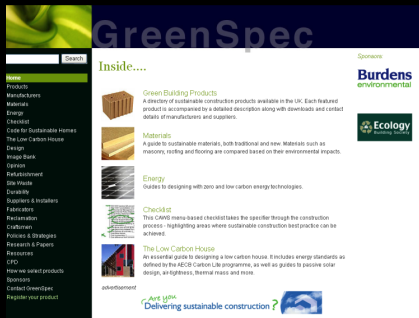


LCA EPD EP EAM

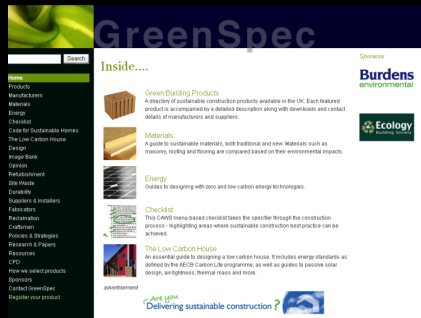
Life Cycle Assessments
Environmental Product Declaration
Environmental profiles
Environmental Assessment Methods



EU & UK Tools

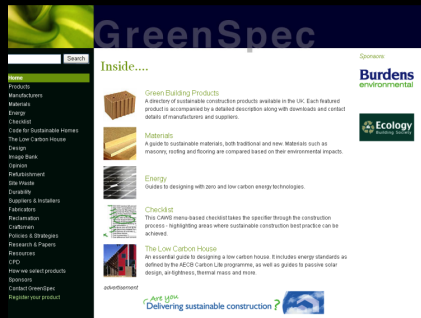
- natureplus
- WhiteSwan
- Minergie
- GI Label
- IBO
- Passivhaus
- PHPP
- CD2E
- CAP'EM

- EcoHomes
- BREEAM
- Code for Sustainable Homes
- ZEDStandards
- One Planet Products
- Carbon^{lite} Programme
- SPEAR
- DREAM
- GreenSpec PASS
- GreenSpec EPD



EU

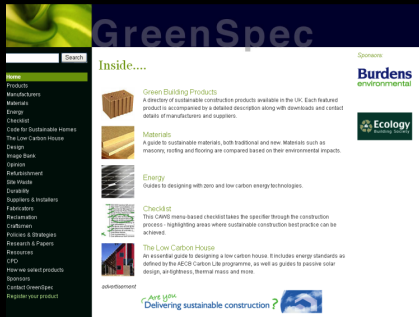
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EU Product Assessments

natureplus Germany

- (EcoLabel) which analyses products individually, not materials and not elements
 - Competence, Environment & Health
 - Includes LCA
- very few materials meet this standard;
- cements, plastics and synthetics do not pass.
- Indoor air quality is an important issue
- natureplus based in Germany are actively seeking opportunities to expand into other European states with a growing number of national outposts
- www.natureplus.org

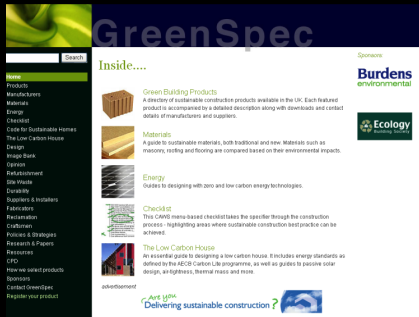


IBO Austria

- Österreichisches Umweltzeichen (Austrian ecolabel)
- klima:aktiv haus (Embraces indoor air quality & Passivhaus standards)
- Environmentally orientated Online databases for building materials:
 - www.ixbau.at
 - www.oebox.at
 - www.baubook.at

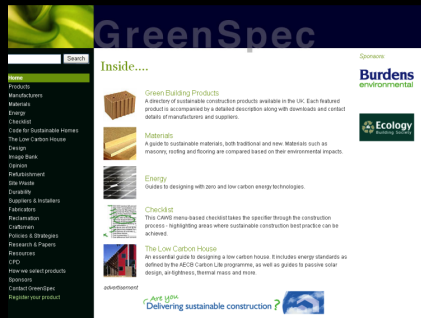
GI Lable Switzerland

- **Guttes Innenrauklima**
- **Focuses on materials and indoor air quality**
- www.eco-bau.ch
- www.innenraumklima.ch
- www.s-cert.ch



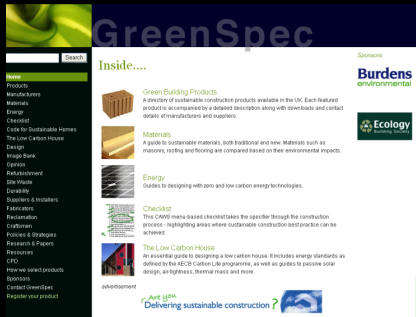
CD2E France

- are similar to GreenSpec
- but fully funded by local and regional government
- they have a low cost Environmental Profile system that may inform CAP'EM project
- www.cd2e.com



CAP'EM

- **Cycle Assessment Procedure for Eco-Materials (LCA)**
- **5 North West Europe (NWE) regions and nation states and 10 organisations**
- **German, French, Dutch, Belgique, English, products**
- **With EU Interreg IVB NWE funding from 2008:**
- **Environmental Profiling system for eco materials made by NWE SMEs**
- **Creates an LCA environmental profiling method**
- **web based tool, free to use by manufacturers or specifiers**
- **100 products profiled as materials not assemblies**
- **Natural plant based and mineral based products**
- **150 generic materials assessed in 5 countries**



EU Energy Standards & Calculations

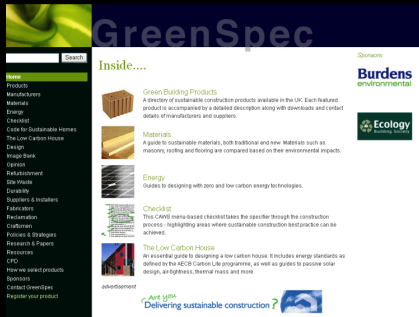
Minergie,
Passivhaus & PHPP,

Minergie Switzerland

- Energy Standard with optional add-ons
 - Like Germany's Passivhaus
- Minergie-Eco
- Minergie P-Eco
- (P = Passivhaus)
- www.minergie.ch

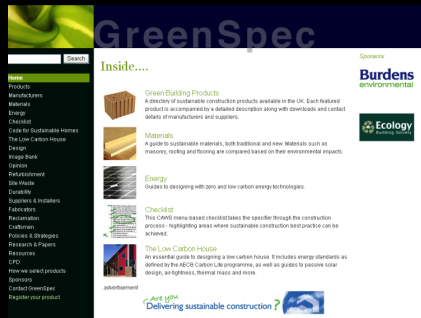
Passivhaus Germany

- standards are energy focussed, and products are now made and assessed against them.
- www.passivhausproducts.co.uk



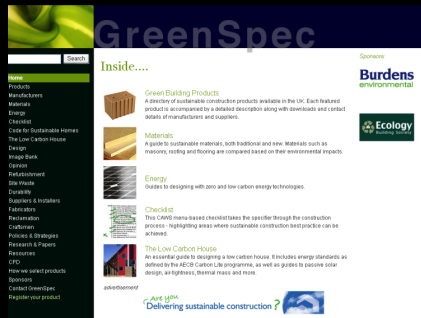
Passivhaus + IBO

- **Germany + Austria**
- **Energy standard + Eco materials**
- **A catalogue of ecologically rated construction**
- **130 methods of constructing elements**
- **130 eco alternatives**
- **Junctions between elements (airtightness and thermal breaks)**
- **Environmental Assessments/Profiles**



UK

Life Cycle Assessments
Environmental profiles
Environmental Product Declaration
Environmental Assessment Methods



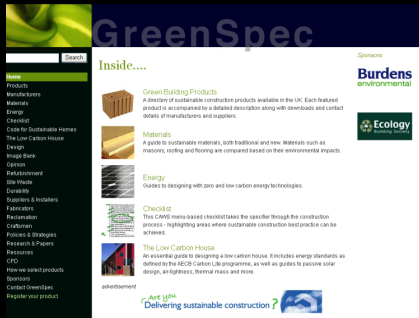
UK Materials Products Assessment

Green Guide to Specification

- Informs the EcoHomes, BREEAM & CfSH
- It's not green
- Its not a guide to specification
- BRE with the help of CPA & established industry created it, few innovators and no Green SMEs
- It does not include green materials
- It makes violet materials look green
- BAU Business As Usual
- Materials that drive up Carbon are shown as green
- We are rewarded with Credits for using them

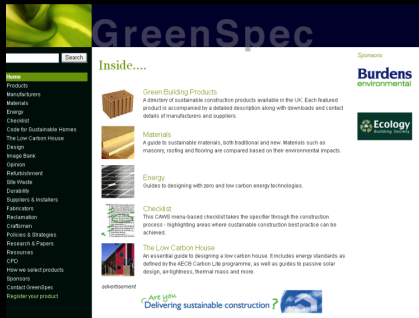
Green Guide to Specification

- Many groups challenging it
- So are at least 2 BRE departments
- GreenSpec, Good Homes Alliance, UK and EU SME manufacturers and green stockist companies ASBP involved in challenging: materials
- Many other keen to join in
- 50 page draft report circulated



What next?

- If the challenges are taken seriously and corrected CfSH and GGtS might become useful
- The current financial implosion will mean nobody will build
- 30% profit margins might have to fall for developers to stay in business

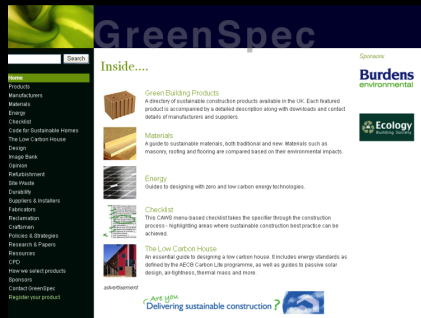


Green Book Live

- Environmental Profiles (LCA & EPD)
- Manufacturers Products
- Website

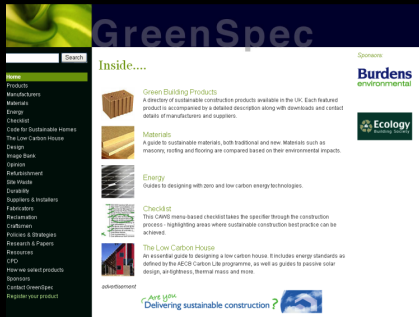
BioRegional One Planet Products (OPP)

- LCA environmental profiling system
- group buying scheme
- OPP includes a large number of plant based materials
- www.oneplanetproducts.com



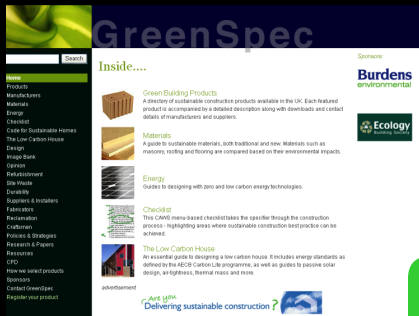
GreenSpec PASS

- Has its own method, a simple environmental screening system based on many positive attributes but also embraces negative impacts.
- GreenSpec PASS
- www.greenspec.co.uk
- 40-50,000 visitors/month
- Easy to use and find information
- Will become the Encyclopaedia of Green Construction



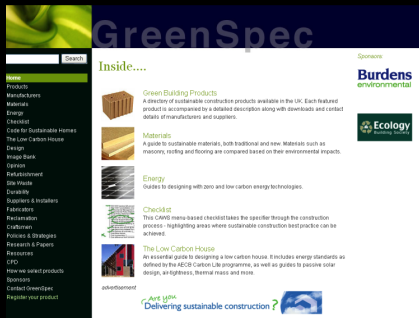
GreenSpec EPD

- **Based on CAP'EM & CAP'EM+10%**
 - **LCA & EPD**
- **Based on real Products**
- **Later implementation in BIM**
 - **With 3D CAD model**
 - **And Specification**



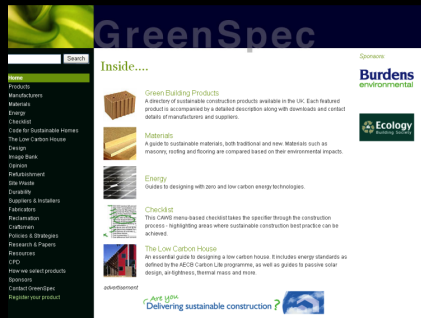
UK Energy Standards & Calculations

**SAP, SBEM,
CabonLite: PHPP for UK**



BRE SAP

- BRE have SAP software for house energy efficiency modelling
- It continues to be developed
- But it fails to work when addressing seriously low energy buildings & Refurbishment
- SAP is being challenged by AECB Carbon/*lite* Programme with DCLG
- It is used for Building Regulation Compliance
- PHPP Passivhaus method excels where SAP fails

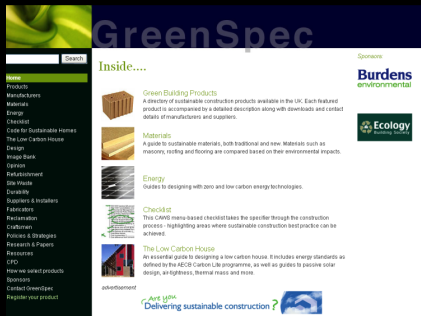


BRE SBEM

- Non-domestic version of SAP
- Launched in a hurry
- Everybody complained it did not work
- BRE kept on developing until the complaints subsided

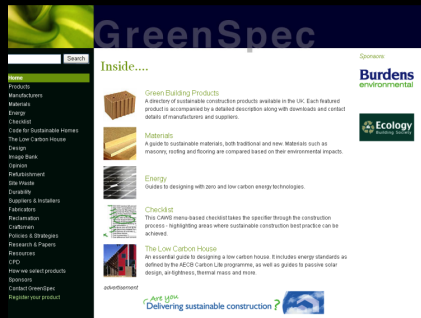
Carbon*lite* Programme

- **AECB Association of Environment Conscious Building**
- **Long time Greenies and Energy experts**
- **Know how to make Low Carbon buildings with decades of experience**
- **Bronze, Silver, Gold and Platinum house standards,**
- **achievable avoiding Eco-Bling**
- **Monitoring to prove buildings work**



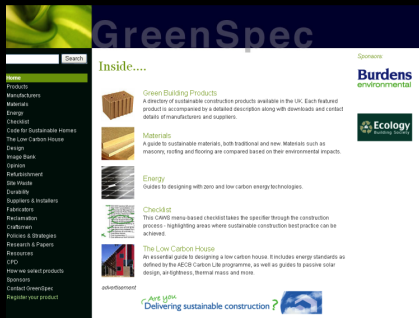
UK Environmental Assessment Method

BREEAM Code EcoHomes



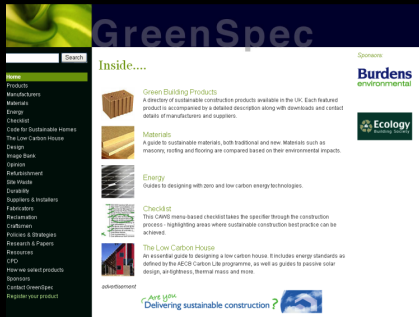
UK EAM

Environmental Assessment Methods



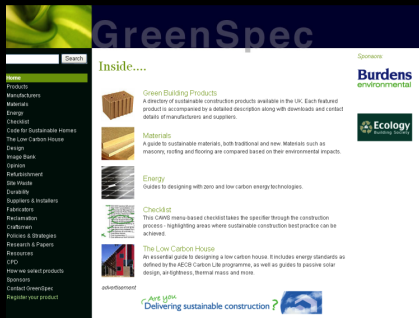
SPEAR

- **ARUP consultancy offer manufacturers environmental profiles, it may be related to the SPEAR EAM**
- <http://www.arup.com/environment/feature.cfm?pageid=1685>



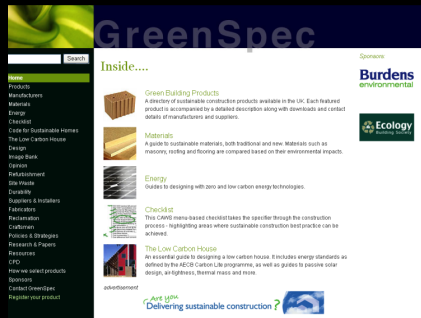
DREAM

- Defence Related Environmental Assessment Method
- MoD & Defence Estates
- BRE claimed Copyright Infringement unjustifiably (same subjects overlap)
- Now BRE are moving towards DREAM methods



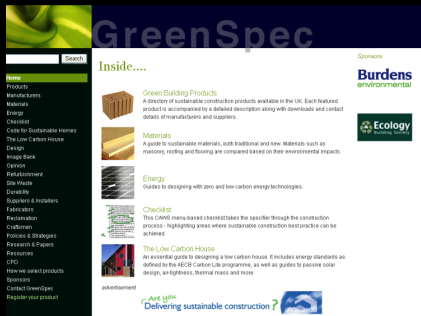
ZEDstandards

- **Zero Emissions Development (ZED)**
- **ZEDfactory developed global ambitions and set project targets to meet them**
- **ZEDproducts and ZEDfabric(ations) promoted via ZEDbook.**
- **Projects like BedZED have prototyped some advanced technologies and services**
- **Carbon Neutral Toolkit**
 - A kit of parts invented and prototyped by ZEDfactory at BedZED
- **Suitable for:**
 - Use by other designers
 - Housing and other building types
 - New build & refurbishment
 - a buyers' club for quantity discounts
- **www.zedstandards.com**



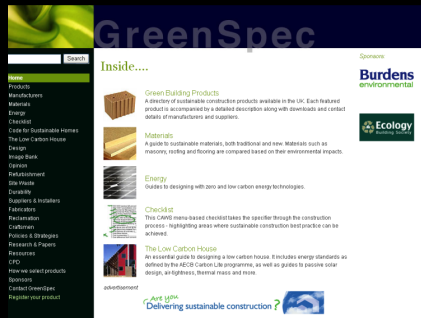
EcoHomes

- **For conventional industry:**
 - A step in the right direction
- **For Greenies:**
 - Not far enough, by a long shot
- **Voluntary and not adopted widely**
 - No teeth
- **Valid in Scotland,**
- **Fail, Pass, Good, Very Good, Excellent**
- **Nothing special**
- **Works with Green Guide to Specification**



EcoHomes XB

- **EcoHomes for eXisting Buildings**
- **But focussed on stock management for Housing Associations**
- **Made little if no impact on Decent Homes Programme**
- **Domestic Existing building stock are our biggest urgent priority**
- **Ineffectual**



BREEAM

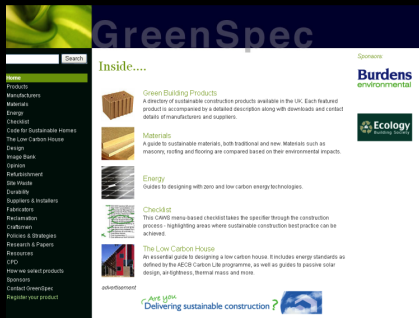
- Applies to non-domestic buildings
- Similar comments to EcoHomes apply
- Fail, Pass, Good, Very Good, Excellent, Outstanding.
- Works with Green Guide to Specification
- Pushing the boat out?
- Boat never left the dock
- My project brainstorm sessions address real issues but frequently fail to score a BREEAM credit
- except 1 for having the brainstorm session

Code for Sustainable Homes

- Created by BRE, Boffins in white coats?
- Created in a hurry?
- Full of woolly thinking
- Efforts are focussed in the wrong areas, targets & details
- All are now being challenged:
 - Water consumption
 - Material choices
 - Energy consumption
 - CO2 generation

Code for Sustainable Homes

- Built off EcoHomes but better
- A stride in the right direction
- But not far enough in some respects and too far in others
- Progressively becomes mandatory for all by 2016
- Engaging developers and house builders
 - One-upmanship is rife
 - Driving ambitions for Code 4 5 & 6 houses
 - But few know how and CfSH does not provide know-how



Code level 4 5 & 6

- We regard 1 2 & 3 a waste of time
- Code 4 is relatively easy to achieve
- Code 5 is as far as we would recommend most should go
- All achievable using building fabric, thermal insulation, airtightness, cold bridge avoidance, good components
- Code 6 (Zero Carbon) needs EcoBling to meet targets

Existing Buildings

- We need to work hard on bringing our existing building stock up to Code 4 or 5 before pushing any to Level 6
- Houses and non-domestic
- Make then Level 6 ready
- GreenDeal is arriving

BREEAM for existing

- Nothing useful to add
- Non-domestic existing building stock is our second biggest urgent priority

GreenDeal

Government? Advisors?

- **Decided we need to do more studies on existing building eco refurbishment methods before we start**
- **Learn from New build before tackling existing**
- **but they are nothing like each other**
- **We already know how to refurbish them**