserve life as well as develop new technologies. Through various partnerships we are able to keep our costs down and our customers' satisfaction high. We provide services to many organizations and are looking forward to building self sustainable homes for future clients.

Strategy

By providing a product unparallelled by any other, we are ensuring the safety and future of the human race and the sustainability of life as we know it. We will be able to thwart the most destructive acts of nature with our patented building materials.

Promotion
Upon the completion and launch of the prototype site, the biodome project will market itself through online and on-the ground tactics. The secondary market will be focused on any organization seeking to do multi-location and/or multi-year planning, budgeting and collaboration. Marketing efforts are further outlined below.

Email Marketing: Email marketing consists of placing ads in emails sent out by other businesses as well as reaching out to a vast group of members through mass email campaigns. Email also serves as a primary way to alert a user base of upcoming promotions and special services.

Social Networking Sites: The biodome project promotion will create profiles on today's most popular social networking sites, such as Facebook, LinkedIn, and Twitter. Social networking sites are a paramount way to spread awareness of new and existing businesses to an ever-expanding group of potential members. This awareness will ultimately generate new visitors to the website and spur word of mouth referrals.

> *Social Media Optimization (SMO):* Social Media Optimization consists of social media activity with the goal of sending unique visitors to website content. The Company's SMO will include promotional activities in social media as well as social media features added to its website content, such as RSS feeds, social news, and sharing buttons.

Online Marketing and SEM (Search Engine Marketing): SEM is a collection of online marketing strategies aimed at improving a website's ranking on the search results of today's most popular search engines, such as Google, Yahoo!, and Bing. SEM campaigns typically include the following strategies:

> *Search engine optimization (SEO)*: SEO is considered by most online marketers to be the cornerstone of any successful SEM campaign. This form of marketing uses unpaid tactics to improve a site's search engine results ranking. Effective SEO entails the creation and regular maintenance of a website using contextual language and proper HTML coding techniques, such as using keywords throughout the site's content and design that should call the site naturally from a search engine.

> *Paid placement*: Paid placement includes the terms Pay Per Click (PPC) and Cost Per Click (CPC). PPC refers to advertisers paying websites to host their ads, with payment occurring only when the ads are clicked. CPC refers to the amount of money advertisers pay search engines for each click.

Contextual advertising: This form of “smart advertising” displays ads in a reserved space to online viewers depending on the content surrounding the ad. For example, if a user is checking his or her email and several subject lines include content relating to tutoring or academic subjects, the reserved ad space might display an advertisement for the the company.

Paid inclusion: Paid inclusion is a form of search engine marketing in which the advertiser pays the search engine to be placed in its search index. These are often referred to as sponsored listings, appearing above all the natural results of the search.

Website: A well-optimized website with proper site structure, page layout, and clear and easy navigation, along with targeted keywords embedded throughout the site, will ensure proper search engine placement and saturation. As an online venture, the company site itself will be an important marketing asset. Along with utilizing SEM, we will prove easily navigable and highly informative, serving as a platform to generate new business.

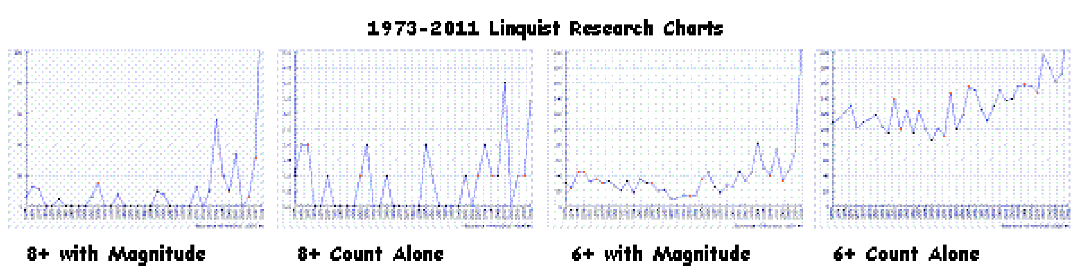
Sales Forecast / Strategy

LONG-RANGE STRATEGY
Slide Lock Systems Inc. intends to deploy funding received to maximize the opportunity to build the world's first successful biodome. The growth and profitability of this project will follow a natural progression of manufacture and production of small, medium and large units as demand grows. Based on the success of the first unit, substantial growth and income will result.

CUSTOMER BASE
Customer Base: The increased in the market for survival bunkers shows a great hunger for security in the event of catastrophy among those portions of the populace able to afford this protection. The first biodome, the prototype, will incur expenses that mass production will not have to bear. To recoup these expenses, the first customer base should be considered to be the wealthy, with a potential drop in price to market to the middle classes as the initial investments are recouped. Eventually, providing biodomes to the lower classes, even the homeless, could be considered as a charitable gesture, a public relations move.

Millionaires: Per a 2011 article (http://www.msnbc.msn.com/id/44592106/ns/business-us_business/t/are-rich-taxed-lesssecretaries), there are estimated to be 237,000 millionaires in the US alone. If one assumes a mere 1% of these would be interested in a self-sufficient safe location, in case of nuclear fallout, volcanic ash, hurricane spate, earthquakes, tornadoes, tsunamis, floods, drought, etc. and assume a growth rate on this interest group to continue to provide 1% of the millionaire pool, the customer pool for a project offering our biodome designs would be phenomenal. This is not even including the customer pool that exists internationally.

INCENTIVES
Earthquake Increase: According to Lindquist (http://research.dlindquist.com/quake/historical/?mag=8&type=strength&freq=year&style=raw), earthquakes in all categories are increasing exponentially, and just during this past year or two. Even without assuming an additional increase, each earthquake will make millionaires (the target customer) increasingly aware of the biodome's benefits. The biodomes designed by Slide Lock are architecturally among the strongest known shapes (the ellipse). No other safe survival structure can make such claims.



Tornado Increase: According to NOAA (http://www.spc.noaa.gov/publications/mccarthy/tor30yrs.pdf) tornadoes are on the increase (http://www.huffingtonpost.com/2008/05/27/us-on-track-to-break-reco_n_103795.html). Bigger, more frequent, and appearing in places where tornadoes have not been experienced before. The trend has been steadily upward.

Our biodomes will be unaffected by tornadoes, as tornadoes lift over hills, and would treat the biodome roof in a similar manner. There are no sharp edges to catch the wind, as with conventional housing. The biodome is too heavy to be lifted. This is not theory, as concrete domes, such as Monolithic Domes, have had tornados strike them, without damage.

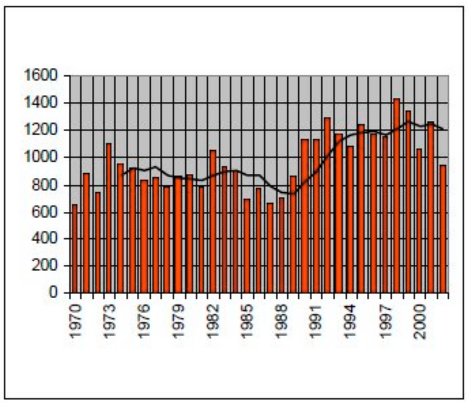
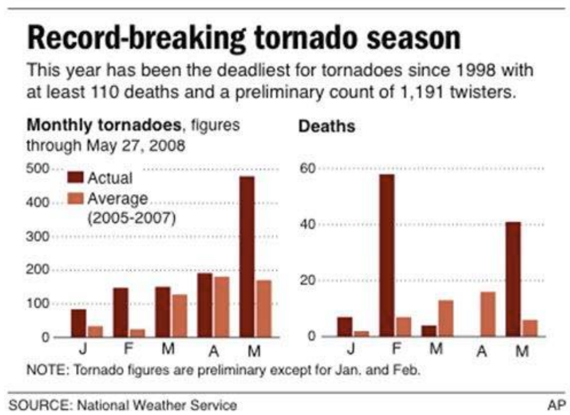


Figure 1: Frequency of tornadoes since 1970. Black line represents the 5-year trend analysis.



MARKETING STRATEGY

Marketing Campaigns: Slide Lock Systems Inc. understands that it must create and maintain a professional presence and brand identity to ensure completion of its objectives. To reach this goal, the company will remain knowledgeable of the competitive landscape and continually work to build upon its operational advantages. A thorough marketing campaign will be carried out as the company upholds its mission of offering a safe and secure environment during these changing times.

A marketing emphasis on our increasingly insecure world should be central to this campaign. The marketing emphasis should include a focus on sustainability, the ability of the community to feed itself while living in a pleasant and spacious enclosed environment. Images of children milking goats and collecting eggs, gardening and harvesting algae from the tanks which generate much of the oxygen for the biodomes should be included in any campaign.

Management Summary

SLIDE LOCK TEAM

Kurt Haberman - President
Mr. Haberman has several years experience and background in architecture along with academic study at Arizona State University. In addition, Kurt was a Taliesin apprentice -- one of the premier assignments in the architectural world -- for over 2 years, working under Wes Peters. As an apprentice at Taliesin West -- the campus designed and built by Frank Lloyd Wright -- he honed his out-ofthe-box approach to architecture and design.

Mr. Haberman holds the interlocking panel patent, US 6,216,410 B1 granted April 17, 2001, and as principal is the sole owner of this patent. Mr. Haberman has been acting as his own structural engineer during the development of his designs, coming by this talent naturally.

Mr. Haberman comes from a family of academic achievers, a sister with a PhD at Yale, and an aunt and uncle with lifelong careers at university. His grandfather, Elmer Horstman, was a chief engineer at Allis-Chalmers, Wisconsin in charge of steam turbines during WW II and was one of a team of 17 experts in their field sent to Germany after the war by then President Truman.

Nancy Lieder - Secretary Treasurer
Ms. Lieder has several years in corporate management and funding, along with significant background in computer systems. Nancy serves to help the company stay grounded and focused with her realistic approach to building successful businesses.

BIODOME PROJECT
Slide Lock Systems of Wisconsin, Inc. is a small, closely held design firm. The President, Kurt Haberman, holds the interlocking panel patent. The company is in startup mode and as such does not have staff or personnel. Despite international interest in the designs and construction stability, from places as diverse as Dubai, S Africa, and Madison Avenue, the company has not accrued any profits to date.

Due to health concerns, the management team of Slide Lock Systems of Wisconsin, Inc. wishes the company to remain in a consulting capacity during development of any prototypes of the biodome designs or any future sales of biodomes.

Funding would thus be primarily for the biodome project. Permission to use the designs would be licensed to the investors. Ongoing consulting on the development of the biodomes would be on a contractual basis. As principal on the interlocking patent, Mr. Haberman would also potentially earn royalty fees at some point.

Biodome project employees and others employed as consultants would not be employees of Slide Lock Systems of Wisconsin, Inc. Outsourcing and contractors will be utilized to help develop the first biodome prototype and see construction through to completion. Joint venture and business partners will be relied upon as needed.

Board of Directors: The board should be assembled by the investors, or be the investors themselves. Mr. Haberman and Ms. Lieder could be in attendance as needed. Due to health conditions that make travel difficult if not impossible, both would attend any board meetings via video conferencing using the Internet.

Design Consultant: Mr. Haberman is familiar with almost all aspects of the biodome development, and as such would be available to be consulted on a wide range of issues. Under contract to the Board of Directors.

BIODOME TEAM

Project Manager: This individual would act as an intermediary between all parties in the development process - the site selection process, the manufacturing company, construction company, interior design aspects, horticulture experts, and public relations. This individual may require staff, and would be on contract to the Board of Directors. Any new employees will be recruited based on their experience and talents, but also their passion for the company's mission. Industry standard salaries and benefits would apply.

Plans for construction of an initial biodome, the prototype, would include hiring on an hourly basis:
- a Bookkeeper to report on investor funds and expenditures;
- a licensed Architect as most building codes require this;
- a licensed Structural Engineer; and
- a licensed Electrical Engineer.

When the plans have been approved and construction is ready to start the Project Manager would need to:
- employ existing steel fabrication companies;
- purchase sufficient metal for the dome shell and the radial structural walls;
- purchase a site;
- employ a construction firm to erect the dome shell and multi-story condos around the perimeter;
- install an off-the-grid power source, i.e. fuel cells, mirrors, or windmills;
- employ a nursery to plant trees and gardens in the dome center; and
- furnish the condos if plans include offering furnished condos.

Real Estate Agent: Site selection carries many requirements, in that future sales to those families with means requires that the site be situated in a desirable locale. The site should be away from tsunami potential, thus inland. It should be rural enough to avoid big city riots yet close enough to a big city that the site provides access to shopping and entertainment. It should be in a location where building codes are not so restrictive that a biodome could not be erected.

Manufacturing Company: The interlocking panels require a manufacturing process that might include pouring molten metal into computer generated molds, or working with heat-softened or cold-rolled metal. This is not a crude process, so expertise and a work history is required. The panels would be manufactured and then delivered to the site.

Construction Company: Once the panels are ready, this construction company would be responsible for erecting the biodome. Cranes would likely be used, with the entry the last to be enclosed. The perimeter residences and placement of trees in the enclosure would be constructed prior to the top of the dome being finalized. Water recycling and purification equipment and lighting would be included in the construction phase.

Interior Design Specialist: This individual would be responsible for wall and floor coverings, furniture, and adapting to the different clientele anticipated as the biodomes move into mass production. A consistent look and feel should be determined and adopted so the biodomes do not develop a cluttered look.

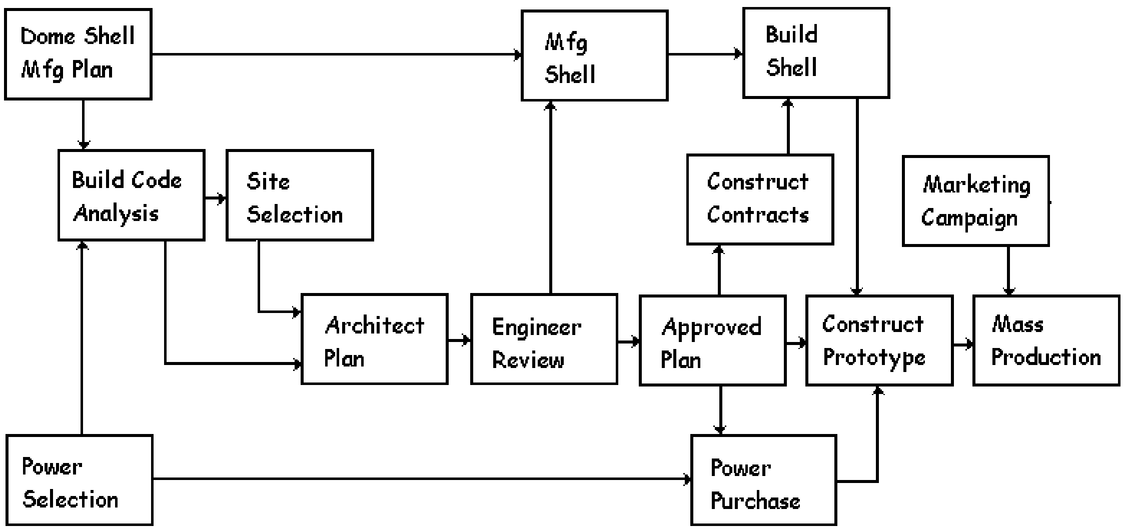
Horticultural Expert: Selecting and populating the interior parks and food production in the biodomes would be the responsibility of the horticultural expert. Depending upon the clientele, the biodome may be used solely for residences, with food production elsewhere perhaps in an auxiliary dome, or production may occur within the residential biodome.

Chickens and goats might range and graze in the interior, fish living on algae in the interior, fruit trees and vegetable gardens in the interior, and hydroponic crops grown in rooms along the perimeter of the dome. Such matters as getting rid of methane buildup by flashing a laser at the dome top periodically must be considered. This is a closed cycle.

Public Relations Firm: In anticipation of mass production, this firm would be responsible for announcing and publicizing the prototype development, as well as advertising to those families of means that would be taking the lead as owners of residences in the biodomes. This might be an international reach.

Summary of Financial Plan

STAGED FINANCING
Slide Lock Systems Inc. is currently researching and developing an estimate of future financial performance. As with any long-range projection, accuracy is based on reasonable estimates of return on investment and past performance. The Company believes basic estimates will be available in the very near future, as investments, grants and funding become available and the plan can thus be completed. Further details will be discussed and reviewed with interested investors or groups. The Biodome Project must by necessity be divided into a Planning phase, a Prototype phase, and a Mass Production phase.



PLANNING PHASE
Professional Fees: Calculating the professional fees needed to secure an approved plan prior to construction would require securing bids from various Architectural firms. These fees would be a one-time expense, as mass production would utilize the same plans. This is a start-up cost.

Developing plans for the construction of the prototype biodome would include hiring a Project Manager and requisite staff, a Bookkeeper to report on investor funds and expenditures, and a licensed Architect. A Structural Engineer and Electrical Engineer are normally staff within the Architectural firm. This can be estimated as a percentage of the total cost of the structure, between 8-12% of the cost.

> *Traditionally for a residential project architecture fees will run approximately 8-12% of the final costs of building the home.*
> (http://www.architecture411.com/notes/note.php?id_note=14)

Site Selection: Before any construction can proceed, a licensed Architect must approve the plan to ensure it meets building code for the initial biodome location. Intrinsic in the Planning Stage is selection of the initial biodome location. Land costs can vary greatly, and the location also impacts construction costs. Since the initial biodome may very likely be used as a marketing tool, this aspect of the long-range plan should be taken into consideration when determining the site.

An absolute minimum of 2 acres would be required for a 320 foot biodome. The optimal sites for mass production would be rural, on high ground away from coastlines, and thus the cost of sites for mass production may be a relatively minor item. The initial biodome, potentially to be used for marketing purposes, would optimally be nearby so that customers would be shown the finished product and then taken on a tour of a biodome campus.

Site acreage thus might be optimally purchased for a campus of domes at the start, including site placement for an off-the-grid power source. The cost of a site might be shared or pro-rated across the Prototype Stage and the Mass Production Stage.

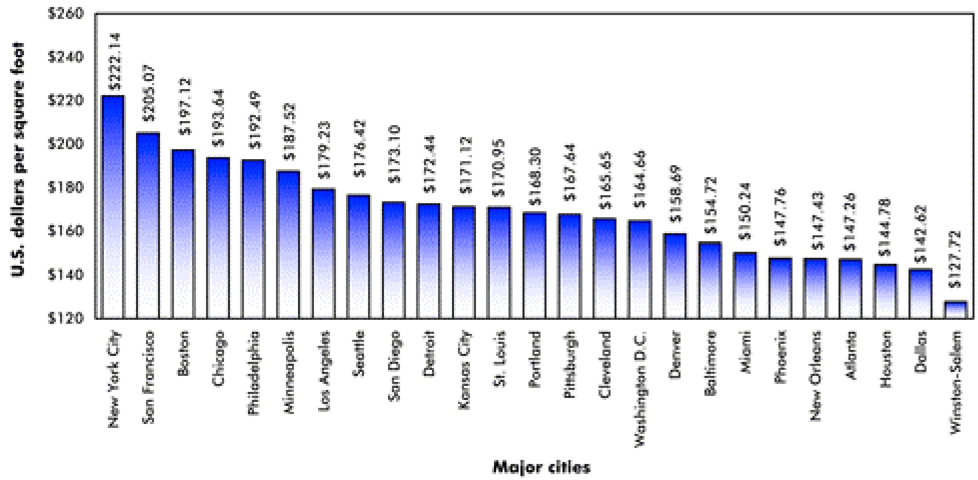
Power Source: Self-sufficiency requires an off-the-grid power source. If not at the start, to be eventually in place. Off-the-grid power source could be from fuel cells, pebble nuclear reactors, windmill farms, or other such sources. A power source could be a per biodome cost, but optimally would be distributed over a campus of biodomes. This cost would thus be part of the Mass Production phase.

CONSTRUCTION PHASE

Construction costs for the multi-story condos around the perimeter and the central park in the interior can be estimated. The square footage in the initial plan being offered by Slide Lock Systems computes to a total of 180,654 square feet. The Central Park is 51,472 square feet, the Community Rooms ringing the park at 24,982 square feet, and the ring of Basement Rooms below at 17,341 square feet. Each of the two Apartment Rings and the Concourse above are 28,953 square feet.

Per 2011 figures, construction costs vary by state within the US from $231 for New York City to $131 in Winston-Salem, NC. These costs do not include construction firm overhead nor do they include the cost of furnishing the structures. These costs do however include items that are afixed to the structure, such as plumbing or elevators.

For the most common office building size, two to four stories tall, the range is from just over $130 per square foot in Winston-Salem to over $230 per square foot in New York. The spread here is largely due to the local cost of labor and regulations that allow various construction types that are allowed in low rise construction.
(http://evstudio.info/price-per-square-foot-construction-cost-for-multi-story-office-buildings/)



Assuming a median cost of $181 per square foot, construction of the interior would then cost $32,698,374. This would vary by location, ranging from $41,731,074 in New York City to $23,665,674 in Winston-Salem, NC. Cost breakdown could be presented with options – near populated area or in remote areas.

Dome Shell: The dome shell, constructed of interlocking panels such that no supporting posts for the shell are required, could be manufactured in one of two ways - ceramic molds and rolled / crimped steel. The choice would be determined by the Structural Engineer, to be determined during the Planning Stage. Cost estimates are difficult to determine without direct consultation with the manufacturing firms involved.

Ceramic Molds: One method is to utilize computer generated ceramic molds (http://www.allbusiness.com/professionalscientific/ scientific-research-development/336898-1.html). Ceramic molds would be required as the process involves hot metal, and the molds must be extremely precise and not subject to expansion or contraction. Precision ceramic molds are a one-time expense, thereafter used an infinite number of times during mass production.

The overall cost would be based on the number of unique molds required. This is a start-up cost, but as larger biodome models are developed, additional molds would be required. The cost of a computer generated mold is at present an unknown, to be determined during the Planning Stage. There are indications that such molds can vary from $2,000 to $100,000 per mold.

> *Method to produce complex ceramic molds for investment casting of metal parts. Last year, Soligen obtained the exclusive license to develop the MIT process for production of ceramic molds for investment casting of metal parts. The process bypasses tooling fabrication and other slow and labor-intensive steps in traditional investment (lost-wax) casting foundry operations. Parts of almost any shape can be cast in metals such as steel, aluminum, and nickel-based superalloys less than a week after the design is completed.*
> (http://www.rexplastics.com/faq.php)

Rolled / Crimped Sheets: Another potential method of manufacturing the dome shell panels would be to cut and crimp rolled steel. Steel or a selected alloy would be rolled to the required thickness, cut into triangular shapes, and crimped along the edges by the same rolling process to form interlock edges. Cold rolling by this process would provide the greatest strength. Since this avoids the cost of ceramic molds and allows a thinner panel to be used, it is perhaps the optimal method for producing interlocking panels.

> *Roll forming is a continuous bending operation in which a long strip of metal (typically coiled steel) is passed through consecutive sets of rolls, or stands, each performing only an incremental part of the bend, until the desired cross-section profile is obtained. Roll forming is ideal for producing parts with long lengths or in large quantities.*
> http://en.wikipedia.org/wiki/Rolling_%28metalworking%29

Windows: Many of the dome ceiling panels could be composed of tempered glass, commonly known as safety glass, to allow direct, full sunlight to come into the biodome during the day. The dome ceiling is not subject to the same compression stress as the sides of the dome and glass panels would be placed where they would not be subject to direct compression stress. Laminating should be avoided as sunlight degrades plastics over time.

> *Toughened or tempered glass is a type of safety glass processed by controlled thermal or chemical treatments to increase its strength compared with normal glass. As a result of its safety and strength, tempered glass is used in a variety of demanding applications, including passenger vehicle windows, shower doors, architectural glass doors and tables, refrigerator trays, as a component of bulletproof glass, for diving masks, and various types of plates and cookware.*
> (http://en.wikipedia.org/wiki/Toughened_glass)

Cost of Metal: As a whole, superalloys are in a completely different class than common durable materials. In each property that follows, there could be dozens that exceed normal bounds, properties such as: red-heat strength, hot strength, tensile strength, compressive strength, flexural strength, impact strength, rupture strength, endurance, ductility, toughness, stiffness, hardness, wear-resistance, corrosion-resistance, and radiation-resistance. Along with fair cost, it is these properties that drove Slide Lock Systems to favor superalloys.

> *Titanium alloys are metallic materials which contain a mixture of titanium and other chemical elements. Such alloys have very high tensile strength and toughness (even at extreme temperatures), light weight, extraordinary corrosion resistance, and ability to withstand extreme temperatures. Titanium alone is a strong, light metal. It is as strong as steel, but 45% lighter. It is also twice as strong as aluminium but only 60% heavier.* (http://en.wikipedia.org/wiki/Titanium_alloy)

Surprisingly, with precision-casting, panel thicknesses can be less than 1 / 8 of an inch. But thicknesses up to 1 / 4" would be more common. But for the sake of an early estimate prior to the involvement of structural engineers on the biodome project, if we assume a thickness of 3/8", for a biodome with a diameter of 320 feet, the cost for a Titanium shell would be $10,199.485.

Official Prices – London Metals Exchange 27 Jun 2010					
Alloy	**2010 Price ($ per lb)**	**Oxidation Resistance**	**Strength / Weight**	**Density (lbs/cu. In.)**	**Soften Point (degrees F)**
Aluminum	$ 2.89	Excellent	1,725	.097	1220
Chromium	$ 3.79	Excellent	463	.259	3465
Cobalt	$18.23	Fair	417	.321	2723
Cupronickel	$ 2.76	Excellent	391	.322	1983
Iron 310	$ 3.28	Poor	1,090	.280	1500
Nickel	$ 8.14	Excellent	399	.321	2651
Steel 316L	$ 1.45	Excellent	664	.286	1500
Titanium	$ 3.29	Excellent	1,147	.164	3024
Tungsten	$14.62	Good	182	.697	6191

PROFITABILITY

Profits will clearly come from the last phase, the Mass Production phase. The approved plan would apply to all domes of a similar size, in a similar location (state or country). Any computer generated molds or manufacturing programs would likewise apply to all future domes of that size. The cost of any purchase of a campus for multiple domes, or a power source to service multiple domes would be spread across many domes during the Mass Production phase. Precise costs and timelines cannot be established, however, until the plan is completed.

Appendix

Live Oak Tree
Tree Type: perennial
Hardiness Zone: 8-11
Maximum Height: 60 feet
Maximum Spread: 100 feet
Solar Preference: full sun
Soil Preference: Podsoil is best but adapts to almost any soil.
Fruit: Acorn appears at about 20 years. A favorite of squirrels, jays, quail, wood ducks, wild turkeys, and several larger species.

Blue Oak Tree
Tree Type: perennial Hardiness Zone: 3-9 Maximum Height: 75 feet Maximum Spread: 80 feet Solar Preference: full sun Soil
Preference: Good in hot, dry climates. Does not survive in most watered lawns. Fruit: Shallow cupped acorns – ¾" to 1 ¾". Flowers:
catkins Foliage: bluish-green leaves

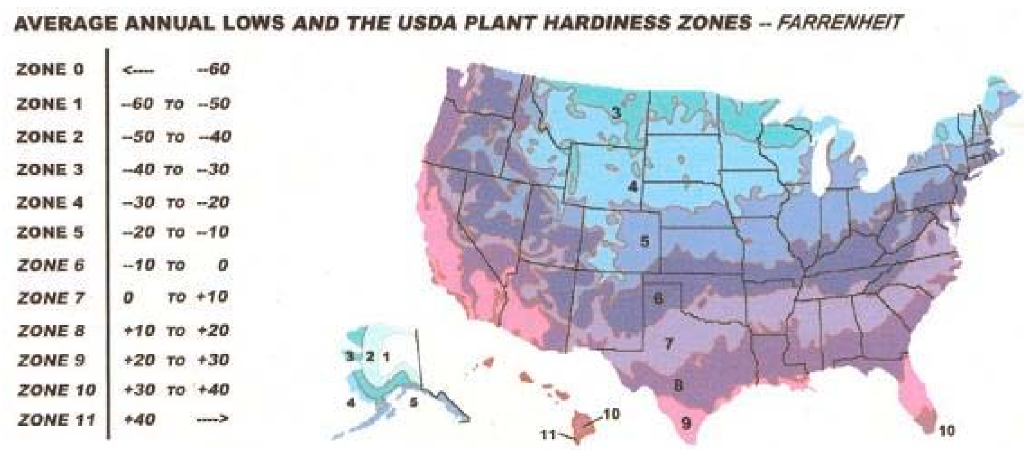
Black Oak Tree
Tree Type: perennial
Hardiness Zone: 3-9
Maximum Height: 80 feet
Maximum Spread: 50 feet
Solar Preference: full sun
Soil Preference: Thrives on poor and varied soils.
Flowers: yellow and green but insignificant
Foliage: Green leaves with green velvety undersides turn yellow in Fall.

Cherrybark Oak Tree
Tree Type: deciduous
Hardiness Zone: 6-9
Maximum Height: 60-80 feet
Maximum Spread: 50 feet
Solar Preference: full sun
Soil Preference: widely adaptable
Fruit: acorns
Flowers: yellow and green but insignificant
Foliage: green

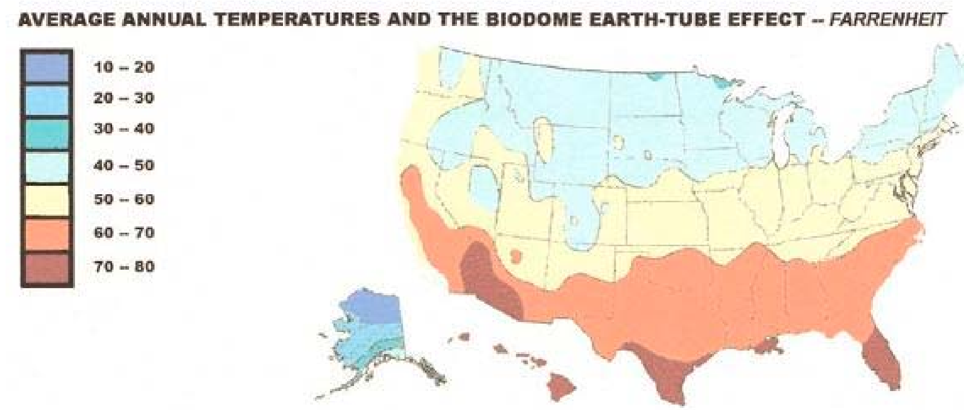
Burr Oak Tree
Tree Type: deciduous
Hardiness Zone: 3-8
Maximum Height: 70-80 feet
Maximum Spread: 70-80 feet
Solar Preference: full sun
Soil Preference: Widely adaptable where other oaks may fail.
Flowers: yellow and green but insignificant
Foliage: green

Southern Sugar Maple Grove
Tree Type: deciduous
Hardiness Zone: 6-9
Maximum Height: 25-50 feet
Maximum Spread: 25-35 feet
Solar Preference: partial shade to full sun
Soil Preference: Moist but well-drained soil with a pH of 6.1 to 7.5. Dislikes dry compact soil. Sandy, clay, or loamy. Low drought tolerance.
Fruit: brown and green seeds
Flowers: red blooms in Spring
Foliage: green

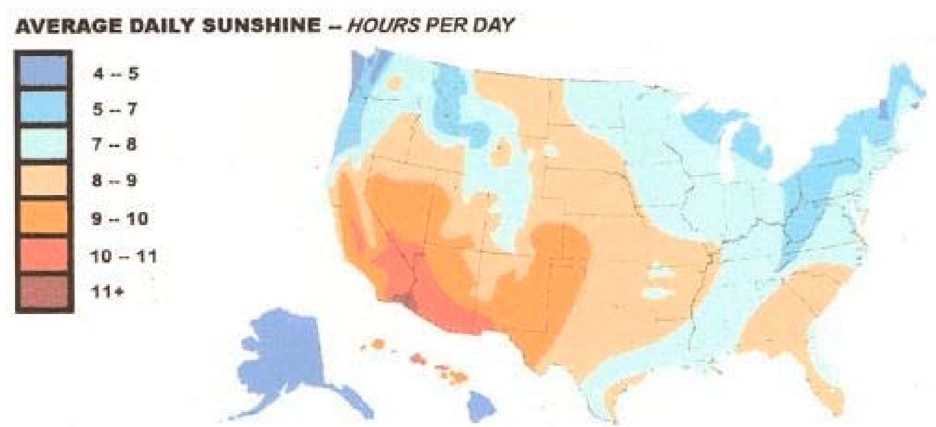
Thornless Honeylocust
Tree Type: deciduous
Maximum Height: 30-70 feet
Maximum Spread: 50 feet
Solar Preference: full sun and partial shade
Soil Preference: Adapts to a wide range of soils. Drought tolerant
Flower: yellow with a pleasant fragrance resulting in long sweet pods with a honey-like substance consumed by wildlife.
Foliage: green



USDA Hardiness Zones
Hardiness Zones are geographically defined by the average annual minimum temperature of each region in 10 degree Farrenheit segments. These zones are based on temperatures alone and do not take other critical factors into account, such as moisture, soil, winds, and solar exposure. Once a specific country or continent is divided into such zones, one can easily see where particular plants and trees will thrive and where they will probably die.



Average Annual Temperature
Zones where the Average Annual Temperature is optimal for the Earth Tube Air System. These zones extend southward from Maryland to Georgia, westward through central Texas and New Mexico, then northward across the Sierra Desert.



Average Daily Sunshine
Zones with optimal Average Daily Sunshine for the plants selected for the biodome.