ICA Housing Organisation
London Symposium
8th October 2010

The Pines Calyx®
and the extension
of zero carbon design to
community housing projects
The Bay Trust
Exploring New Models of Sustainable Living
‘from a ‘grass roots’ perspective…
An Explanation of the Project

Re-thinking the way we live our lives...
Where is it?

[Image of building and garden]

[Image of garden]

[Image of logo: pines naturally inspiring]

[Image of garden]

[Image of building and garden]
St. Margaret’s Bay
4 miles from Dover
What is it?
Centre for Sustainable Living

Developing Real Health & Wellbeing...
  Optimising Performance / Realising Potential

Minimising Our Footprint ...
  Zero Carbon Buildings / Clean Tech / Biodiversity

Acquiring New Skills...
  Outdoor Learning / Permaculture / Sustainable Construction

Building a Sustainable Community...
  Energy / Food / Water / Waste / Transport /
  Affordable Housing / Local Enterprise

Re-thinking the way we live our lives...
“Real-Health”

“A healthy mind in a healthy body in a healthy community, in a healthy environment”
Real-Health: Core Values

• Community benefit
• Collaboration
• ‘Cradle to Cradle’ Sustainability
The Pines Calyx®
A Conference, Training & Events venue for the Low Carbon Economy
Nature as guide and mentor…

“You cannot solve a problem at the same level of thinking that created it”

Albert Einstein
How important is the built environment to our health and wellbeing?

…and our natural environment?
Thus.. ‘Health’ is the starting point for the design of the building

Seeking out a reference point for wholeness and healthy living
Reconnecting with the natural world – and each other
i.e. ‘Real Health’

‘Nature is only interested in health’
Design for Health and Wellbeing

**Air Quality:** fresh sea air

**Air Temperature:** spaces naturally cooled in summer and warmed in Winter

**Materials:** untreated, natural

**Light:** Daylighting & ‘Virtual Daylight’

**Visual Appearance:** Unobtrusive / flows into the surrounding landscape
Re-thinking the way we live our lives
and the way we manage our communities and businesses…

Following the sustainability trail…

..Energy,
Shelter,
Water,
Food,
Waste
Transport
and
Biodiversity,
Re-thinking the way we manage our communities and local businesses...

Overview of the Village of St Margaret’s at Cliffe

• St Margaret’s is a seaside village set on the White Cliffs of Dover in Kent; it is located 4 miles from the town of Dover.

• The village has approximately 3000 permanent residents with around 1370 households.

• Village Amenities include Village Hall, Post Office, Shop, 5 pubs, 5 Tea Rooms, 2 hotels and a range of B&Bs

• The estimated total electricity consumption for the village community is **8,300,000 kWh/yr.**
  - 82% from households
  - 15% from businesses
  - 3% from agriculture
Sustainable St Margaret’s

*Re-thinking the way we live our lives...*

Time to re-think the way we live our lives...?
Some of the challenges we face locally....

Climate Change ...

+ 
  • Rising Energy Costs & the challenges of ‘Peak Oil’
  • Future Water Shortages
  • Increasing Waste Management Costs
  • Car Congestion
  • Increasingly Elderly population
  • Lack of Affordable Housing
  • Lack of Youth Facilities
  • Lack of local employment opportunities
  • Population migration (young people & key workers moving out)
  • Decreasing provision of local services – potential loss of post-office, shop(s), medical practice, school(s)...
  • Security concerns
Sustainable St Margaret’s

Re-thinking the way we live our lives...

Are we going to.....

Do Nothing!

Wait for the Government...
Sustainable St Margaret’s

Re-thinking the way we live our lives...

Or...take Responsibility...

© Original Artist
Sustainable St Margaret’s

*Re-thinking the way we live our lives...*

Some Goals.....

- Take personal and collective **Responsibility** for re-thinking the way we live our lives (re ourselves, our environment, our community)
- Become Self-sufficient for **Energy, Waste & Water**
- Reduce our Carbon Emissions (if possible to zero) especially re **Buildings & Transport**
- Develop a thriving **Local Economy**
- Maximise **Food** production from land in and around the village
- Develop the **Attributes, Knowledge** and **Skills** we need for healthy sustainable living
- Maintain the **Beauty, Peace** and **Tranquillity** of our village
- Create a **Secure, Happy, Healthy, Well-balanced Community** for ourselves and for our children
Sustainable St Margaret’s

Re-thinking the way we live our lives...

**Four Community Groups**

- Community Energy Centre
- Village Energy Group
- First Light Coast & Country
- Responsible Tourism Sustainable Transport

**Working towards these Goals**

- Parish Council
- The Bay Trust

- Greener...
  - Public Buildings / Spaces / Policies / Facilities

- Local Food Production
  - Improving Biodiversity
  - Educating / Inspiring

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Sustainable St Margaret’s
Re-thinking the way we live our lives...

Community Land Trust

- Village Energy Group
- First Light Coast & Country
- Parish Council
- The Bay Trust

- Community Energy Centre
- Responsible Tourism Sustainable Transport
- Waste
- Local Enterprise
- Water
- Affordable Housing
- Greener... Public Buildings / Spaces / Policies / Facilities
- Local Food Production Improving Biodiversity
- Educating / Inspiring

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Re-thinking the way we live our lives...

- Improved Quality of Life
- Thriving Local Economy
- Better Local Services
- Improved House Values
- Local Enterprise Opportunities
- Key Workers Stay
- Improved Community Spirit
- Feel Good
- Independence / Self-Sufficiency
- Lower Living Costs
- Inspiration for Other Communities

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Sustainable St Margaret’s

Re-thinking the way we live our lives...

From this...
Sustainable St Margaret’s

Re-thinking the way we live our lives...

To this....
Sustainable St Margaret’s

Re-thinking the way we live our lives...

‘ENERGY DESCENT PLAN’ – SOME OVERALL TARGETS

ENERGY
Become Net Exporter of Energy to the National Grid by 12/2012

WASTE
Become a Zero Waste Community by 2015

WATER
Become Self-sufficient in Water by 12/2013

FOOD
Maximise food production on land available within community...

BIODIVERSITY
Actively manage natural habitats to protect and promote biodiversity...

TRANSPORT
Reduce community CO₂ emissions from transport to 500 Kg / person p.a. by 2013

LOCAL ECONOMY
Become an award winning Responsible Tourism destination

AFFORDABLE HOUSING
Provide c.40 Units of affordable (Eco)Housing for the Elderly and Key Workers

PUBLIC REALM
Improve community quality of life through provision of facilities for the Youth & Elderly along with elegant and effective open spaces

IMPLEMENTED WITHIN VILLAGE PLAN FRAMEWORK
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

- Integrative Health Team
- GP(s)
- Dentist(s)
- Care Services (various)
- Information Centre
- Café / Health Food Shop
- Library / Internet Café

£ - Drives

Sustainable Transport Programme
Sustainable Waste Management Programme
Sustainable Water Management Programme
Sustainable Public Realm Strategy

‘Responsible Tourism’/ Sustainable Local Economy

Community Farm / Local Food Production

Sheltered Housing

Co-Housing / Affordable Housing

Environmental Education & Training
Children & Adults
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

Key Organisations shaping the Process:

- Social Enterprise
- Parish Council
- Environmental Educational Charitable Trust
- Village Community
- First Light Coast & Country
- Local Village Enterprise & Business Group
- ‘Sustainable St. Margaret’s’ CIC
- Community Energy Services Co
Businesses have to grow. Anything alive has to have growth.

Growth is good. But businesses have to grow health instead of sickness.

Bill McDonnough
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

2. Environmental Education & Training for Children & Adults

Following the sustainability trail...
3. Co-Housing / Affordable Housing

**Existing Buildings***
- Reusing buildings reduces/removes time/costs in respect of the planning process
- Average demolition costs of a 3 bed semi is now around £40K.
- Reusing existing homes could make an initial savings of 35 tonnes of CO2 per property by saving on the embodied energy of a new build.

*‘New Tricks with Old Bricks’ Study*
Publication by the Empty Homes Agency (EHA) and the Building and Social Housing Foundation (BSHF) March 2008.
3. Co-Housing / Affordable Housing

Responding to the pent up demand in society for a more sustainable and sustaining way of living...

New build projects... learning from successful co-housing development models in Europe and North America...
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

4. Sheltered Housing

Changing Demographics leading to the urgent need for appropriate imaginative approaches to support the elderly with dignity.

- to support ‘Sageing’, not aging!...

Maintaining health & vitality...
Reducing Fuel Poverty...

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Key Elements of an Evolving ‘Real-Health’ Sustainable Community

5. Community Farm / Local Food Production
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

6. ‘Real-Health Centre’ - Healthy Living Centre

- Integrative Health Team
- GP(s)
- Dentist(s)
- Care Services (various)
- Information Centre
- Café / Health Food Shop
- Library / Internet Café

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7) Community renewable energy generation opportunities…?

Key Options Considered:

• Wind
• Biomass
• Anaerobic Digestion
• Voltage Optimisation
• Tidal Power
• Micro Generation
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

7. “Community Energy Centre”

4.5 MW WID Bio-Mass system

Total cost £16.5 million
Annual Revenue £3,548,913
Payback Period 4.5 years
Return on Investment 22%

16 Permanent Jobs Created / CIC holds Minimum 20% stake

CIC ££s – Drives…..
➢ Sustainable Transport Programme
➢ Sustainable Waste Management Programme
➢ Sustainable Water Management Programme
➢ Sustainable Public Realm Strategy

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Key Elements of an Evolving ‘Real-Health’ Sustainable Community

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- Local Village Enterprise & Business Group
Key Elements of an Evolving ‘Real-Health’ Sustainable Community

Next Steps......

1) Establish Frameworks for effective community engagement & involvement

2) Agree Appropriate Community Land Trust Financing & Community Representation

3) Identify Social Enterprise Partners (e.g. Housing Association, Local PCT, Local CIC &c.)

4) Sequenced Project Delivery in accordance with..
   a) Parish Council’s Village Plan &
   b) Village Energy Group ‘Energy Descent Plan’
“You can never change things by fighting the current reality. To change something build a new model that makes the existing model obsolete”

Buckminster Fuller
Thank you for listening

Alistair Gould, MRICS, CEnv., The Bay Trust
www.baytrust.org.uk