



Best Value, Value Management & the Sustainability Agenda

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premise

- Sustainability demands :-
 - Understanding of client/user aspirations
 - Understanding of client/user values sufficient to make explicit best value
 - An appreciation of appropriate technology
 - A method for option appraisal



best value

- **Hong Kong Treasury Branch** guide to public procurement- "To achieve the best value for money, we take into account in our tender evaluation not only the competitiveness in price, but also compliance with users' requirements, reliability of performance, qualitative superiority, whole-life costs and after-sale support, where applicable."
- **USA** - Federal Acquisition Regulation (FAR Mar 2005) – "Best value means the expected outcome of an acquisition that ... provides the greatest overall benefit in response to the requirements".



definitions of best value

- Broad but contain the basic ingredients of value management and whole life costing – increasingly the term whole life value is being used in UK.
 - the greatest overall benefit in response to the user's aspirations
 - compliance with users' requirements
 - reliability of performance
 - qualitative superiority = whole-life costs made explicit



definition of value management

- Value Management (VM) is a service that maximises the functional value of a project by managing its development from concept to occupancy through the audit of all decisions against a value system determined by the client
- Two presumptions:
 - function of project identified
 - value system of client made explicit



definition of value engineering

- VE Definition
 - a structured approach to the provision of the user required functions at the least cost without compromising quality and/or
 - a structured approach to the identification and elimination of unnecessary cost i.e. cost which can not be correlated with user requirements

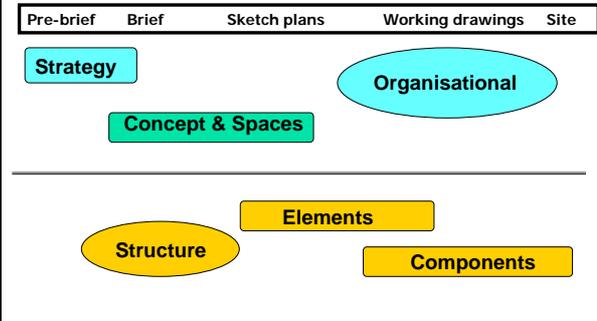


building characteristics

- Comprised of manufactured components
- Components form elements
- Elements form spaces
- Spaces reflect corporate organisation & strategy of client



a value management/value engineering approach to construction



sustainability

- Economic, Environmental & Social
- Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. - *World Commission on Environment and Development (WCED) in its 1987 report entitled Our Common Future. (the Brundtland Commission/Report).*



promoting sustainability

- Treaty – Kyoto
 - Some 141 countries, accounting for 55% of greenhouse gas emissions, have ratified the treaty, which pledges to cut these emissions by 5.2% by 2012. (not USA)
- Legislation – climate change levy; landfill tax; etc
- Creating a step change in the way we work – making sustainability an important part of the value equation



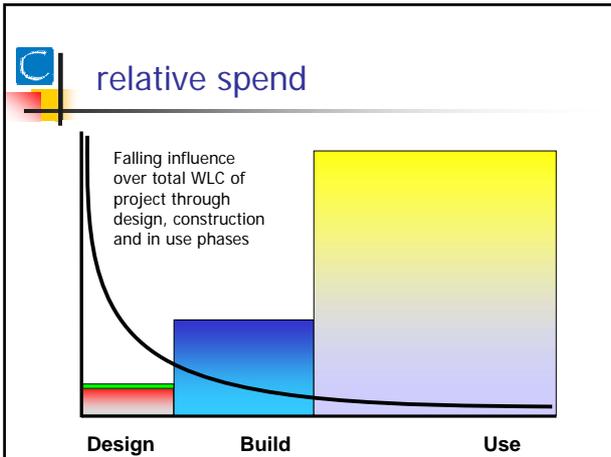
vm & sustainability

- if sustainability is important to the client and/or users then it has to be expressed as such in the client's value system.
- the client's value system will include:
 - capital cost or space
 - operating cost
 - time
 - politics community
 - earnings – sales or rent
 - esteem
 - flexibility
 - comfort
 - environment



vm sustainability & wlc

- a VM exercise will demonstrate the client's / users' requirements for a sustainable solution
- whole life cost will evaluate those requirements in quantitative terms

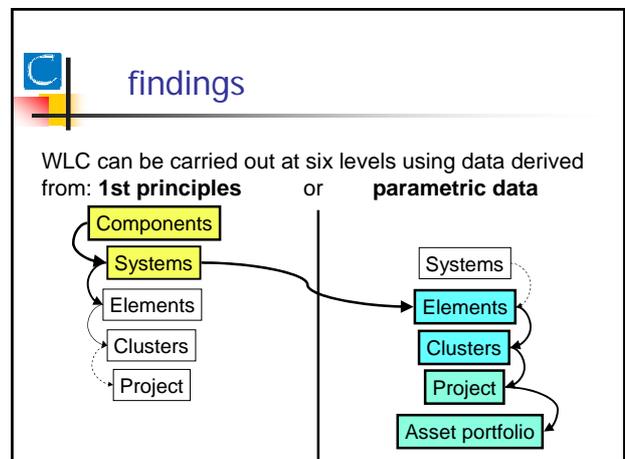


- ### overview of RICS funded study
- to establish a methodology for wlc as applied to sustainability
 - to describe generic rules of evaluation
 - to give examples
 - to consider embodied energy and other factors

- ### findings
- WLC is undertaken for one of two primary reasons:
 - To forecast a cashflow of a single design choice taking account of the time value of money
 - To facilitate a financial option appraisal of two or more design opportunities through a standardised procedure involving a specified study period and taking account of the time value of money

- ### the focus – energy generation
- Power/hot water generation options:
 - Photovoltaics
 - Wind power
 - Solar hot water
 - Ground water heat pumps
 - Biomass
 - Small scale hydro

- ### the focus – energy reduction
- Design options
 - Super insulation
 - Energy saving lighting (including LED's)
 - Ventilation
 - Orientation
 - Heat sinks
 - Moisture control





rules – lots of rules



- The study will state whether the data for the WLC exercise is built up from first principles or whether parametric data is used.
- Year zero shall be stated. Year zero is the point in time from which the study period commences. All relevant costs accrued prior to year zero are deemed to be capital costs.
- The study period shall be stated. The study period is the time from year zero to a given point in time in the future and over which the calculations pertain.
- The units of time shall be stated. The units of time are the increments to which the calculations refer and may be for example; years, months, weeks, days. All factors in the calculations, for example, interest rates will relate to the stated units of time.



unresolved - embodied energy

- the embodied energy of a commodity is the energy that is used during the entire life cycle of the commodity for manufacturing, transporting, and disposing of the commodity.

<http://redefiningprogress.org/programs/sustainabilityindicators/glossary/terms.html>

- an aspiration reluctantly abandoned



aluminium

- Alcan's preferred source of energy is hydro electricity which provides 57% of all electricity used in its primary smelters worldwide.
- Alcoa is building a 250,000 metric tonne per year geothermal energy-powered smelter in north Iceland.
- Transport energy is impractical or even impossible to calculate



unresolved issues

Micro energy: is the energy source is grid connected or has a battery/inverter energy storage system and if grid connected whether ROC's are applicable. If not grid connected or without storage then energy is dumped (often as heat).

New technology- products: difficult for manufacturers to predict the longevity of innovative products and their components.



unresolved issues

New companies: New companies are more prone to failure, takeover, etc and have difficulty offering credible long term guarantees.

New technology – design: It is difficult to estimate the extra over cost of sustainable design solutions for example, breathing walls, sun spaces, convection powered ventilation, etc.

What is the currency of sustainability: The currency of sustainability is variously quoted as kWh, £, CO₂, carbon units.



final observations

- structure is everything
- need a logical progression through a strategic statement and value equation (VM) to
- a technical option appraisal (VE)
- supported by a whole life costing methodology
- backed up by a standard approach and rules
- but with some acknowledgement of the pitfalls