



**Fulmina Human Resources ®**

# **Refugee Housing Models & Village Concept**

**Scientific Director  
Professor Guy Montpetit**

**Chief of Project  
Claus Jensen**

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## Summary

All over the world, either from man made catastrophes like local wars, or natural catastrophes like tsunamis, flooding, earthquakes, very large portions of a population loose all their natural support to maintain the dignity of their daily lives, and need to be rescued and provided with all what is elementary to human condition survival.

When you put together hundreds of thousands of people in a single environment and you create a situation where these people feel they are treated like animals because the conditions of survival are almost equivalent to take away their humanity, and reduce them to minimal hope of regaining a home or an education to become again independent – you are bound to create again situations that will come back to bite even the benefactor.

The experience of the Bosnia and Herzegovina crisis was rich in teaching everyone some eternal lessons, one in particular is that you don't put people in TENTS. Tents are temporary lodging portable facilities but do not constitute a home. In fact, the international humanitarian organization want the tents to remind the refugees that they are not HOME. And yes, those refugee camps have a tendency to last for decades or more, see for example the Palestinian crisis - where people have lived in refugee camps for more than 50 years. So, let's find genuine ways of preparing housing facilities that can be put up in a few days by the same people who will use them. From our newly designed factory it will only take 18 minutes to manufacture one new home, with a cost of just a few thousand dollars which will provide people with the sense of dignity necessary to life.

Here are some models of these houses, and we can organize a facility that could manufacture 500 houses every day. This kind of factory can be reproduced in a short matter of time and procure the millions of houses that will become necessary if – as we can predict – our own planet would go through some very difficult moments.

Parallel technologies, NECESSARY FOR A SUSTAINABLE LIVING, like agriculture, cooling, water treatment, free electricity generation are also described in this document.

## IT TAKES A VILLAGE TO RAISE A CHILD<sup>1</sup>

In this document, we are presenting a group of different technologies and propositions to build an entirely self sustainable emergency facility that would combine all kinds of different services needed to maintain the life of thousands of people. They include:

1. Houses, apartment buildings with sanitation facilities (See Figure 1, 2, 3 and 4)
2. Schools and training facilities, nurseries for children (See Figure 1, 2, 3, 4, 12, 13, 15 and 16)
3. Hospitals and clinics (See Figure 17 a) and b), 18, 19 and 20)
4. Multi-confessional faith based organizations (See Figure 15)
5. Libraries See (Figure 15)
6. Community centers (Figure 15)
7. Police and security (Figure 15)
8. Emergency services (Figure 16)
  - a. Fire station
  - b. Ambulance service
9. Water services:
  - a. Used water decontamination (Figure 5)
  - b. Drinkable water distribution (Figure 5)
  - c. Washing water (Figure 5)
10. Shopping centers (Figure 15)
11. Cleaning services and garbage collection – to be determined on site.
12. Cooling and or Heating (See page 9)
13. Electricity (Figure 12, 13)
14. Access to information – Internet and Television service, Wireless phones.
15. Employment service. Contracts outside the village and within the village.

## FUNDAMENTAL PHILOSOPHY OF THESE VILLAGES

Every single person who will be accepted, must first be evaluated in terms of their capabilities for active participation in the maintenance and the daily life of the village. Ideally, every person in age of working should be provided with a job to maintain the daily life of the village. Every job should provide for a minimum salary, that can be used to purchase additional goods and services. The village and the villagers, should not be considered as “prisoners” but as individuals whose life should continue with a minimum disruption to their previous one. Nothing wrong if their life was even a bit improved. We assume that the area where people will be relocated, is away from the war zone. If there is no possibility of locating away from war zone, then some special additional procedures of security will need to be envisaged.

Areas where human abilities will be sought and specific jobs will be offered:

1. Construction of the houses (different types) that will be built for the village.
2. Electricians houses electrical panel.
3. Engineers – infrastructure building – sewers, electrical installations, energy sources
4. Landscape designers
5. Machine operators
6. Security experts (policemen, policewoman)
7. Doctors, nurses, medical technicians
8. Therapists
9. Caretakers
10. Hospital operators
11. Community organizers, social workers
12. Teachers, librarians
13. Agriculture – farmers
14. Local gardening

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<sup>1</sup> See Figure 14 for the proposed structure of a village.

Every village should also have relations with contractual agreements where the professional abilities of each individual should be put to maximum use, so they could offer their services outside the village.

Regarding the use of technologies, the Project Master will evaluate on site, which one is the best suitable for the particular situation. For example, in regard to the providing of free electricity, we have the choice of installing on roof tops some local systems that would provide for that particular house. If we are talking of a bigger set of villages maybe it would be more practical to develop one of our bigger systems that can generate up to 1 GigaWatt per hour.

Also in the case of very large number of villages, it maybe necessary to establish a pipeline to the closest sea where we can desalinate and also use the sea water to produce cooling. All of these options are available.

Same thing with the use and the choice of the type of homes. We can even modify the size of these homes, We can regroup them in groups of four homes sharing a number of services (electricity panel, evacuation of used waters, cooling facilities).

Regarding agriculture, the big choice is to build clean rooms, as described in Figure 10,11 and 12 for the purpose of starting the nursery that will produce all baby plants necessary for all the food production. This technology uses oxygenated water technology that has proven very successful. See Figure 9 Page 21, a tomato plant growing under this technology, will produce 400 Kg of tomatoes per plant and it will need only two months and one week to do that. This technology applies to any kind of plant.

You can simply use the oxygenated water to water the roots of your plants and you also obtain fabulous results. Not those of the clean room technology but at least double the one of standard agriculture.

## CHOICE OF HOMES



Figure 1. Here is the metallic frame capable of withstanding earthquakes of large magnitude or typhoon magnitude 5. It is sitting on a cement base that can be pre-fabricated. Future users can be trained rapidly to install and build this future house they will inhabit for a period of time.





Figure 2. The external panels can be installed in any climate and would not be attacked by termites. In very warm climates we can use other types of panels that will reflect more than 40% of the heat generated by sunshine.



Figure 3. Equipment essentials for normal life. A bedroom that can lodge a family.



Figure 4. In cold weather you want to absorb maximum heat.



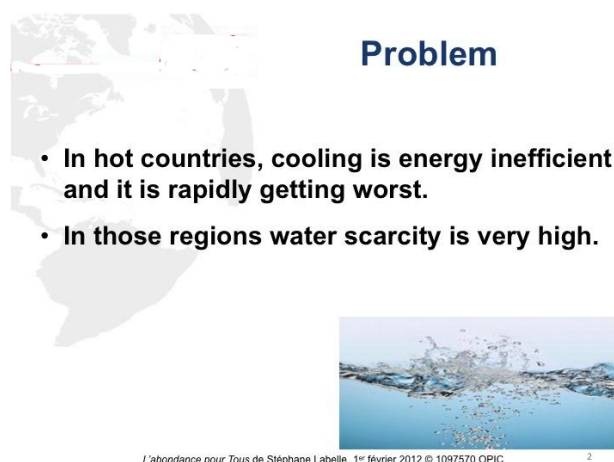
## The Air Conditioning technology:

EH2 Solar has developed an innovative desalination technology that cools down buildings and other processes very efficiently. The great advantages of this technology are that we use the available cooling from the deep sea water or from the evaporation of 13% of the water produced during nighttime and distribute it very efficiently while saving 80% of the energy needed for cooling.

Two sources of energy:

- The very cold waters of the deep seas represent an inexhaustible source of cooling that we transport in a mix of ice/water that saves 80% of the cooling costs in energy. When sea water becomes ice, its water becomes pure. This is a well known phenomenon that has been studied over long many years, but was little used until the discovery of our new Freeze Desalination Technology EH2 Solar.
- The nocturnal evaporation of 13% of waters that can be desalinated during the night, specifically in mountainous regions, where nights are much cooler than days. The evaporation of one kilogram of water produces 2 255 KJ (Kilojoules)<sup>2</sup> of cooling<sup>3</sup> that will be transported by the ice/water mix, as described above.

These two technologies combined allow economic gains that can reach up to 80% of the cost of the natural gas necessary to produce cooling in traditional air conditioning systems.



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## Desalination Technology:

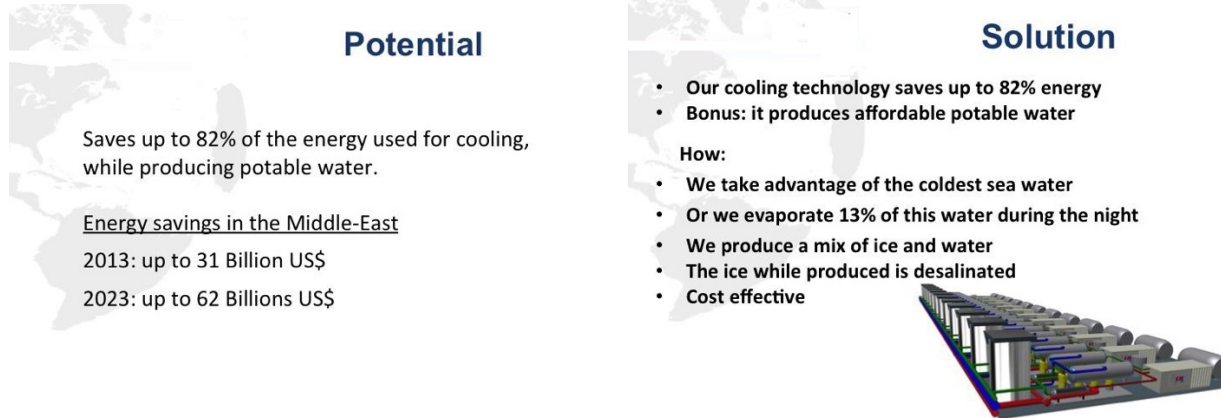
The desalination technology developed by EH2 Solar is a freeze desalination technology: we can recuperate the salt at the same time. The ice water mix produced is then easily transported as a fluid (ice and water mix) into pipes over distances of 1000 km or more while losing less than 5% of the cooling. The ice water mix temperature being 0°C will be delivered to the different sites to be cooled by pipeline and produce all the necessary cooling but also for agriculture by adding our oxygation technology (See [www.fulmina.org](http://www.fulmina.org))

<sup>2</sup> The **joule** is a derived unit of energy in the International System of Units. It is equal to the energy transferred (or work done) to an object when a force of one newton acts on that object in the direction of its motion through a distance of one meter (1 newton meter or N·m). It is also the energy dissipated as heat when an electric current of one ampere passes through a resistance of one ohm for one second.

<sup>3</sup> See Diagram in Annexure 1

## Amortization of the investment

This process provides an energy gain so important that it pays back the system's installation cost in less than one year, for most countries involved. The following table shows some indications:



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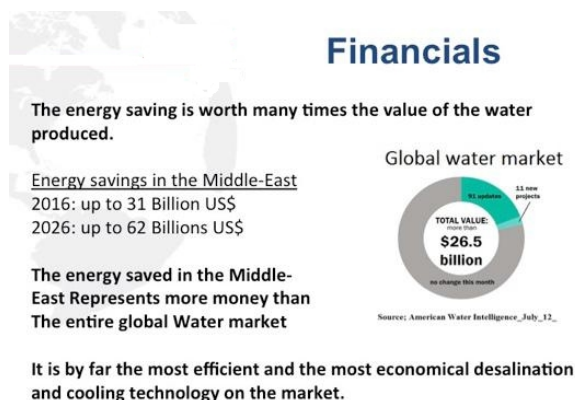
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And:

Each country can compute the economies made by adding the profits generated by the extra income liberated for exportation of the natural gas used for cooling, to the gains made by the difference in cost of production of the water by our desalination system as compared to traditional ones:

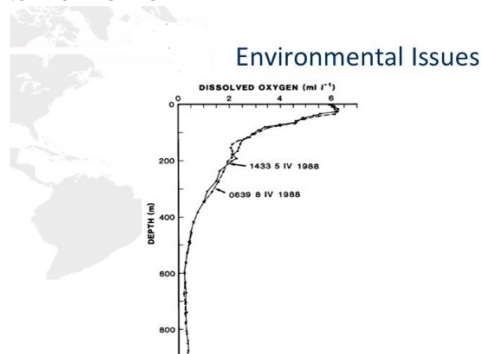


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## Other advantages: Environmental Impact:

One must take into account the environmental impact of the technology used: EH2 Solar is the most environmentally friendly desalination technology on the current market because there is no chemical product added in the process, no impact to marine life.

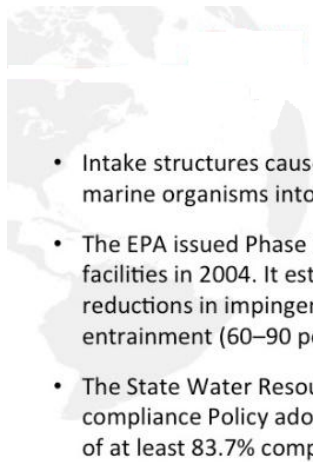


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A quick ratio of oxygen levels taken from the graph can lead to the conclusion that, in this study and at this location, there is a 96% reduction in the density of marine life at 600 meters' depth compared with 20 meters under the surface.

It can be shown that the total amount of marine life entering an intake system is directly dependent on its density at the point of entry.

And:



## Environmental Issues

- Intake structures cause environmental damage by pulling marine organisms into a power plant's cooling system.
- The EPA issued Phase II rule for large existing steam electric facilities in 2004. It established performance standards for reductions in impingement mortality (80–95 percent) and entrainment (60–90 percent) over a baseline value.
- The State Water Resources Control Board's Track 2 compliance Policy adopted in May calls for a reduction of I&E of at least 83.7% compared to a previous 12-month baseline.

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## Technology for the decontamination of used waters<sup>4</sup> Using molecular nuclear polarization

This technology decontaminates water while conserving its intrinsic natural structural quality and its harmonic vibrations. An electrostatic corona of many millions electron/volts is applied to the fluid, which has for principal effect, to break the molecular link and therefore causing an immediate elimination of toxins (natural or chemicals) and their accompanying odours.



Figure 5. The above illustrations, shows the machines we use to decontaminate and/or to oxygenate the water, **It can generate 136 liters per minute**. This unit is used as a mobile unit that delivers oxygenation or decontamination where needed. You can deliver oxygenated water to an hospital or to a farming unit or to a place where you need to decontaminate the water. This mobile unit can contain up to 10 units of water treatment. One unit generates approximately 6,000,000 liters per month.

### Water in the World

Water is a major issue for our survival and the survival of our planet. Honest experts in their reports, testify that our world is now going through a major water crisis. The General Manager of UNESCO states: "Among all the crises of social or natural origin that we are confronted with, the water crisis is at the heart of our own survival and the one of Planet Earth".

Water on earth is either salted or permanently frozen; the major part of pure water is located in the

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<sup>4</sup> This position paper was produced by « Fulmina Human Resources Foundation ». Some of the scientific and medical terms were extracted from Foundation Wikipedia to whom we are thankful.



Northern or Southern ice caps, which are unfortunately melting. When we speak of the ice caps we are in fact talking of the ice pack (ice floe) that was built over millenniums and is now disappearing at an increasing daily rate. Certain glaciers already have lost, over a four-year period, one third (1/3) of their surface. This in turn, has an effect on the marine currents, and a general impoverishment of pure water.

In order to understand the consequences of the radiation contamination, international institutions produced a set of numbers, that unfortunately are well under the scope or reality (which is the case generally with nuclear disasters).

- We presently use 10 liters of water to manufacture one liter of petroleum, 295 000 liters to manufacture 910 kilograms of paper, 86 300 liters to refine 910 kilograms of steel.
- One liter of petroleum contaminates up to 2 million liters of water, and one gram of PCB (polychloride biphenyl: chemical with a very long life duration), can render 1 billion liters of water unfit to aquatic fresh water life.
- One gram of 2,4-D (current domestic herbicide) can contaminate 10 million liters of pure water.
- One drop of oil, will render up to 25 liters of water unfit for consumption.
- 80% of illnesses are due to water, in developing countries but also in industrialized nations who, in spite of their arcane water filtration plants, are filtering water but do not take into consideration viral pollution or its structural harmonic vibration.
- The water we drink represents but 1% of all the water we consume.
- There are hundreds of millions of people suffering from illnesses related to water.
- Waterborne diseases also called “dirty water related illnesses” are the result of contamination of water by human and or animal excrements. These diseases are estimated to cause 24 million deaths per year, by diarrhoea.
- Approximately 2 million tons of those wastes are thrown every day into rivers and lakes. One liter of polluted water will pollute eight liters of pure water. According to certain computations, there are approximately 12,000 km<sup>3</sup> of polluted water in the world; that represents more than all the water of the ten biggest river basins of the world, at any time period of the year.
- The available water volume on Earth, is estimated to be 1,385 billion of km<sup>3</sup>: 97,5% of salted water (1,35 billion of km<sup>3</sup>), and 2,5% of pure water (35 million of km<sup>3</sup>).
- Pure water comes from: 68,9% from glaciers and ice caps, 29,9% from underwater sources, 0,9% from swamps and 0,3% from lakes and rivers.
- There are many areas where superficial waters and underwater sources are invaded by

industrial, agricultural and municipal wastes. According to the World Commission on Water for the 21st century, more than half of the great rivers of the world are so impoverished and polluted that they endanger the health of humans and poison the surrounding ecosystems. In many large cities of the developing world, potable water is contaminated. Only half of the 550 million inhabitants of South-East Asia have access to a safe drinking water (237 millions).

Whatever who we are, where we live, what we do, we are all dependent on water. Every day we need water for a multitude of reasons. Water is indispensable for our health, our food, transport, irrigation and industry. It is indispensable to animals and plants, and the changing of the colours of seasons. However, in spite of the importance of water resources for our well-being and our lives, we systematically treat water with a lack of respect. We abuse it. We spoil it. We pollute it and we forget up to what point, it is so essential to our survival.

Water is the most abundant liquid on earth. It is the essential element of life. Water is the most studied molecule and the least understood; we still not have deciphered its secret in spite of the overwhelming specialization of the experimental techniques. We can blame this fact on the refusal by the “Cartesian science” to accept that water has a memory and a capacity of its molecule to reorganize its faculties.

## **Scientific Explanation of Water**

The physical properties are unique and particular:

1. A higher density for liquid water than for ice.
2. Specific high temperature of liquid water.
3. No modifications of properties in passing from boiling temperatures to freezing temperature.

The five biological properties help to distinguish different qualities:

4. Water constituting the cells,
5. Water hydrating molecules and proteins
6. Free water
7. Bounded water (the conservation by freezing of vaccines and embryos is only possible because 20% of the cellular water maintains itself at liquid state)
8. D.N.A binding water (proteins, amino-acids)

According to the Big Bang Theory, 4 billion and a half years ago (we believe much more), the vapour of overheated water and carbon first produced  $\text{CH}_4\text{-HCN-CO}_2$ , and thereafter the chains of life with their bacteria, the D.N.A., the proteins, the lipids...the whole forming the “original soup”.

When the human body consumes a molecule, it becomes the constituted mould of the hydrating water. The form of the water molecule maintains (by its memory) a disposition of atoms that permits the atom to re-synthesize again. It is the water molecule that keeps the souvenir of the structure and permits the reconstitution and the association of the molecules in more or less dense accumulations and of more or less life duration. The specificity of the substances that compose the molecule is equally sensible to the environment.

The distribution of vibrational energy between the various constituents of the “original broth”, has certainly taken place by means of specific hydration of the different metals and metalloids. The sensibility to different components of the vibrational energy received, manifests itself in aqueous environments in the form of archetypal and fractal organisational structure and liaisons, which is characteristic for each component (metals, etc.). Metals associated with chelate carriers (organic molecules able to fix metal with coordinating liaisons) have, due to their specific energy, measured the necessary quantity of energy to realize the synthesis of the molecules carrying strong energy. As an example: magnesium known for its affinity with water (6 to 8 molecules of water for every ion  $\text{Mg}^{+2}$ ) combines with chlorophyll, and plays an essential role in the synthesis of glucose.

**Water is therefore the support of life, witness the multiple cults that were consecrated to water in all traditions.**

## **Production of drinkable water from condensation**

We can produce water by condensation in regions too far from water sources where the level of humidity in the air is high. The same is true in regions where there is no salted water source in proximity. **It is possible to capture water available in the form of vapor by condensing with the aid of de-humidification technology specially adapted to our solar technology systems, converting 40% of the solar energy in electricity to feed the compressor of the system.** The available 60% of energy will be transformed into cooling by an absorption system providing the necessary cooling to condense the water and finally, providing fresh water in desert areas.

# Agriculture technology

## Abstract<sup>5</sup>

The objective of this presentation is to bring a technology and a know-how in the domain of agriculture; this will allow us to solve a series of problems that have become more acute and more present in the world production – as much in the quantitative domain as in the qualitative domain – while preserving the ancestral know-how in agriculture and at the same time enhancing production, its nutrition quality, preserving the patrimony given by past generations. These technologies have the particularity, among other things, of being pollution free, while regenerating the biotope and preserve the genetic potential of its vegetal and its seeds. The costs of implementing such a technology are well within the means of everyone, and can be applied without major disruption in most countries, even those where climates are difficult, suffering from dryness or even desert based. This technology has received the status of a Master Patent.

## Nature of the patent and the law of William Henry

In order to understand the fundamental principle that was proclaimed by this law and the contribution of our patent, we must talk about the Law of William Henry (1774 – 1836). This law has been completely reshaped by our discovery.



The English physicist and chemist from Manchester proclaimed the following scientific law at the beginning of the 19th century:

At constant temperature and saturation, the concentration of a gas dissolved into a liquid (C) is proportional to the partial pressure (P) exercised by the gas on the liquid.

$$C = HP$$

If we take the example of the dissolution of oxygen into ultra pure water, i.e., in total absence of minerals, we would observe that at 0° Celsius and at one atmosphere of pressure, we find a maximum of 14,6 parts per millions of oxygen into water.

Let us imagine now that, contrary to the recognized law, we have demonstrated that it is possible to integrate in a water molecule 10 times more particles of oxygen than first predicted by the law, a gas so fundamental to the growth of all plants. This kind of factor attracts attention. And justifiably so. When we first produced our first solutions that contained more than 120 ppm, we immediately observed an exceptional phenomenon, the amazing reduction of the surface tension of the electrons. In other words, in the absence of resistance, this water possessed exceptional penetrating properties. There was therefore ion mobility multiplied by the same factor of 10.

This fundamental observation bears consequences for the whole ensemble of industrial processes. Lets now address the agricultural question.

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<sup>5</sup> This position paper was produced by « Fulmina Human Resources Foundation ». Some of the scientific and medical terms were extracted from Foundation Wikipedia to whom we are thankful.



## AGRICULTURE

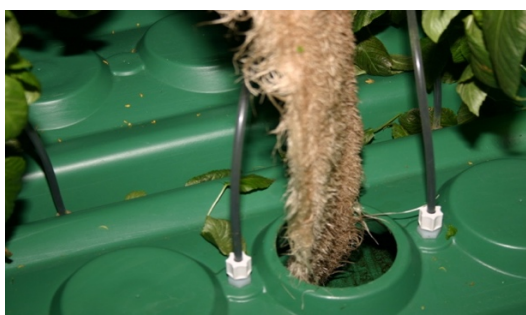
There was a time when the fight for survival meant that you had to adapt to Nature. A time when one took for granted that conforming to Natural Laws would provide the assurance of clean air and clean water and were assuring a healthy food chain.

Just a few changes, some of which were not judicious to their environment, human beings, through ages, have lost their bearings that used to procure them with their force, the renewal of their energy, in short, the blooming of their health.

Today, the survival struggle continues, but the dangers are more insidious. The poisons in the air, in water and in the food, slowly furtively conceal from the livings, their natural support, and endangers with more and more evidence, the essential equilibrium of their well-being.

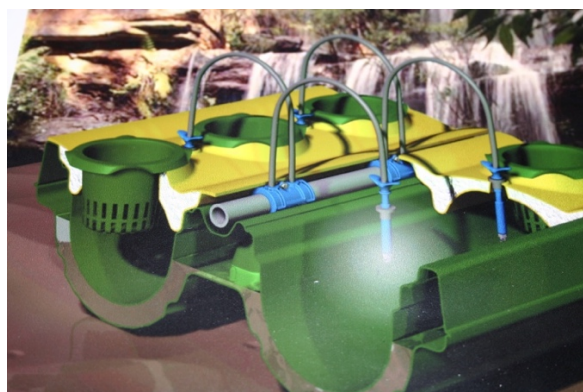
It is to participate to the redress of this state of health of humans that has become precarious that **we developed an Advanced technology for the growth of plants:** improve the quality of food for the majority and, by the same token, offer a serious mean to prevent illnesses, by opposing a stronger resistance to an environment that unfortunately has become more hostile. Here are certain examples of this growth:

Figure 6. Roots of a treated tomato plant<sup>6</sup>



This illustration of our first drizzling technique for plants, shows only a portion of the tomato root plant that we treated with a water containing between 60 and 120 ppm of oxygen. The next picture is a cut of our drizzling system.

Figure 7. The drizzling system for sprinkling water<sup>7</sup>



<sup>6</sup> See a full picture of a tomato root plant in Annexure 2

<sup>7</sup> We have also a newer generation of growing technology that you can also see in Annexure 3

The concept was based on extensive and expensive research; this research demonstrated clearly that bio culture IS, for us, the road to follow. Thus, are we assured to obtain, among other things, a non-mutagen, non-carcinogen and mostly biogenic and organoleptic product.

We named this new technique resulting from our research, **drizzle culture**. This process of watering plants, does NOT use soil, and allows the distributing of water in a uniform and regular manner, in a fine drizzle, on the overall surface of the eventual small growths (page 15). All is done in a non-aggressive way, using water from a thoroughly tested process that clears the water from all its toxins, be they biological, chemical, industrial or natural in nature.

The water is therefore exempt from impurities while conserving its original vibration; in fact, it possesses more energy, more vitality following treatment. It stays LIVE! The process also produces a unique resistant germination, which eliminates the yeast, molds, and harmful bacteria, those three unwanted nightmarish characters that all germination producers really are dreading all over the world.

With the objective of efficiently controlling our growth, their physical and molecular environment is managed by a high-end computer process control (see illustration on page 14). The latter informs us with precision on all minute details of the growth activity within the interior growth system of the plant. **Nothing is neglected** to obtain a germination **of incomparable quality**, which would be the most in conformity with what it would ideally be in Nature. All our efforts are aimed towards this goal; as a consequence, it is not surprising that we would direct our particular attention on water, air and light.

Thus, thanks to the process control system of our greenhouses, each single activity is controlled, modified according to the needs and characteristics expressed by each germination. In this regard, we maintain an appropriate temperature in the room, negative ions in the air along with the oxygen liberated by the plants and the CO<sub>2</sub> directed towards them, the relative and absolute humidity, the pH (Hydrogen potential), the ORP (Oxydo-reduction potential), the time and intervals of water drizzling, all these elements and many others, are carefully controlled.

Thanks to bio culture, we can equally control the light frequencies avoiding in the process the bacteria and advance sterilization of the air particles first of the incoming renewing air, then the existing ambient air using a recirculator-sterelizer.

Pointing to the fact that the bacterial flora of the basins where plants grow is controlled by a natural extract of citrus fruit and at the same time maintaining a constant positive pressure in the culture room that prevents contamination coming from the outside.

Finally, due to a series of advanced probes, we are in position to reproduce with fidelity the natural qualities of natural light, its gradations as well as the lunar light. We integrate to this equilibrium ensemble, the sound elements: rain, electrical storms, buzzing of insects and animal calls...

This panoply of means at the disposition of this growth technology serves but ONE purpose: the wakening of what it is agreed to call **the memory** of the growth. Once the memory of the plant is activated and conveniently stimulated, this **memory** drives each growth to a complete bloom of its natural characteristics.

The last important element for a good development of the growths is the reflecting paper. The one we use offers almost a perfect reflection for a uniform and adequate luminous dispersion.

The glue used to attach the paper to the walls does not alter itself. It does not spread any emanation by loss of mass in the form of evaporations therefore preventing the proliferation of bacteria.

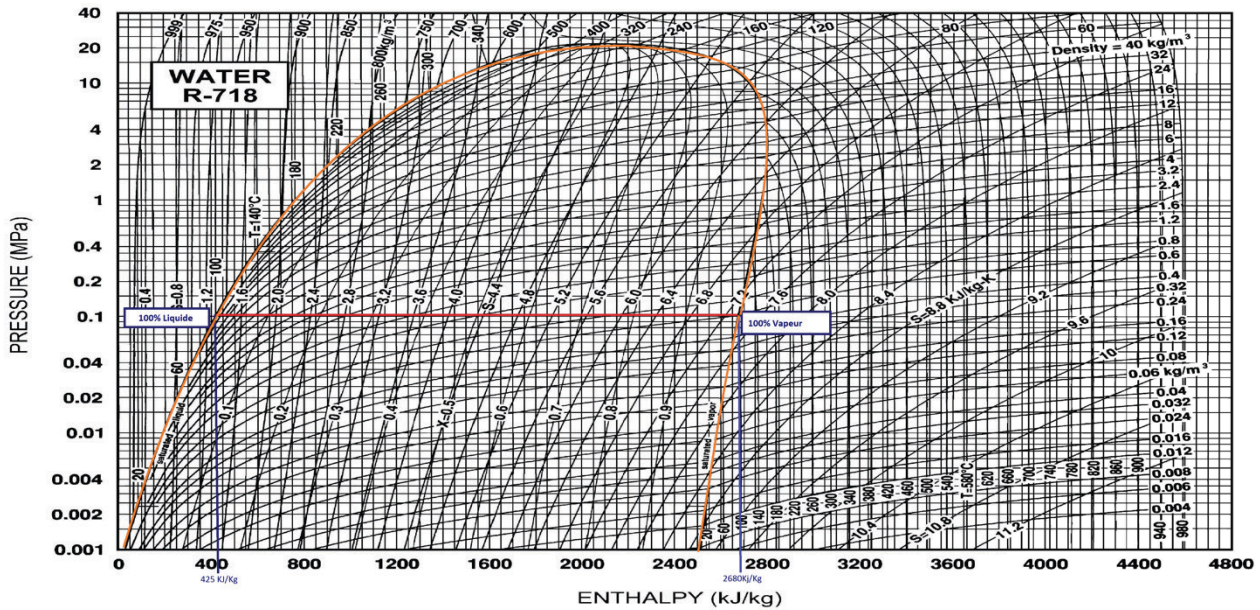
In this most favorable environment we can see the explosion of the vital **memory** of our seeds being the cause of the effervescence of their cellular multiplication. Our germination is a “super nutriment” endowed with a force and energy in expansion. To feed on these growth germinations produced by this technology is equivalent to a transfer of the cellular **memory** of the plant to the cellular **memory** of our own body, which has for effect to prolong and/or regenerate the youth of our own cells.

This germination provides to the person who consumes it, the benefits of the solar and telluric magnetism; it puts to disposition of putrefactive cells, some proteins, numerous oligo elements along with indispensable ferments needed for digestion and assimilation. Moreover, the germination possesses an extraordinary enzymatic power needed for the good assimilation of the nutritive elements of our food. We call them anti free radicals.

All of the above allows us to humbly affirm that our enterprise satisfies to the ecological demands, the most severe biological standards and that the quality of this germination is calling for a new norm of biological culture.

At mid and short term, our technology will expand its wings over this vast domain that is HEALTH. It will touch to natural cosmetics, will extract essential refined oils, purer food supplements, etc. Doing so, we will remain true to our vocation: to irradiate **Health, Beauty**, and the **Natural** everywhere where it is still possible to make it happen.

## Annexure 1



### Cooling Agent R-718: Water<sup>8</sup>

In the above graph, the space under the bell delimited by the orange line the red horizontal line at 0.1 MPa, and the blue vertical lines between the enthalpy<sup>9</sup> measures from 425 KJ/Kg and +/- 2680 kJ/kg, represents the passage of water from liquid state on the left to the state of complete gas on the right. If there is no variation in temperature of water, we obtain 2255 kJ/kg; in reality there is always a small variation and this is why we speak of 2 300 kJ/kg. Theory demonstrates that a minimum of 2255 kJ/kg applies. It does not cost more than 330 kJ to freeze one kg of water.

<sup>8</sup> 2001 ASHRAE HANDBOOK, CHAPTER 20, THERMOPHYSICAL PROPERTIES OF REFRIGERANTS, page 20.32

Fig. 13 Pressure-Enthalpy Diagram for Refrigerant 718 (Water/Steam)

<http://systemssolution.net/cadtechno/0%20SAMPLE/SPECs%20&%20DETAILS/BOOKS%20MECHANICAL/HVAC/ASHRAE%20HVAC%202001%20Fundamentals%20Handbook.pdf>

<sup>9</sup> **Enthalpy** <https://upload.wikimedia.org/wikipedia/commons/1/1c/En-us-enthalpy.ogg> is a measurement of energy in a thermodynamic system. It includes the internal energy, which is the energy required to create a system, and the amount of energy required to make room for it by displacing its environment and establishing its volume and pressure. Enthalpy is defined as a state function that depends only on the prevailing equilibrium state identified by the variables internal energy, pressure, and volume. It is an extensive quantity. The unit of measurement for enthalpy in the International System of Units (SI) is the joule, but other historical, conventional units are still in use, such as the British thermal unit and the calorie.



## Annexure 2

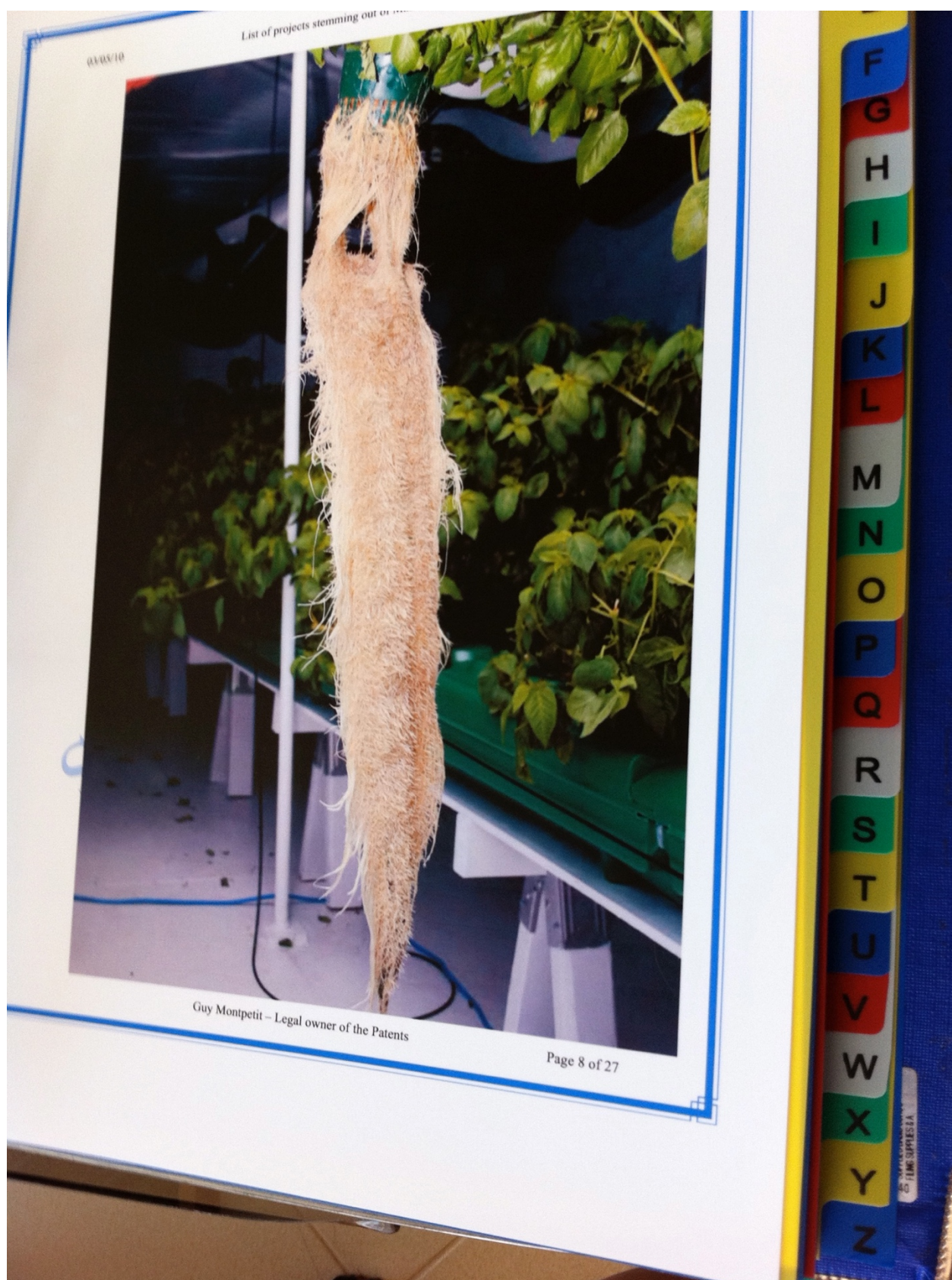


Figure 8. The full picture of a tomato plant root after only 12 weeks of growth.

### Annexure 3

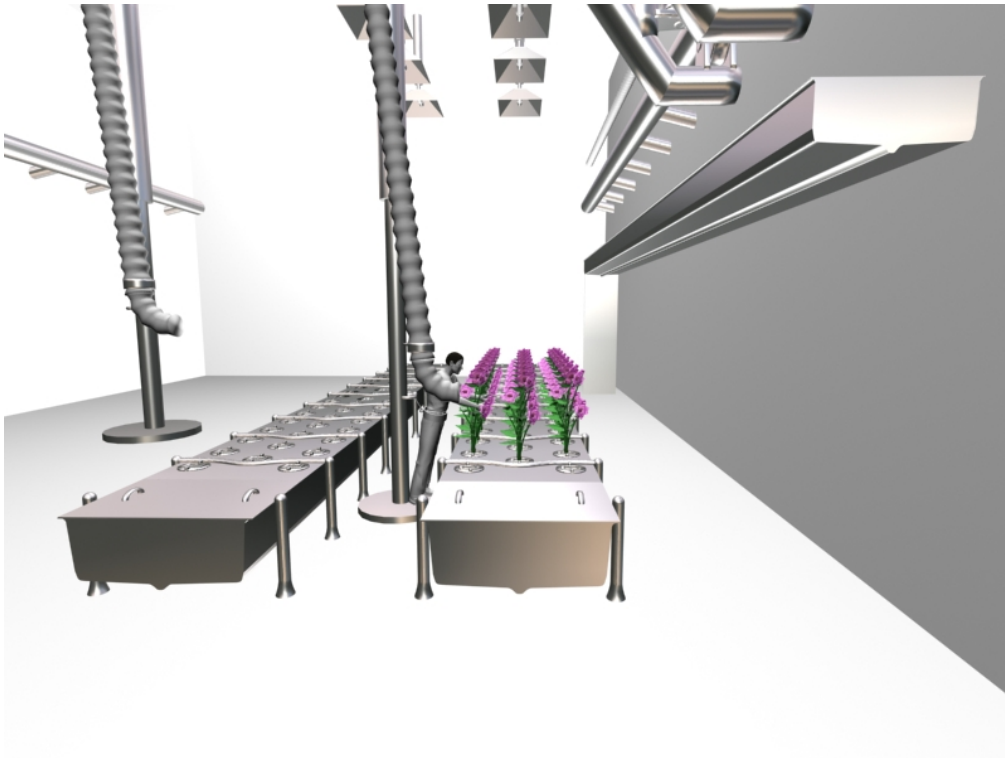


Figure 9. Latest clean room technology for growing any kind of plant.

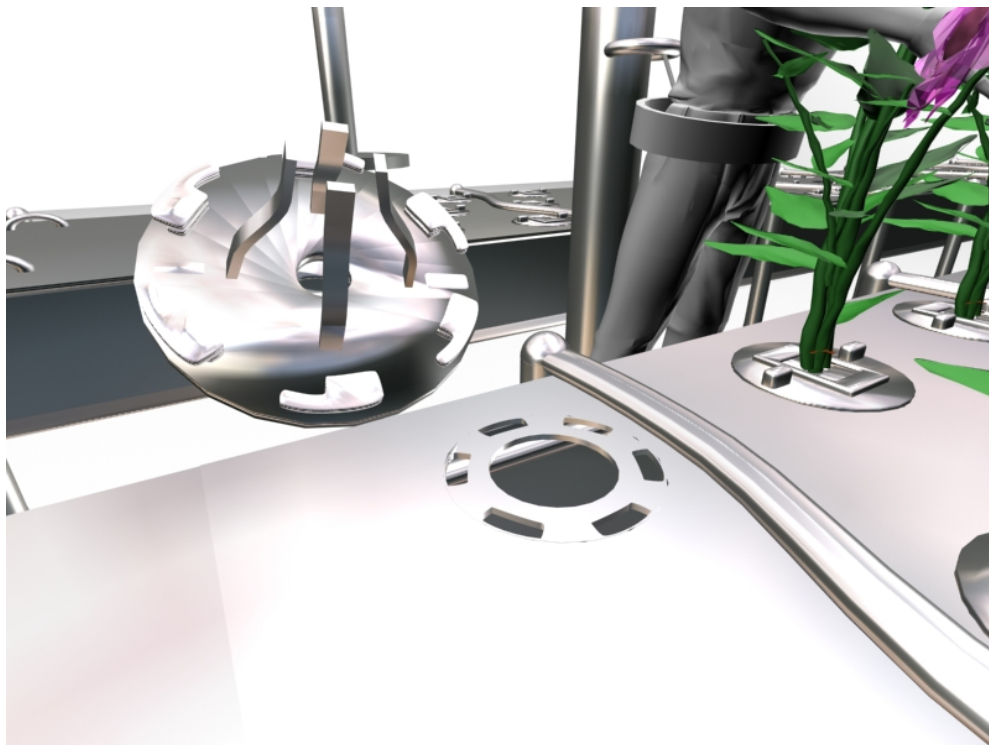


Figure 10. New heavy duty stainless steel plant support that allows the plant diameter to grow.



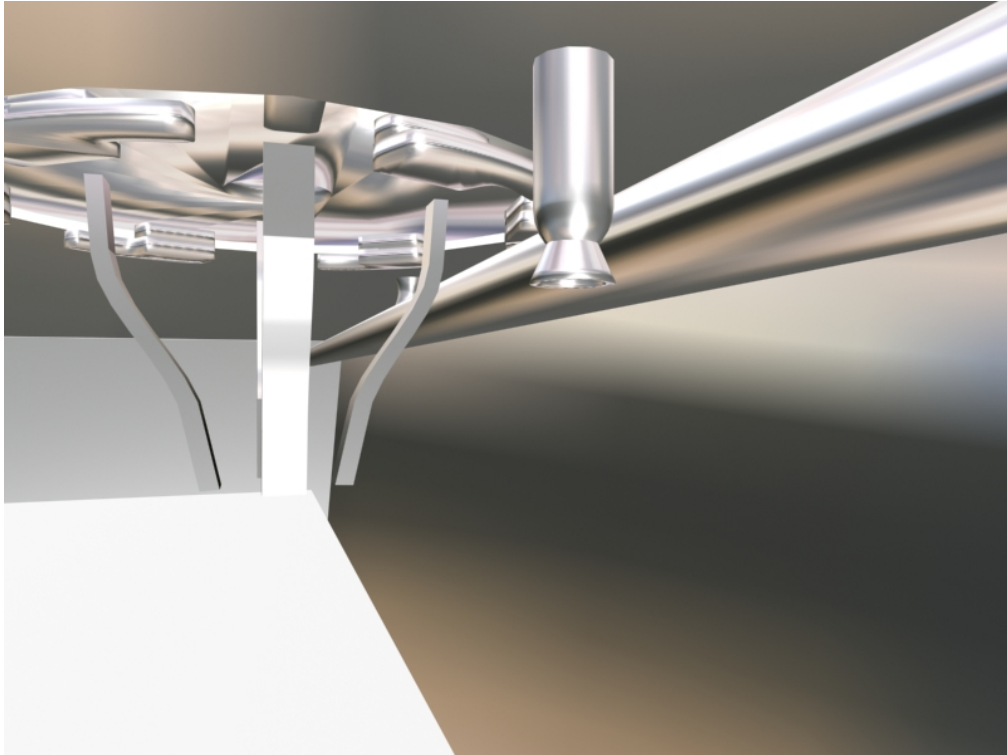


Figure 11. Internal view of the plant support in the root cage, where water distribution pitot is nourishing the plant.

## Annexure 4

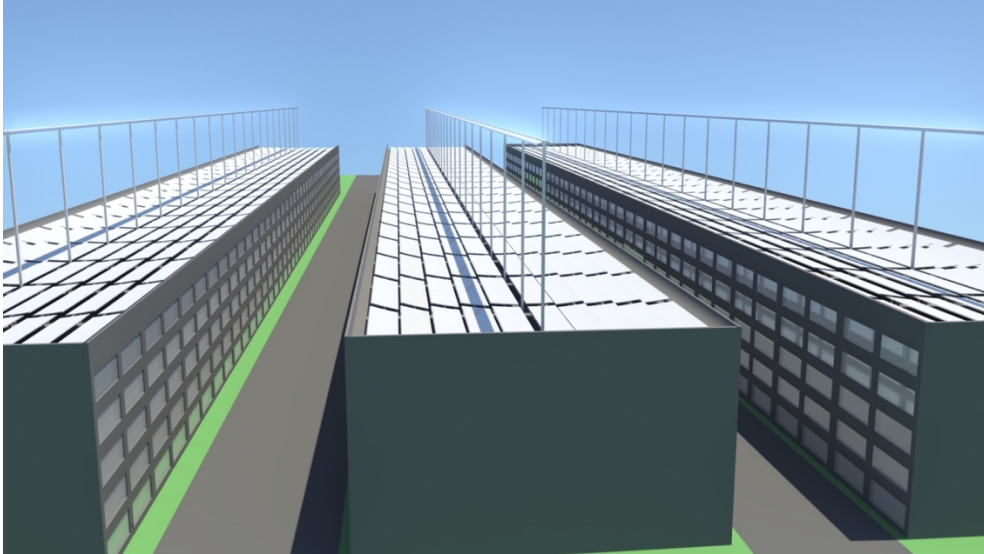


Figure 12. Concept of self sufficient electricity supply for housing complex of some 400 apartments

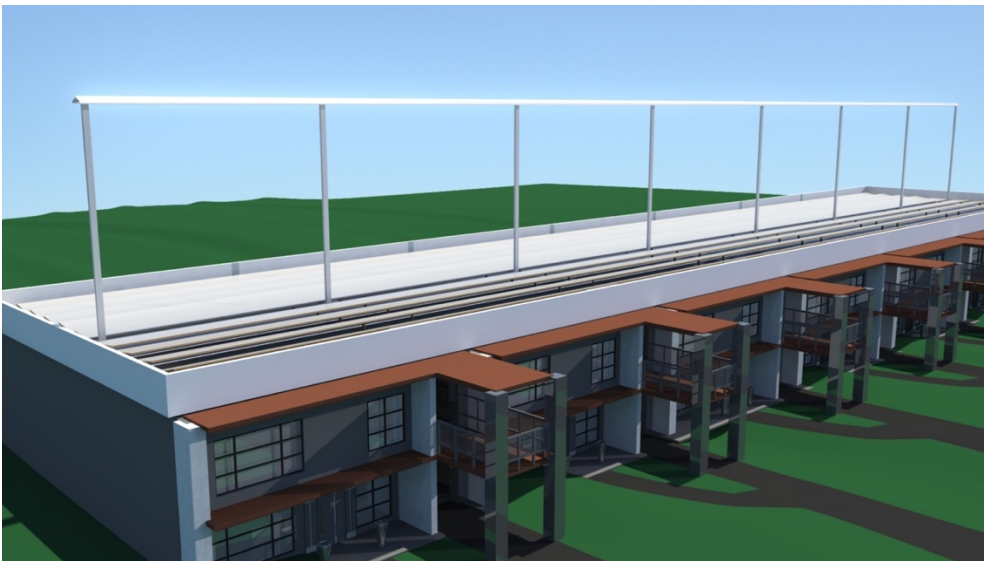


Figure 13. Same as in figure 10 adapted to a smaller complex.





Figure 14. This concept could be built in a desert area. It can obviously be adapted and completely redesigned according to needs. We have a technology to transform sand into earth. A central unit for electricity generation could be built on the outside areas for as many gigawatts needed. Water can be coming from the pipeline proposed in Figure 2 and Figure 3. We included an attached file for the complete description of this concept.

# Sandwich Panels Buildings

## Technical Sheet



### Product Description

Structural and insulating sandwich panels, manufactured with glass reinforced thermoplastic skin and expanded Polystyrene (EPS) core, available in various thicknesses.(0.25in.(6.3mm) – 4in.(101mm)) and unlimited lengths.



### Applications

Potential uses:

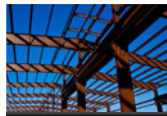
- Mobile homes;
- Temporary homes;
- Permanent homes (Can replace conventional construction because of excellent performance and low cost)

➤ Industrial buildings;

For many applications including:

- Exterior walls;
- Interior walls;
- Partitions;
- Floors;
- Roofs

Figure 15. This is the first page of a technical brochure providing technical data of those boards. See attached file.



## About Us

The team behind Dannas Green Dot Construction has designed, sold, manufactured and erected more than 1.7 million square meters of steel buildings over the past 20 years.



Our structures have been used for a variety of purposes, including residential housing, office buildings, storage, factories, hospitals and schools from the North Pole to the southern tip of Africa.

Figure 16. The pictures of Fig. 1, 2, 3 and 4 are manufacture by this group. We have included independent file in Power Point for a more complete description of their capabilities.

### **Here are the corporations involved in this group:**

Tata Steel – Steel coil

Guardian Industries - glass for Windows

Inoutic – Window and door frames

HTH – Kitchen cabinets

Xella Fermacell – concrete plasterboard

Saint-Gobain – Isover fiberglass insulation

Ideal Standard – Toilet and bathroom equipment

Broen – pipes and fittings for water distribution and Sewer

Red Horse – Bolt, nuts and fasteners

L Jungdahl – Electrical wires, light switches, outlets and fuse board.

Swedoor – interior doors, fittings and baseboards

Dyrup – Fillings and Paint

Insulation:

International Insulation Products LLC – Atlanta, USA

Machines

Bradbury Group UK, Ltd. (Sales office for US Company)



## Trans-Portable Hospitals



Figure 17. a) and b) Weatherhaven Ltd. Field Hospital – Two versions.





Figure 18. Entrance. Weatherhaven Ltd. Field Hospital





Figure 19. Patients beds. Weatherhaven Ltd. Field Hospital

Figure 20. Operating room. Weatherhaven Ltd. Field Hospital

