L2F Foundation

A non profit organisation with Africans at heart

Preamble

L2F Foundation, "L2F", stands for many ideals... Learn to Fish, Learn to Farm, Learn to Fly, Look to the Future.
Give a man a fish and he will be hungry again. Teach him to fish and he will satisfy his hunger. Teach him to farm and he will satisfy the hunger of many. Teach him to fly so he can take his knowledge and resources to others as far as they may be. Let him look to tomorrow holding onto dreams until they are fulfilled...

The dream

People need community, they need to belong. A community need not necessarily be large in number, but where everyone counts and is appreciated it is healthy and happy.

People need food, shelter, security, water and light, wherever they may choose to live. If at all possible they need to leave their place in the sun the same as or better than they found it. Doing things sustainably is a big part of our cultural awareness.

People need to do things well. To get satisfaction from what they do and pass the knowledge and skills onto others. To pursue their dreams with vigour, determination and perseverance.

How do we bring the best technologies to bear to facilitate this dream anywhere in Africa? Anywhere in the world? A lifestyle where we can live sustainably, in community, in step with the modern world and teach others to do the same?

L2F Corporation has an answer.

Who we are, what we see and what we do

Vision

To see people empowered to provide for themselves, their families and their communities through modern, sustainable methods of agriculture in a community environment and to teach others to do the same or better.

Mission

L2F is here to facilitate the vision by developing and utilising the best technologies to support communities throughout Africa and provide training for skills development and job creation on an exponential growth path. Providing real agricultural community lifestyle living that does not need massive infrastructure for delivery and does not utilise fossil fuels.

Plan

The basic needs of a community are housing, access to clean water, electricity and sanitation. To be fed, to be able to work and help others grow.

We will

** build houses at reasonable cost and in a way that minimises environmental impact. Our homes will be movable, changeable, offer long term protection from the elements, be cool in summer and warm in winter.*

** provide water and electricity on site using renewable resources without massive pipeline and energy delivery infrastructure and without negative environmental impacts.*

** maximise local content by developing and commercialising technology in South Africa for retention of jobs and wealth in the community.*

** provide technical skills and training to facilitate adequate installation and maintenance capacity and create an environment conducive for entrepreneurs to grow.*

L2F Constitution

A copy of the L2F Constitution, as well as the minutes of all Management Committee meetings is available on request to all members. Anyone who has an interest in assisting L2F achieve its objectives is invited to apply to the Management Committee to be a member.

The Nuts and bolts

Key to the success of the dream is the provision of:

housing that is affordable, comfortable and utilises design and materials that minimise environmental impact. Houses that are built to last, yet can be changed without demolition.

electricity and water supply that does not require connection to a grid or water mains and is derived sustainably,

waste utilisation and recycling that services a community of anywhere from 50 to 100 homes. These facilities serve the community by maintaining common property (brush clearing, grass cutting etc); collecting waste that is categorised into paper, plastics, glass; and collecting and processing sewerage. The organic solid waste that is collected is converted to butane using plasma gasification technologies. The butane is used by the community for cooking and to power the water from air systems as well as provide electricity to the homes. Waste heat from these systems is used to heat household water. The waste treatment facilities will use a combination of solar thermal power and gas to power themselves.

Housing

L2F has designs for a residence that comfortably accommodates 5 people, but will easily accommodate large families of up to eight people if necessary. It is a double storey dwelling and the walls are built using L2F proprietary "Link Lock" system. The benefit of the Link Lock system is that the layout of the walls can be changed easily, the composite material used to manufacture the bricks is strong and has better thermal insulation properties than conventional clay bricks. There is ample parking for two vehicles and many windows for natural lighting. Three bedrooms with patios are located the ground floor with a separate bath, shower and toilet area as well as a large reception area. The water tank is located on the ground floor. Upstairs, the main bedroom with bathroom en suite is located on the first floor, with an open plan kitchen and expansive living and dining room. The floors are cast concrete of sufficient strength to carry the anticipated loads allowing the use of the flexible Link Lock brick system.

Electricity and water supply

A key detail on the first floor plan is the existence of the utilities room. The equipment that is housed in this room and also just outside on the patio, provides for both the electricity and water supply required by the unit. There are no connections to a power grid. There are no connections to a water mains. The proprietary system extracts water from air using butane as a heat source to power a non conventional refrigeration system that drives an electrical turbine, heats water and extracts water from air. The water extraction unit is designed to produce around 300L of water per day, depending on atmospheric conditions. Water from the unit is stored in the water storage tank on the ground floor. Rainwater is also harvested and stored in the tank.

Commercial sites with high energy demands will be serviced with gas turbines and combined heat and power systems supplied and managed by L2F.

Skills development and training

L2F will engage in training and skills development for rapid deployment of theses systems throughout the continent.

High energy demand Commercial Enterprises

A new energy model is required to service the needs of Africa. The most important consideration is that it's not about production – rather, distribution. Whatever is sold to a consumer, must be easy to obtain and in close proximity to the consumer.

In Africa, most goods travel by road or rail. Rail infrastructure is improving; however there are still issues with integrating movements across borders.

Energy derived from combustion of fuel requires the fuel to be convenient to use (burnt as gas) and packaged in it's highest density (a liquid hydrocarbon fuel - the light C3 & C4 alkanes). To minimise the cost of compression C4 – butane – must predominate in the product mix.

Plasma gasification and synthesis is the preferred route to convert organic waste, methane and carbon dioxide to butane. There have been significant investments made in recent years to commercialise the process and all have failed because of a combination of non optimal process configurations, bad politics and negative interventions of stakeholders who benefit from maintaining the status quo with respect to energy supply. However, the expansion of the global market for natural gas has changed the international energy landscape.

L2F has proprietary technology that will be developed and commercialised. CDH will retain a royalty of two percent of commercial sales of water and energy produced via these systems.

Business Plan Executive Summary

L2F has engaged a consultant in the fields of sustainable water and electricity generation as well as plasma synthesis of organic waste. The consultancy has designed an Integrated Utility Supply Unit ("IUSU") for extraction of water from air and electricity generation. The unit will be developed to provide both electrical power (3kW) and water (up to 300L per day).

L2F has also developed a proprietary "Link Lock" lightweight brick that facilitates rapid construction with superior thermal and strength properties. These will be used in the construction of the units. They will be manufactured in the same facility that produces the Integrated Utility Supply Unit.

Upon receipt of the grant funding, L2F will continue and complete the technology development phase, purchase land and build a demonstration site. Thereafter, various sites will be developed and sold on a sectional title basis or leased. At unit costs of less than Rm1.0, preliminary cash flow studies indicate a strongly cash generative business. Sales of the first 100 units are expected

to yield over 57000 man hours of labour; over 40 permanent jobs earning in excess of R240000 per annum and yield in excess of Rm178 in tax revenues.

Simultaneously to the development of the water and power units, L2F will pursue technology development and commercialisation of the plasma gasification unit. This project must be built on a commercial scale to in modular units capable of converting 450 MT per month of organic Municipal Solid Waste to 160 MT per month of butane. These units will create opportunities for 22 salaried employees earning a combined Rm3.4 per year. Converting the waste generated by South Africa's top ten cities in this manner will create over 37000 jobs, an annual payroll of over Rbn 6 and revenue of over RBn50.

L2F requires grant funding of Rm16 to bring this vision to fruition. Should the South African government provide the grant at the inception of the project, all Intellectual Property rights shall be vested in and for the benefit of, all South Africans and the protection thereof shall be the responsibility of the government.