**NGS National Green Specification**



GBE Green Building Encyclopaedia

Grand Designs Live 2023

Grand Designs Magazine Theatre

**How to Design Sustainably**

Panel discussion including: Dara Chen, [BrianSpecMan](https://greenbuildingencyclopaedia.uk/about/brian-murphy-aka-brianspecman/)

Saturday 06 May 2023

10:30 - 11:15

Panel Discussion 2 HOW TO DESIGN SUSTAINABLY

Complete the brief before starting the design, sketching can start too soon, before complete brief resolution

DEFINITIONS

* Sustainably = Environmental, Social and Economic
* Economic means compromise towards business as usual, towards profits before people before planet
* Sustainable outputs not sustainable business: Not Sarah Beeny’s approach
* Buildings and their occupants that do not demand too many (more than an ethical fare share) of our only planet’s resources that prevent others (humans and wildlife) now and in the future, ad infinitum, from living comfortably on one carbon-rationed planet with finite resources.

RIBA Stages 0 to 7 = linear economy circular diagram; RIBA+ Stages 0 to 9 = Circular economy

SOCIAL:

* Client’s Brief => Employer’s Requirements => Specification
* Educate the client to make good green future-facing demands of the design team
* Accommodation requirements, hours of use, lifestyle clothing v temperatures

ECONOMIC:

* Client’s budget is the upper limit:
* Set the building budget: deduct fees, preliminaries, profits, overheads, contingencies, land, landscape from budget
* Use recent past projects costs as a guide (GBC GRC seminar)
* Don't let the QS define the violet cost plan for a green building, nobody needs to know how cheap it could have been
* Its their major investment, give them what they asked for not what our industry normally provides
* Don't let a PM define a short sited programme, a realistic one for all the trades to work at comfortable speed and care

ENVIRONMENTAL:

Green and Future Facing:

Within the skillsets of the design team or get a better individual or team

Define requirements:

Written down, set priorities, weight their importance and

Hold the design team accountable

DESIGN LIFE & DURABILITY & MAINTAINABILITY

Normal Life: 60 years (50 years INT) sets the tone for many other issues

CHALLENGING OR LEGAL MINIMUM?

 Form Factors to help set targets beyond regulation for low running costs

 Form factor to influence Form or make an expensive building to heat

Regulations, Design Standards, Campaign targets,

Certification or targeting and missing

 Not just U values, (winter heat loss) Decrement Delay (Summer heat gains)

 Building orientation, window orientation and roof orientation

 Glazing percentages in E, S & W elevation and competent solar shading to S

 Thermal comfort, heating format and glazing specifications

 Radient heat requires Low Emissivity windows and rooflight

Calculated

* [I wish carbon counting were easy, it is now (Green Building Calculator (GBC & Retrofit GRC) How it works:)](https://greenlivinglive.com/sustainable-future-theatre/wish-carbon-counting-easy-works-green-building-calculator?&sortby=customfield_5850%20asc&searchgroup=libraryentry-sustainable-future-theatre)
* 05 May 2023, 11:00 - 11:45, Sustainable Future Theatre

LOW INITIAL COST v LONG TERM RUNNING COSTS (Ditto GBC)

 Don't focus on the first at the expense of the second

HERACEY™:

HEALTHY (may have special allergy, EMR or other requirements)

 Choosing materials and product to match requirements

 MSDS Materials Health and REACH compliance

ENVIRONMENTAL:

Set targets then work to reduce to meet those targets

Do not BREEAM and record your bad choice

Carbon, Water, Chemistry, Emissions, Waste

RESOURCEFUL:

Existing building? Reclaim v Reuse, Circular economy,

Waste minimisation by design: waste is a design issue not a site issue

Ska (more comprehensive) not BREEAM (scratches the surface, green label for business as usual)

APPROPRIATE:

Understand the existing site and what it offers and design accordingly to maximise that which is free

Site specific issues, solar access, wind driven rain index, local, seasonal, climate, microclimate, flood risk appropriate

Mass: Moisture, thermal, acoustic, Specific Heat capacity

Ventilation: Family size, Smokers, VOCs, Summer bypass,

Orientation:

Maximise solar gain in winter and exclude solar gains in summer

 Control solar gains from east and west

 Do not overheat bedrooms

 Optimise PV to work/consumption practices and minimise battery installation

COMPETENT:

Post Grenfell, New Regulation Landscape, Competency rules; Fire initially and all performance issues in time

 RIBA ARB education only aspires to awareness not competency

 RIBA ARB kneejerk reaction is Focus on Fire and Carbon, as if nothing else matters

 Product Competency: Databases and Green labels and LCA CPD

 PAS 2035: Refurbishment Risk Competency

EFFECTIVE:

 Designing to Regulations is ineffective and will not meet global targets

 Working to Design Standards will get us closer

 Complying with design standards and verification by testing makes a real difference

ETHICAL

 Checking for moral and ethical standards in supply chains

 No child labour, no modern slavery

 Legal ownership, sustainably managed, sourced, chain of custody

 If you don't know you don't care (B&Q challenge)

YARDSTICK

 Benchmarking set targets

 Calculated and compared with targets

 Specifications adjusted if targets not met

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30th April 2023 – 12th May 2023