

# EconoSpace NOW

February 14 2008

Victoria

Australia

What follows is summation of work on the EconoSpace Project to date. You will find additional material at [livingarchitecturecentre.com](http://livingarchitecturecentre.com) detailing ongoing work and developments.

As you will see from what follows my early ambition to create a low-cost, self-buildable, mortgage-free dwelling led me along a complex and sometimes bizarre path.

Even as I write things are changing. What does not change is my conviction that we need to recapture our sheltermaking traditions if we are to embrace a truly sustainable way of life and in the process discover who we really are. Creating your own EconoSpace will allow you to do exactly that at a very affordable cost.

The plans on pages 3 and 8 have now been upgraded to create internal dimensions of 4.2m X 5.9m. The 24.78 square metre floor area which this provides is within the Exempted Development limit of 25 sqm. Such a floor area allows for a considerable range of activities to be carried out.



EconoSpace as Site Office & Workshop

I have configured various layouts for the EconoSpace including 'living' versions as per my original idea of creating a small home free of borrowings. However bear in mind that all buildings that are to be lived in require planning permission. This is why it is easier to construct an EconoSpace as Exempted Development on an existing domestic property as a garden shed. A budget of €12500 and upwards will allow a reasonable choice in regards to choosing natural materials and so on.

I am presently preparing an information package on how people can create their own EconoSpaces. This includes material lists, technical information and instruction on setting up the necessary work areas - everything needed to make your EconoSpace project happen whatever your level of experience. This will comprise a mix of text, drawings and video.

If you are interested in the EconoSpace concept and wish to venture forward into the exciting world of affordable architecture you need to let me know that, to prompt me to complete this information package in the shortest possible time. I am involved in many creative projects the EconoSpace being just one of these. So register your interest at this point by emailing me at [livingarchitecture@eircom.net](mailto:livingarchitecture@eircom.net)

To my mind we need to see a return to the old house raising traditions where we can co-operate in the creation of affordable and sustainable buildings. I can visualise a start to this process as people share information, time and skills in the process of creating their own EconoSpaces. This move to recapture our sheltermaking traditions can literally begin in our own back yards. Once we realise how empowering it is to construct our own buildings we can expand our ambitions and find creative ways of escaping the tyranny of the mortgage.

I have written extensively on these topics and you will find a wealth of information on Living Architecture on the website: [livingarchitecturecentre.com](http://livingarchitecturecentre.com)

I will be presenting a workshop on the EconoSpace at the Organic Centre in County Leitrim on Saturday June 28th.

Best Wishes

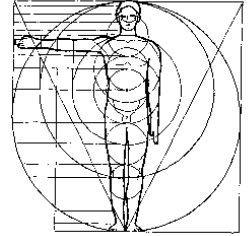
Peter

# THE ECONOSPACE CONCEPT

PETER COWMAN BArch

LIVING ARCHITECTURE CENTRE

[livingarchitecturecentre.com](http://livingarchitecturecentre.com)



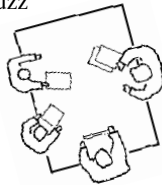
## SUSTAINABLE DEVELOPMENT

### AGENDA 21

Agenda 21, adopted by the United Nations Conference on Environment and Development on 14 June 1992, is the international community's response to life-threatening environmental degradation. It is a comprehensive programme of action to be implemented in the twenty-first century by Governments, development agencies, United Nations organisations and independent sector groups in every area where human (economic) activity affects the environment.

Agenda 21 defines Sustainable Development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

'Sustainability' is now the buzz word permeating all aspects of modern Life. But what does 'Sustainable Development' actually mean?

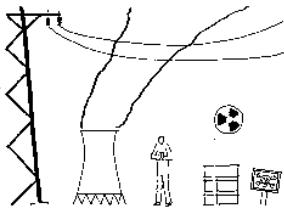


## THE MACHINE AGE

Broadly speaking, the Industrial Revolution spawned a move away from agrarian lifestyles to lifestyles based on machine production driven by the energy stored in fossil fuels. Over a period of two and a quarter centuries the changes spawned by this Machine Age have radically altered the way that people live and the way in which planet earth sustains itself.

One of the crucial changes wrought by the Machine Age was the way in which people sheltered themselves. Traditionally, shelter was self-built and a modicum of self-sufficiency in food production was the norm. With the ushering in of the Machine Age paid work was favoured as the way in which to provide these basic necessities. Specialisation became the norm - instead of being involved in a wide range of 'survival activities' such as sheltermaking, food production, craft and animal husbandry, one specialised in a particular job and with the proceeds from that one purchased whatever one needed. So, the modern industrialised economy was born.

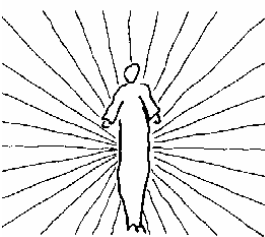
Now, more than two centuries on, the weakness of industrialised economies are plain to see. This is not to dismiss the gains. Rather, it is necessary to understand what has gone wrong and develop ways to moderate the negative effects while retaining the positive ones. No-one is quite sure how to do this and Sustainable Development is the closest that anyone has



come to proposing a viable way of achieving it. The need for this is quite obvious - global warming; food contamination; waste mountains and an energy crisis are all contributing to an erosion of the quality of life that we have been led to expect from industrialised economies. This is not supposed to be the case - we are so well off! Industry & government are adept at explaining Sustainable Development in their own terms - Sustaining Progress or Sustaining Growth. This translates as 'Business As Usual'! For those concerned with 'living sustainably' however their understandings have an urgency that recognises the momentum of planet earth's response to pollution and the reckless exploitation of its natural wealth.

## SUSTAINABILITY

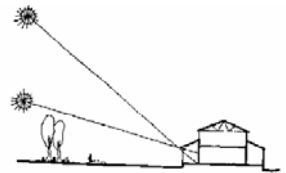
The Shorter Oxford Dictionary defines Sustainable as ... 'able to be upheld or defended; able to be maintained at a certain level' If we use this definition as the basis for grasping what sustainability is all about we might come up with something like this - 'action that enables something to be upheld, defended and maintained at a certain level.'



If this 'something' were 'life' then Sustainability would mean action that enables life to be upheld, defended and maintained at a certain level. This, in turn, begs the question, what is life? Again we consult the dictionary to find that life is defined as ... 'the condition, quality or fact of being a living organism; the condition that characterises animals and plants (when alive) and distinguishes them from inanimate matter; being marked by a capacity for growth and development and by continued functional activity ...' So, sustainability, by such definitions, might mean - action enabling the condition, quality or fact of being a living organism, to be upheld, defended and maintained at a certain level. What is this 'level'? It is the level of being alive, of participating in the process that we call 'life'. 'Aliveness' has many names - *Spirit. Prana. Life Force. Chi.* If sustainability has to do with ensuring that life receives sustenance to maintain its 'aliveness' then sustainability takes on a spiritual quality as a result. This spiritual quality brings matter to life and enables this Life 'to be upheld, defended and maintained at a certain level'

## SUN WORSHIP

The current tradition of natural building has at its core a reverence for the sun. The rationale for this is based on the need to gather solar energy but in order to effect this a particular combination of orientation, proportion, material and artifact are required - a clear mirroring of schemes found within sacred architecture monuments. In this way, the spiritual quality of life manifests itself in modern passive solar design, despite our reasoning that such organisation emerges from a purely logical root! This is the tradition to which aspirations of sustainability ascribe, the acknowledgment of the spiritual in the everyday.



We live at a time when traditional expressions of the spiritual are notably absent from our everyday lives. This decline can be linked to the rise of industrialised societies and consumer economies and to the decline in traditional sheltermaking. Effectively, such trends have created new gods, material gods promising material fulfilment on a physical plane.

## MATERIALISM

If a dwelling is created without acknowledgment of the spirit, in other words, if house design is based on a singular physical existence, then inevitably the design, and consequently the construction, will be skewed in favour of physical considerations. Status, comfort, ease, convenience and luxury become of paramount importance. Unless such considerations are balanced with matters of the spirit the building design will not nurture that spirit and the direction of that life will be skewed in favour of the material. This is a road without end. The consequences of following it result in excessive materialism, overbearing rationale, sickness, greed and over-consumption. There is no inner satisfaction, no nurturing of the spirit, just further levels of outer acquisitiveness.



When the 'energetic function' of architecture - its ability to connect us to the higher realms of existence - is understood, the pivotal role that house design - and sheltermaking generally - plays in life can begin to be appreciated. House design links to so many other aspects of life that it is, in fact, the heart of sustainable living. The Econospace is a first step to discovering these *Mysteries*.

## MORTGAGED SHELTER & ADAPTABILITY

By changing the way in which we look at the subject of human shelter we gain the potential to change our lives. It is this key factor - the incorporation within a home of the natural ability to change and adapt - that offers the power to change not only ourselves but, in consequence, the world. It is the need for such change that characterises all proposed solutions to the problems of global warming, pollution, toxic waste, food contamination, and so on.

The reason that house design wields such power is simple. Settled life is the basis of civilisation as we know it. Houses are the cornerstone of settled life, and, in consequence, underpin all the civilised values we revere. By thinking in new ways about how we design, construct, pay for and live in our shelter, we can change ourselves and the world of which we are all a part.

This vital role that housing plays in civilised life is clearly reflected in the economic structure of the world where special status is ascribed to houses. Where virtually all other commodities fall in value after purchase, the opposite is true of houses which normally increase in value over the course of their lifetimes. This trick of accounting is a key component of the the market led economic system that now shrouds the globe.

The special status that houses and property enjoy is forged by linking the work we do to the shelter we need to survive. By treating our working time as a commodity the economic value of our labour over a specified period - say, over 20 years - can be quantified. By allowing one to borrow against the projected value of this work and to use these borrowings to invest in a place to live, the 'worker' is tied to his or her job because he or she must repay from it the cost of the shelter that is essential to their survival.

The work/shelter cycle, as long as it satisfies people and their desire to live, is a miracle of progress. However when this cycle grows to depend on factors that are beyond the needs of people they become hostages to economic forces that have nothing to do with them or the life of the planet. This is the situation in the developed world at the present time. Economic growth is everything. This favours increased consumption and the application of market-driven solutions to the resultant woes. Because business is normally bottom-line driven and head-centred, the consequences of unbridled economic growth is often threatening to *life* on the planet. Solving these problems in a market led economy will, it is imagined, further assist economic growth! Because houses form a vital part of economic systems, which are normally wholly focussed on commercial values, any change in the

established work/shelter cycle is strongly resisted. That such a situation can prevail is easy to understand. Because houses are essential to human survival, fear that we will not survive is never far away in any consideration of our lives or of where we are to live. This fear is a mighty beast that we mostly avoid rather than confront because it goes by that fearful name - *death*. Where we do not acknowledge such fears openly or consciously we are hostages to these fears and to global economic forces which have their own agenda for us.

Changing our relationship to the work/shelter cycle and to the economic forces of the world demands that we confront our fear of not surviving. This brings us face to face with our own mortality. By openly acknowledging our fear of not surviving - *dying*! - we can embrace our desire to *live* and to nurture all life on the planet. Such desires are decidedly heart-centred and find expression in that part of our selves we call our *intuition*.

The mysterious world of our intuition, when brought to the sheltermaking process, invests design with life-sensitivity. This propels us deep into the world of spirit and mystery and imparts these qualities to the living spaces which we create. If we succumb to this allure it lends new perspective to the world as we perceive it, infused as it is with the joy of being alive. This is in contrast to the *rationale* which normally drives the design process, investing space with qualities that have little to do with the primacy of *life* and have nothing at all to do with spirit! This is the origin of the *soullessness* so often referred to when speaking of modern houses.

## THE ECONOSPACE CONCEPT

These ideas emerged, over the past 15 years or so, from a very simple concept - the development of solutions to create low-cost, mortgage-free, shelter. Simple as this concept might have been - or still might be - the realisation of it has proved complex. One of the reasons for this is as explained previously - the current economic systems in place throughout the developed world depend on constant upward movement in property values to perpetuate themselves. Without this 'capitalisation of notional worth' market

economies, as we know them, would simply collapse.

The current preponderance of mortgaged shelter, the reliance placed on the steady rise in property values and the careful manipulation of interest rates is an outpicturing of The Great American Dream served up in the form of *Reganomics*, *Thatcherism*, *New Labourism*, and, now, *Celtic Tigerism*.

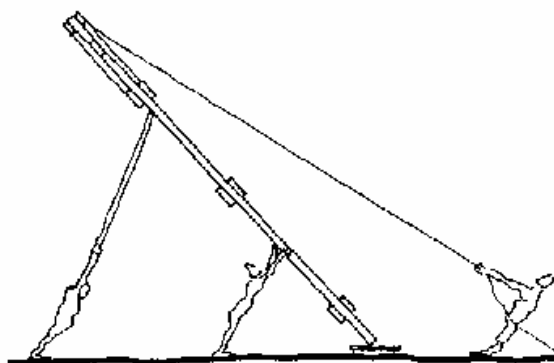
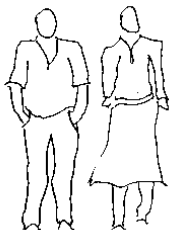
With these free market economics any idea that threatens, or even questions, the wisdom of such a narrow base on which to foster life is ruthlessly demolished. This attitude has invaded the planning system to the point where any alternative to the 'norm' is rejected. It is also the attitude which has marginalised the travelling community because they do not value property in the same way as the settled community does. So, beware! By embracing a concept such as *The Econospace* one can step a little outside the system but at the same time one can trigger a determinedly *negative* response from the most surprising quarters.

Such responses are, in essence, *emotional*. So it is critical, when dealing with you own responses or with those of others, to understand this critical fact. Because shelter is essentially physical, *emotional* responses regarding shelter/housing/architecture are usually based on some physical aspect of the building. 'Will it last?' 'What will its resale value be?' 'Will I get Planning Permission?' 'Will it fall down?' As long as the *emotional* aspects of these questions are ignored the *fears* surrounding survival have to find expression in the *physical*. This sends people scurrying for the familiar, for the proven, for the traditional and for the secure. When no comfort is to be found in these zones despondancy sets in, followed by lassitude and overwhelming dissatisfaction. That is not to say that plunging into the emotional world is any easier! However, because it is boundless, spiritual, exciting and full of wonder the possibilities it holds offer far more potentiality than the physical world does.

All these issues are matters of *Consciousness*. First we must raise our *awareness*, then examine our conditioning - which is overwhelmingly *physical* - get in touch with our *intuition* and begin to make small steps forward. *The Econospace* lies on this path.

## THE GREAT AMERICAN DREAM

The current preponderance of Mortgaged Shelter, the reliance placed on the steady rise in Property Values and the careful manipulation of Interest Rates is an outpicturing of The Great American Dream served up in the form of *Reganomics*, *Thatcherism*, *New Labourism*, and, now, *Celtic Tigerism*.



## The EconoSpace

While the roots of the original *Be Your Own Architect* concept - creating affordable, mortgage-free, self-build, timber-based shelters - were swamped by the intensity of the demand for conventional solutions, time was found to design the smallest possible shelter that one could live and work in, at the lowest possible cost!

### The Plan

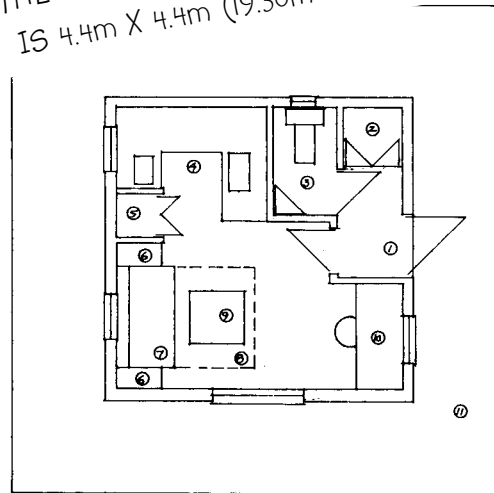
Surrounded by an overhanging roof creating a continuous verandah, the *EconoSpace* covers 13.7m<sup>2</sup> (150 sqft) of floor area.

1. Front Door & Lobby
2. Shower
3. WC/washbasin
4. Kitchen
5. Storage
6. Side tables
7. Sofa Bed
8. Sofa Bed Extended
9. Table
10. Desk
11. Verandah

THIS IS JUST ONE POSSIBLE PLAN 'VERSION.'

AS ALL INTERNAL PARTITIONS ARE NON-STRUCTURAL, ALMOST ANY DESIRED CONFIGURATION IS POSSIBLE.

THE CURRENT ECONOSPACE 'PLAN' IS 4.4m X 4.4m (19.36m<sup>2</sup> / 208 sqft)



Alternative versions of the *EconoSpace* can be configured incorporating a wood burning stove, a loft sleeping space, additional outside covered work area, etc.

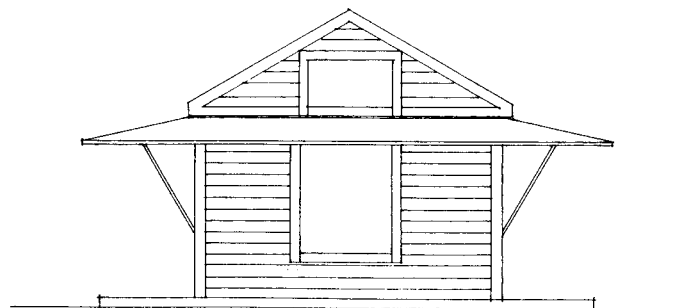
The *EconoSpace* can be located behind an existing dwelling allowing access to electrical, water and drainage services, thereby keeping the initial costs down and avoiding planning issues - its a garden shed! Alternatively it can be a starter house on a green field site, a weekend retreat, a guest house, an office, a writing studio ...

Construction materials can range from timber framing and cladding, to straw bale and plaster.

Windows and doors can be made on-site or salvaged units can be incorporated into the construction.

### South Elevation

The *EconoSpace* can incorporate a solar collector in its south elevation - this can be a large window or a pair of glazed doors, allowing direct access to the verandah. This area can be used for fuel and bicycle storage, for clothes drying, food production, relaxation, etc.



ARCHITECTURE **LIVE**

FOLLOW DEVELOPMENT OF THE ECONOSPACE AT:

[livingarchitecturecentre.com/econolive.htm](http://livingarchitecturecentre.com/econolive.htm)

## PLANNING

Planning lies at the interface between conformity and innovation, a sentinel at the gates of freedom. Clearly *The Econospace* is not assured safe passage through these minefields - and, even if it were, it is likely that *Property Value Minded People* might object for obvious reasons. However, several routes exist which offer potential for forward movement. Before these are explored it is critical that one properly understands the radical nature of creating any form of mortgage-free shelter.

The expression '*Like A Red Rag To A Bull*' might be a fitting *mantra* for this exercise. Simply put - as long as people are tethered to Rules & Regulations; Jobs They Do Not Like; Crippling Debt and so on and so forth, *they resent anyone that looks like escaping these bonds*. As this is generally an unconscious anti-reaction it is very difficult to discuss the issue or even to gain an admission that there is an anti-reaction at all! The reasons for this are myriad and essentially *psychological/emotional*.

So, PROCEED WITH CAUTION!

## EXEMPTED DEVELOPMENT

Within Planning Legislation there exists a category called *Exempted Development*. This is development for which Planning Permission is not required. Categories of *Exempted Development* are set out in Planning Law. The purpose of exemption is to avoid controls on development of a minor nature.

## AGRICULTURE/FORESTRY

Much agriculture development, especially use of land for agricultural purposes, is exempted. In other cases certain thresholds exist - these may include restrictions as to size or height. Where these thresholds are exceeded exemptions no longer apply. The main exemptions are as follows:

The use of land for agriculture or forestry.

The use of farm buildings or forestry buildings for these purposes.

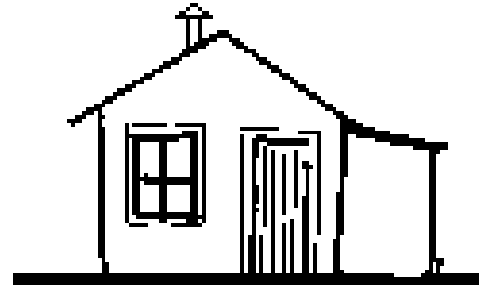
The construction of a store, barn, shed, glasshouse, etc. not exceeding 300sqm and not used for housing animals or storing effluent.

Land reclamation - field drainage; removal of fences; improving fences; intensive agriculture - provided the land involved is less than 100Ha.

Small scale initial afforestation.

(Plantation areas for Forestry Grants: Conifer - not less than 1Ha; Broadleaf - not less than 0.1Ha)

Exemptions only apply in rural areas - outside town and city council boundaries; must be used for the purposes of agriculture only; must be 10m from the public road; 100m from houses; schools; churches and public assembly buildings (unless written consent is obtained); cannot exceed 8m in height within 100m of public road, and, no unpainted metal sheeting can be used for roofing or external finish.



## DOMESTIC

You can build a garage, shed, greenhouse, kennel, etc. allied to an existing property as long as it does not extend out in front of the building line and does not exceed 4m in height (pitched roof) or 3m for any other type of roof. The floor area limitation is 25sqm. The structure may not be lived in, used for commercial purposes or for keeping pigs, poultry, pigeons, ponies or horses. Garages, sheds, etc. to the side of the house must match the finish of the house. You cannot reduce the open private space, reserved exclusively for the use of the occupants of the house, at the side or rear of the house, below 25sqm.

For more information on *Exempted Development* go to: [www.environ.ie](http://www.environ.ie)

## YOUR ECONOSPACE

Clearly, *The Econospace* falls within *Exempted Development* categories. So, one could buy some land for forestry, or plant trees on some existing land, construct An Econospace and avoid the Planning Issue altogether.

Equally, several people could buy a large piece of land, sub-divide it and each build an Econospace! Similarly, one could create an Econospace within the curtilage of an existing property.

## BUILDING REGULATIONS

Building Regs. are a set of legal requirements for the design and construction of new buildings, extensions and material alterations to and certain change of use of existing buildings. Exempted Development is required to meet the provisions of the Regulations. This is desirable in any event.



Living Architecture Centre EconoSpace/Site Office

# THE ECONOHOUSE CONCEPT 5

## CONSTRUCTION

Construction, as a topic and as a reality, is a magnet for all kinds of reactions, fears, struggles and other undesirable intrusions into ones *Life*. 'Not being able to hammer a nail' is often cited as an excuse for 'not getting involved'. Truth is, if you wish to build low-cost and mortgage free no one is going to make this happen for you. That is not to say that help will not be available - but, the option of just paying someone to 'get on with it' will simply not be there. So this is the point of declaration, the moment of truth, the fork in the road ...

## STRUCTURE

The biggest fear facing the novice builder is that their structure will fall down! As my old Structures professor used to say '*nothing falls down unless it absolutely has to*'! True as this might be one still has to be aware of the *loads* impinging on a structure. These can be divided into two categories - vertical *loads* (weight) and horizontal *loads* (wind). All building *loads* wish to make their way down to the ground. Building *structures* facilitate this by forming paths for these *loads* to follow. The weakest point in any structure are the joints - where the speeding loads on their way to the ground need to change direction. (Think of this like a sharp bend in the road). The interface between the building *structure* and the ground is where the foundation is placed. In the case of *The Econospace* this is formed from a series of individual paving slabs on which the building structure sits. People ask me '*should the frame not be fixed to the foundation in some way*'? They are clearly afraid that the building will blow away! Might as well decide to bolt your car to the driveway in case it blows away!

## PETER POSTS

*Peter Posts* are simple structural posts which allow joints to be formed (with beams) to create a strong and versatile 3-dimensional structures. The floor and roof are connected to these *Posts* and doors and windows are inserted in-between. The internal and external 'finishes' to the building attach to either side of this 3D building structure and generous amounts of insulation are inserted between these internal and external layers.

FOR MORE INFORMATION ON PETER POSTS VISIT - [livingarchitecturecentre.com](http://livingarchitecturecentre.com)

## MATERIALS

Wood is the primary material used in *The Econospace*, in a variety of section sizes - 50X20 (2"X1"); 50X50(2"X2"); 100X50(4"X2") & 150X50 (6"X2") Window and door frames can be made up 'on-site' or recycled units can be installed. External and internal finishes can vary from timber cladding, to lathe and plaster. My preference is to use screws to secure the structure wherever possible, rather than nails. This facilitates disassembly, should this be desirable or necessary. Roofs can be finished externally with timber, slate and so on. Insulation can vary from HempLime, to straw, to cellulose.

## TIME

*Time* is one of the most difficult commodities to obtain in sufficient quantities as a consequence of the work/shelter conjunction discussed earlier. So, reconcile yourself to everything taking longer than expected. Look on this as a good thing.

## TRANSPORTATION

Transportation is a big issue if you need to move materials or assembled components. A car trailer is ideal for this work - better, by far, than a roof rack. A small pick-up is better still - more versatile than a panel van in many ways. It is best to assemble a materials list at the outset of the project and to buy everything first. This can be delivered to the construction site by the supplier.

## COSTINGS

A critical part of the success of any project - be realistic! Remember at the start of the project you have all the money but at the end you have none yet this is when you constantly seem to need to buy things. So, be niggly on cost/expenditure right from the start. The Living Architecture Centre EconoSpace/Site Office was constructed at a cost of 7500.

## ORGANISATION

A Bench is the first essential. Keep your workplace organised, otherwise the 'drag effect' will sap your energies.

## WORKSHOP

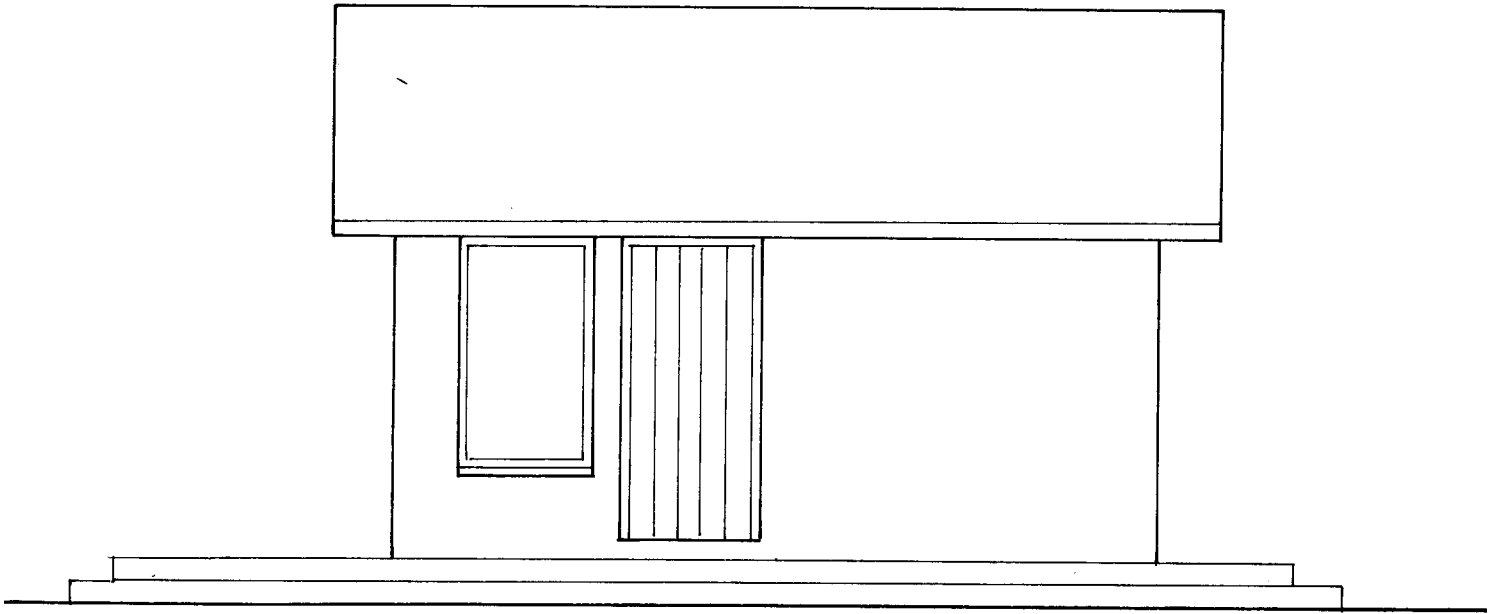
This can be a simple outdoor bench until you get the roof on - then you can move the bench under cover.

## TOOLS

Saw; hammer; Ratchet screwdriver; spirit level; right angle; tape; drill ....

## ECONOSPACE BOOK+DVD

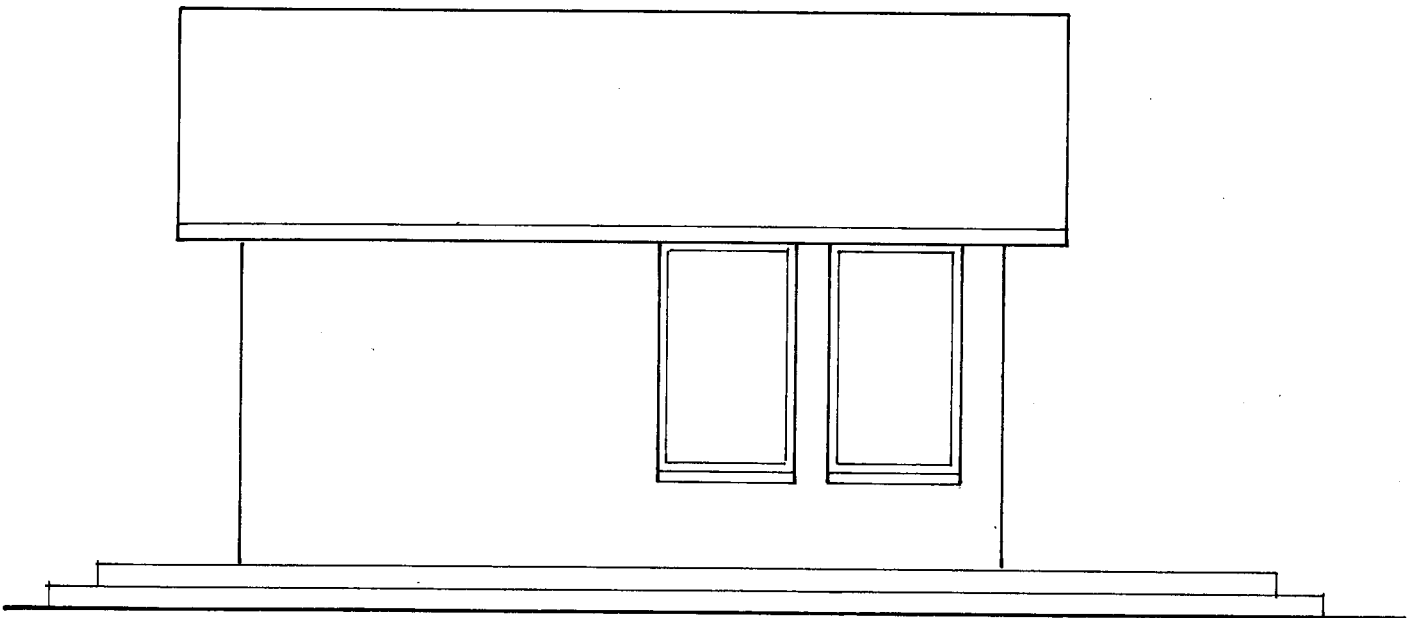
A book+dvd on how to construct an EconoSpace is in preparation. Check [livingarchitecturecentre.com](http://livingarchitecturecentre.com) for progress.



THE ECONOSPACE PROJECT

EAST ELEVATION 1:50

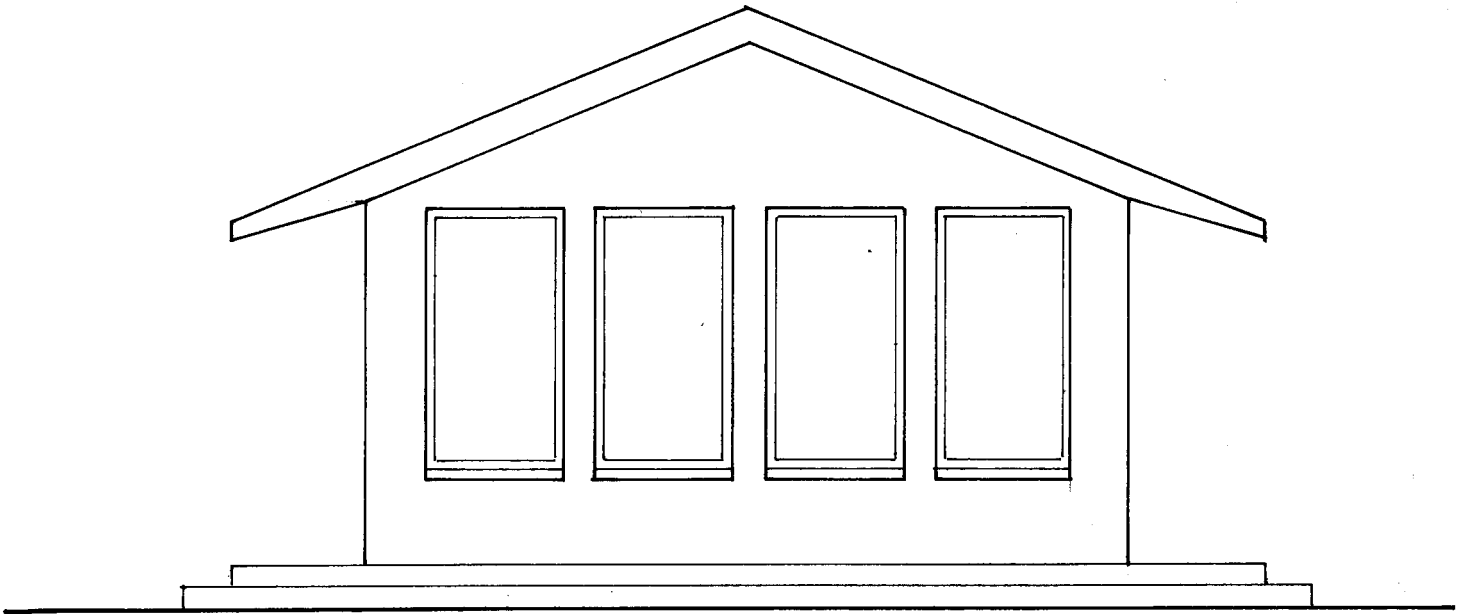
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THE ECONOSPACE PROJECT

WEST ELEVATION 1:50

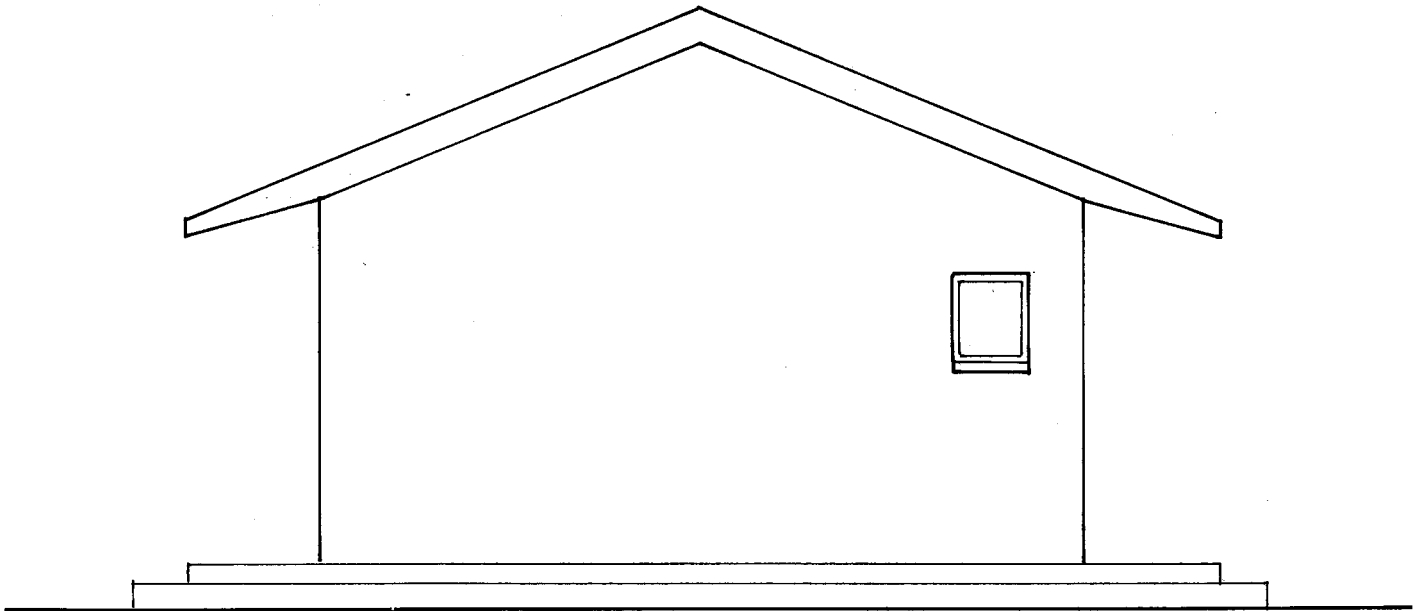
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THE ECONOSPACE PROJECT

SOUTH ELEVATION 1:50

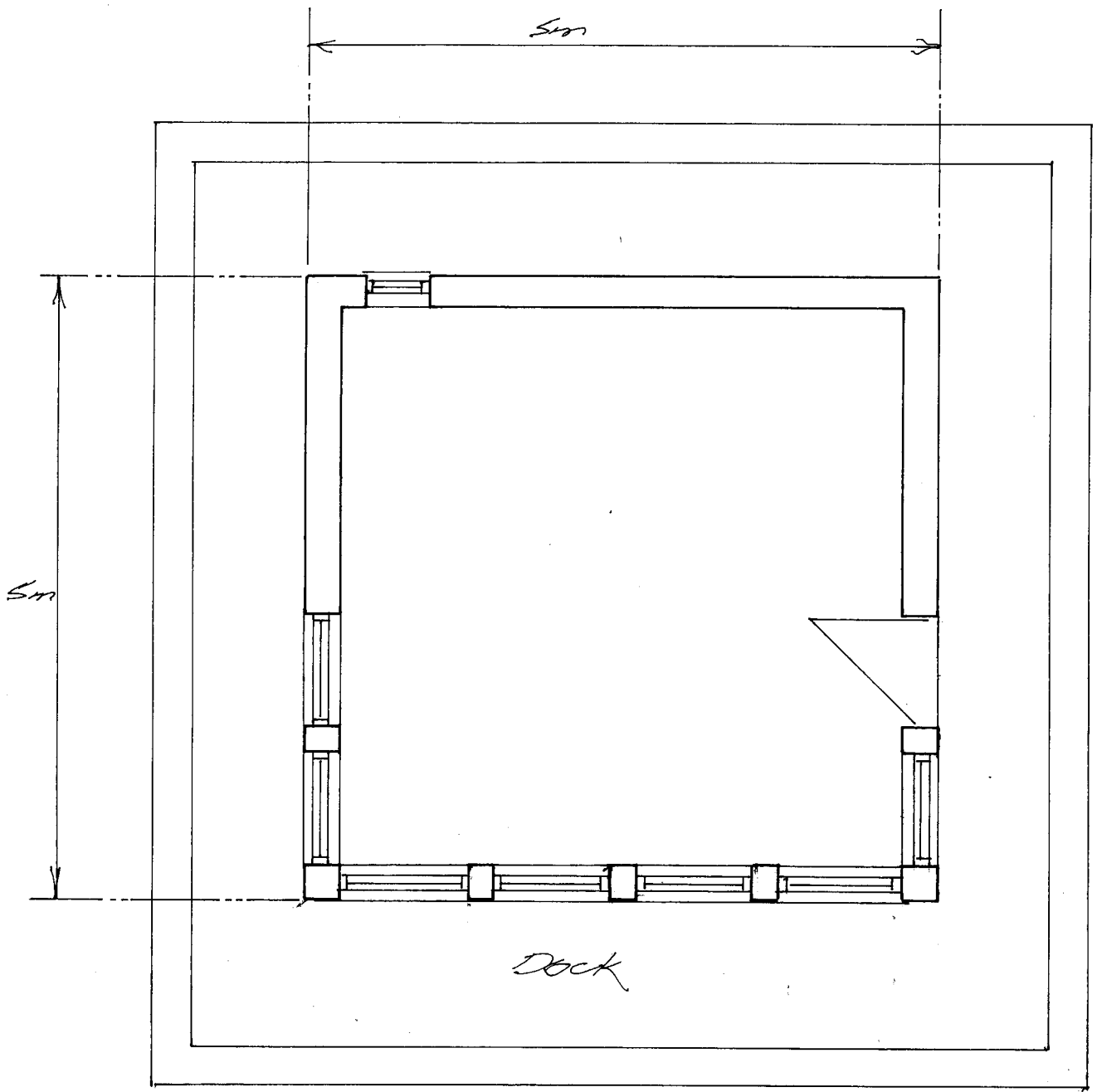
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THE ECONOSPACE PROJECT

NORTH ELEVATION 1:50

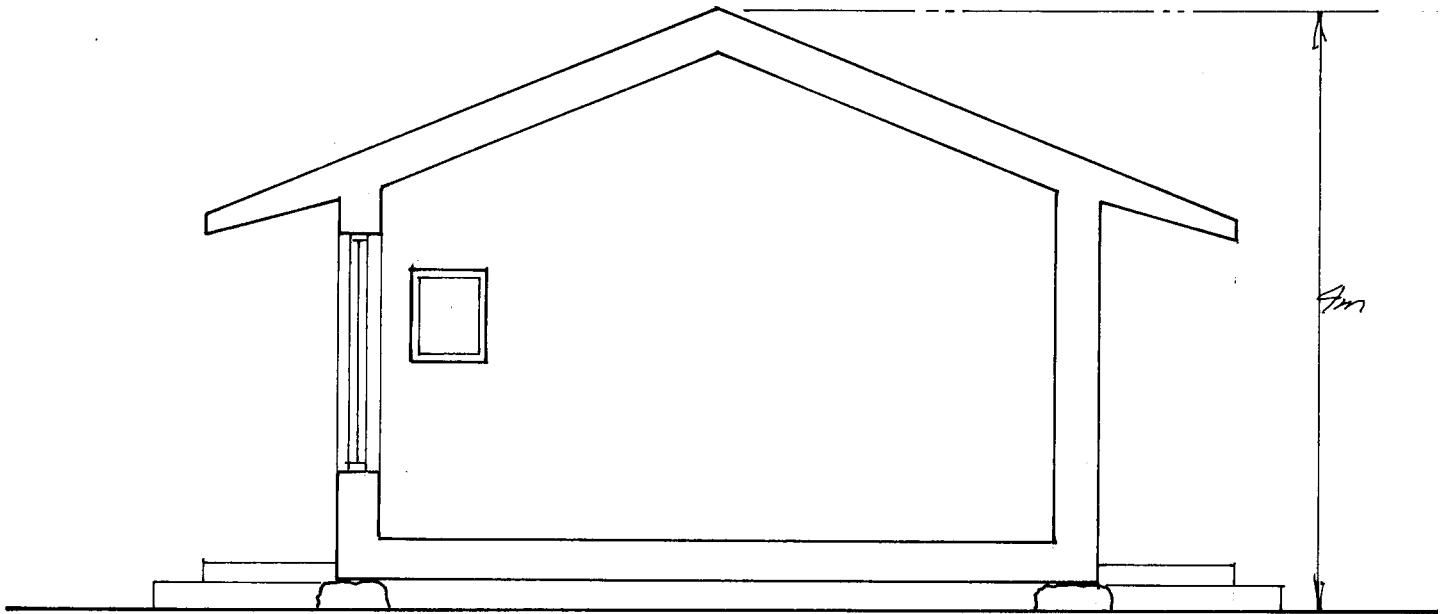
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THE ECONOSPACE PROJECT

PLAN 1:50

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THE ECONOSPACE PROJECT

CROSS SECTION 1:50

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THE ECONOSPACE PROJECT

BASE	Stone pads to all Peter Posts
STRUCTURE	Timber frame as per details
WALLS	250mm HempLime with sand/lime render internally and externally
FLOOR	200mm HempLime with subfloor and selected Red Deal finished floor
WINDOWS & DOORS	Red Deal units
ROOF	250 sheepwool insulation, timber sheathing, selected finish Selected Red Deal ceiling
HEATING	Solar gain stored in sand/lime render Floor cavity to afford convective distribution of solar gain to entire floor area
DECK	Selected softwood
FINISHES	Natural finishes throughout