

University of Melbourne Arts West Redevelopment: A case study in value-for-money sustainability

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Image Source: ARM + Architectus

Why?

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There is often a disconnect between building design and operational outcomes...

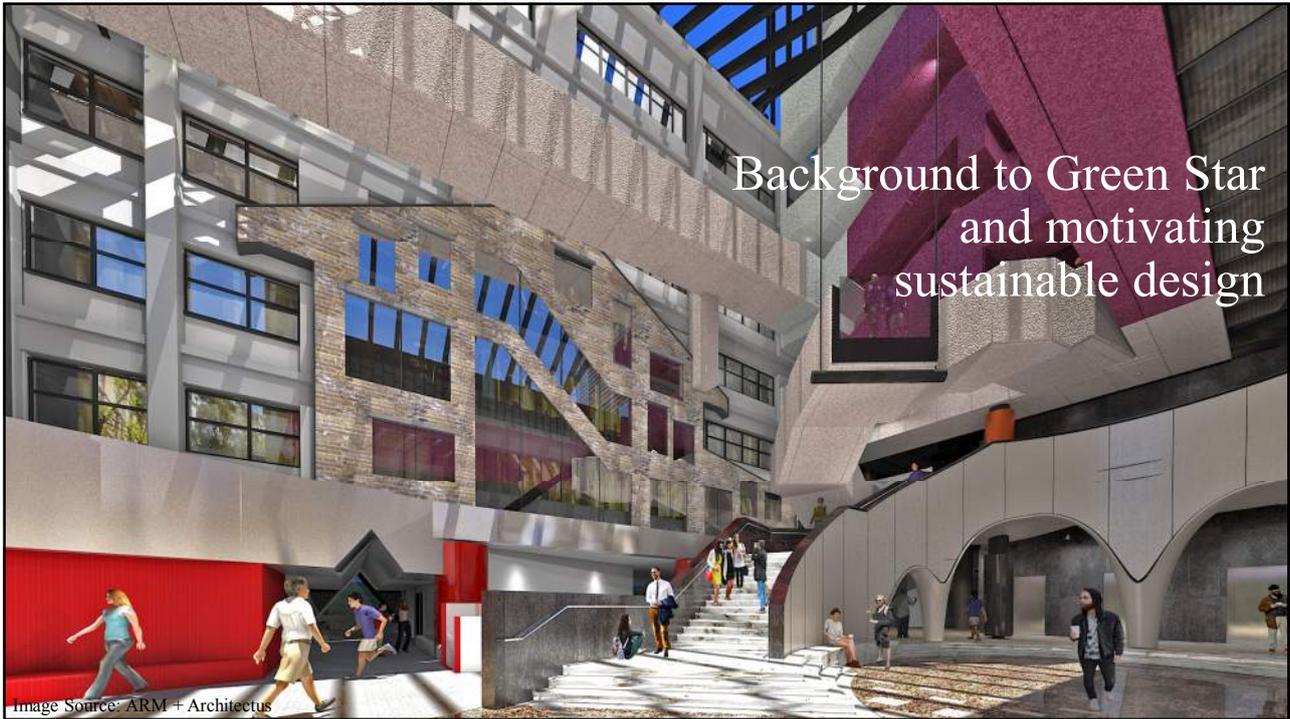
*The project groups using the Green Star framework often select categories that are the **cheapest and easiest** to implement to achieve the star ratings, **rather than** implementing design **features that** would **benefit the University in the longer term.***

Monash University 2013

So for Arts West, we tried something different by...

- Connecting Green Star strategy to value in a more transparent way
- Not focusing solely on a least-capital cost approach to Green Star
- Asking key stakeholders to engage in the process in a particular way
- Trying to protect the strategy through the D&C tender

Let's see how it has worked out...



The rating tool at a glance



Management

- Green Star Accredited Professional
- Commissioning and tuning
- Adaptation and resilience
- Building information
- Commitment to performance
- Metering and monitoring
- Construction environmental management
- Operational waste



Transport

- Sustainable transport



Emissions

- Stormwater
- Light pollution
- Microbial control
- Refrigerant impacts



Water

- Potable water



Innovation

- Innovation points are awarded for:
- Innovative technology or process
 - Market Transformation
 - Improving on Green Star benchmarks
 - Global sustainability benchmarks
 - Innovation challenges



Indoor Environment Quality

- Indoor air quality
- Acoustic comfort
- Lighting comfort
- Visual comfort
- Indoor pollutants
- Thermal comfort



Materials

- Life cycle impacts
- Responsible building materials
- Sustainable products
- Construction and demolition waste



Energy

- Greenhouse gas emissions
- Peak electricity demand reduction

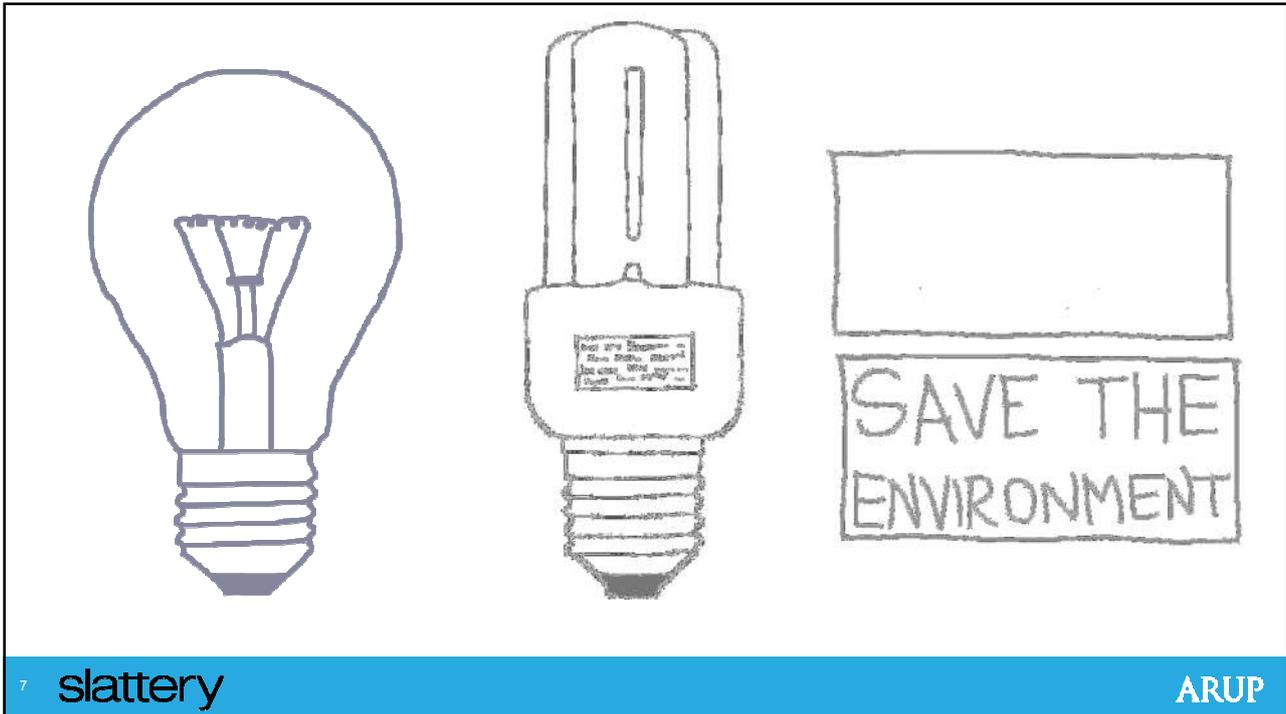


Land Use and Ecology

- Ecological value
- Sustainable sites
- Heat island effect



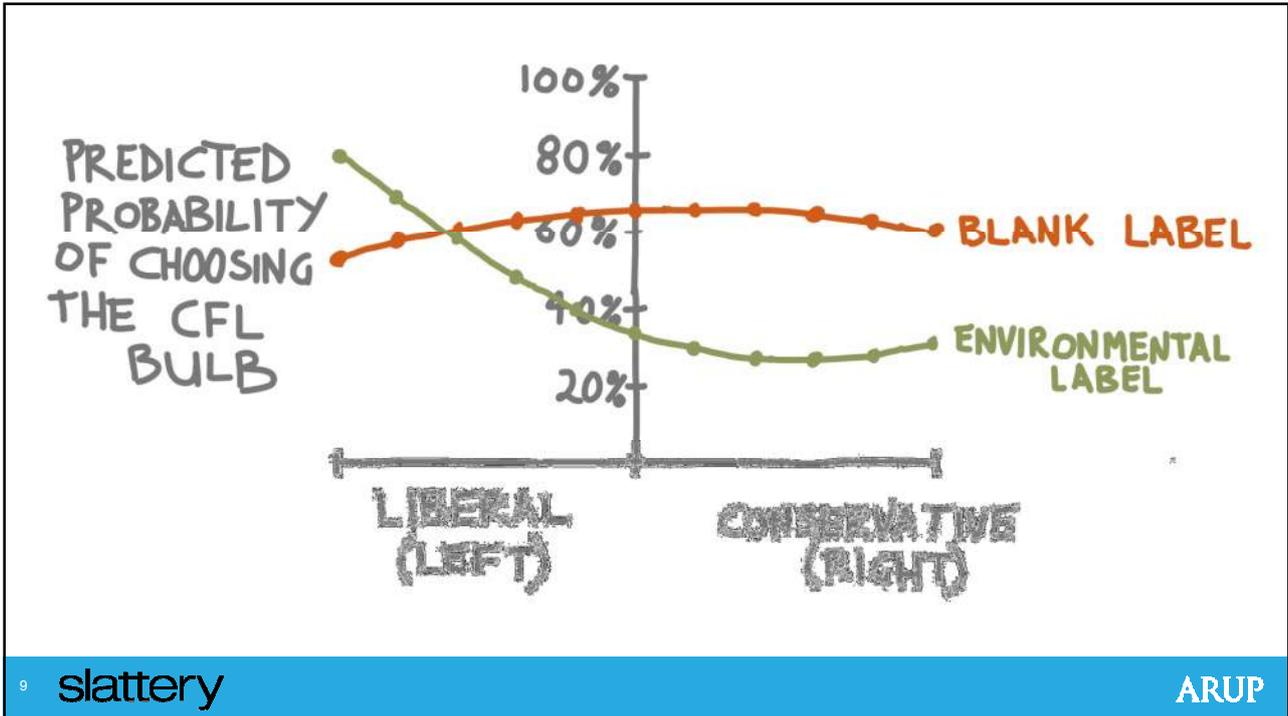
Developed by the
Green Building Council of Australia



	BLANK LABEL	ENVIRO LABEL
$\$CFL = \1		
$\$CFL = \frac{\$31}{7}$		

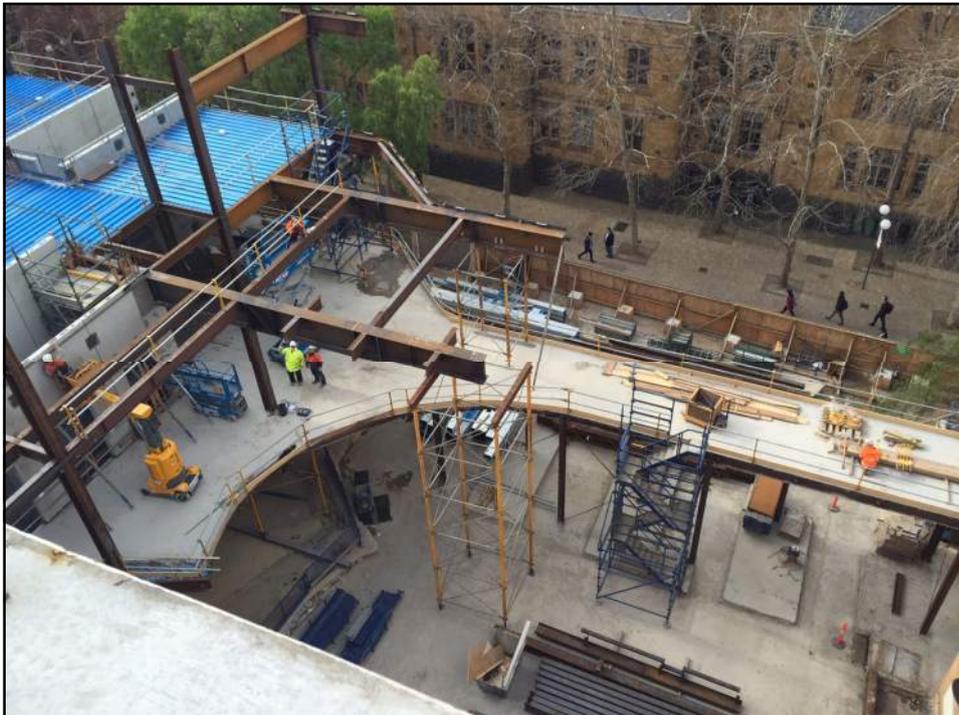
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Background
the Costing

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Percentage allowance

Functional Area	Scope	Area (m2)	Rate (\$/unit)	Rate (\$/m2)	Total (\$)
<i>East Building</i>					
Type A	40 No.	166	280,000	1,687	11,200,000
Type B	26 No.	152	255,000	1,678	6,630,000
Type B & Studio	5 No.	192	295,000	1,536	1,475,000
Type C	13 No.	160	255,000	1,594	3,315,000
Type C Double	6 No.	178	280,000	1,573	1,680,000
Type D	12 No.	174	275,000	1,580	3,300,000
Type E	20 No.	126	195,000	1,548	3,900,000
<i>Other</i>					
Allowance for central plant	Allowance				2,000,000
Lifts	2 No.				1,000,000
ESD Allowance to meet 5 Star Green Star	5%				1,725,000
Total Building Cost (at August, 2015)					36,225,000

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Included the costs in the detail

Functional Area	Scope	Area (m2)	Rate (\$/unit)	Rate (\$/m2)	Total (\$)
<i>East Building</i>					
Type A	40 No.	166	280,000	1,687	11,200,000
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<i>Other</i>					
Allowance for central plant	Allowance				2,000,000
Lifts	2 No.				1,000,000
ESD Allowance to meet 5 Star Green Star	Allowance				Included
Total Building Cost (at August, 2015)					34,500,000

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Detailed costing of Green Star Strategy

Functional Area	Scope	Area (m2)	Rate (\$/unit)	Rate (\$/m2)	Total (\$)
<i>East Building</i>					
Type A	40 No.	166	280,000	1,687	11,200,000
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<i>Other</i>					
Allowance for central plant	Allowance				2,000,000
Lifts	2 No.				1,000,000
ESD Allowance to meet 5 Star Green Star (refer to details)	Allowance				2,150,000
Total Building Cost (at August, 2015)					36,650,000

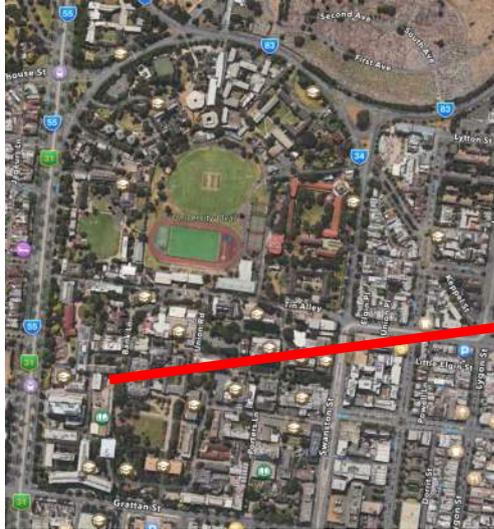
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University of Melbourne - Arts West Project Introduction



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The Arts West approach

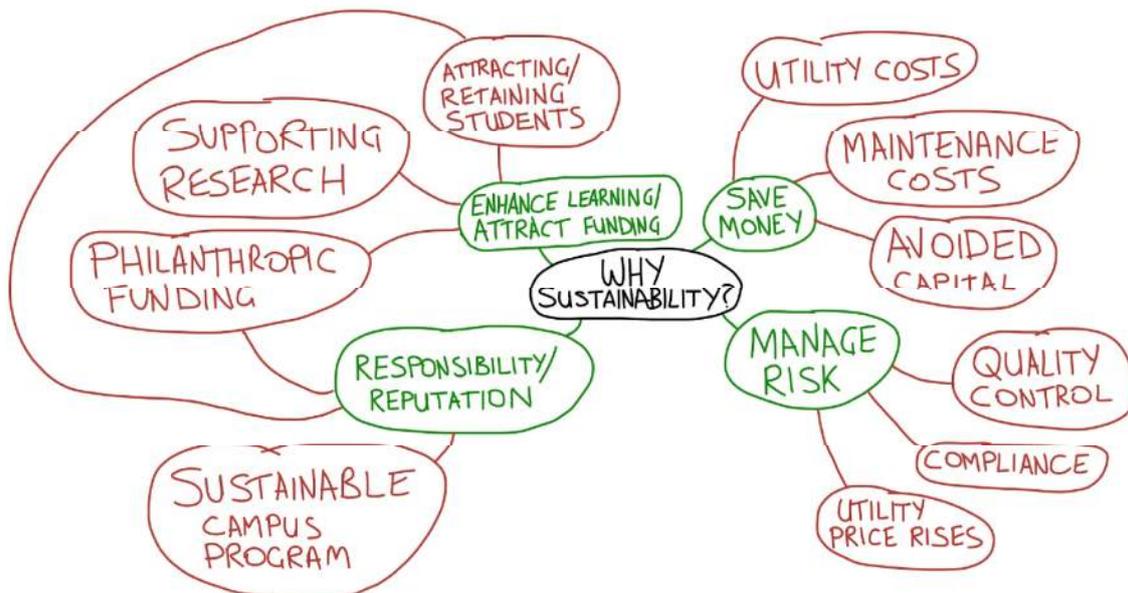
- Concept phase
 - Slattery estimated ESD budget
 - Arup identified credits worth considering

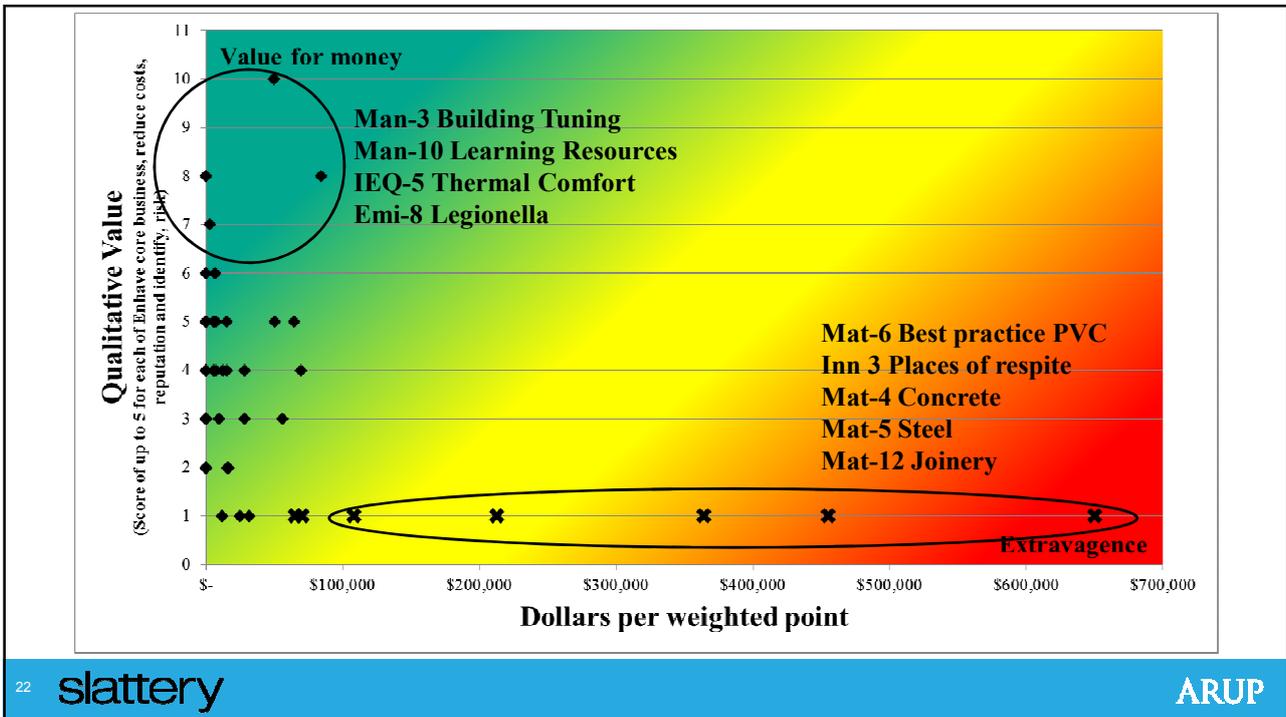
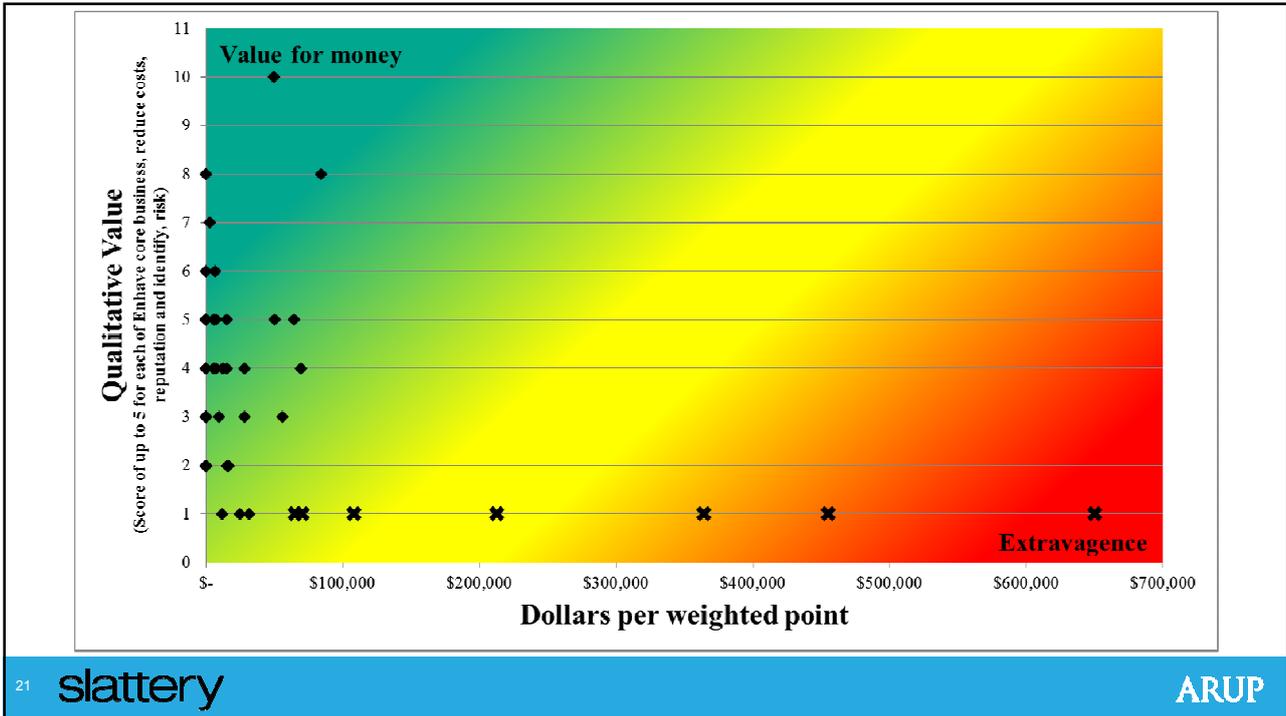
The Arts West approach

- Concept phase
 - Slattery estimated ESD budget
 - Arup identified credits worth considering
- Schematic phase
 - Slattery, Arup and LCI collaborate in estimating the extra over cost for each Green Star credit
 - Arup estimates value of each Green Star credit
 - Arup prepares cost vs value charts for review by key stakeholders

The Arts West approach

- Concept phase
 - Slattery estimated ESD budget
 - Arup identified credits worth considering
- Schematic phase
 - Slattery, Arup and LCI collaborate in estimating the extra over cost for each Green Star credit
 - Arup estimates value of each Green Star credit
 - Arup prepares cost vs value charts for review by key stakeholders
- Design Development and Tender phase
 - Final Green Star strategy agreed and documented for tender





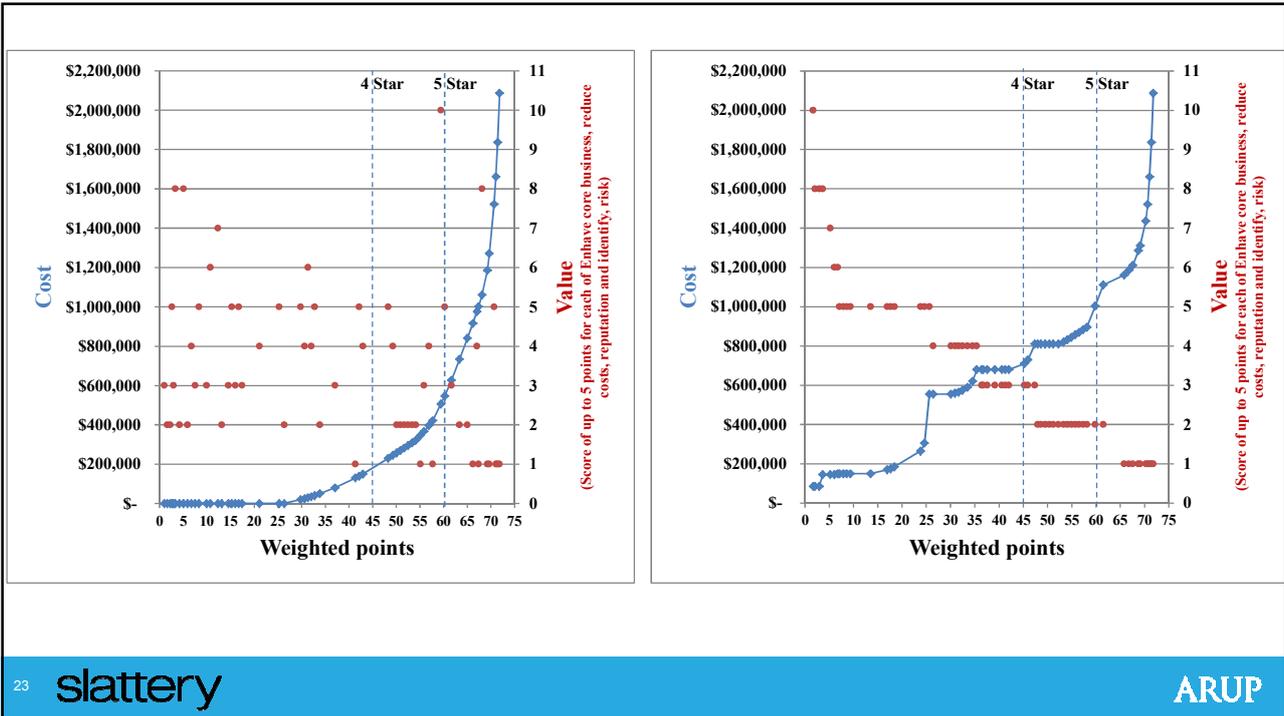
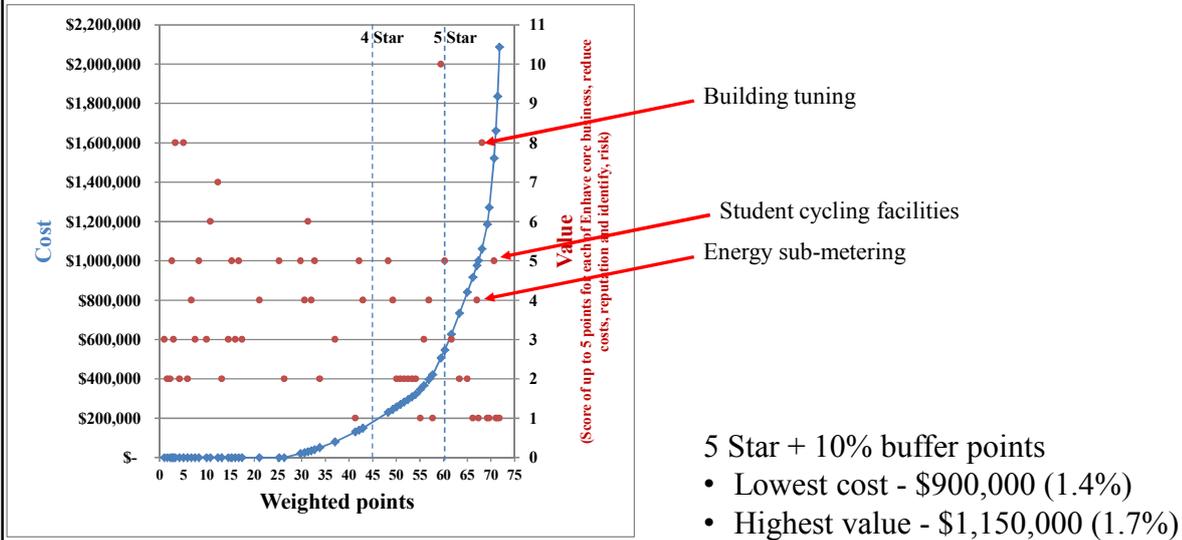


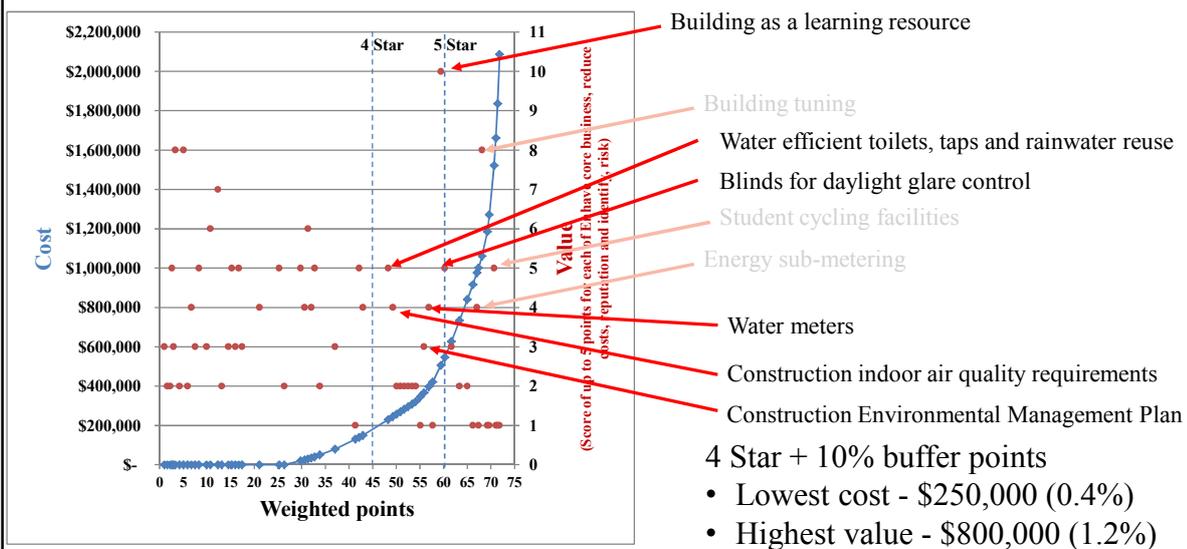
Image Source: ARM + Architectus

Discussion

How much does 5 Star Green Star cost?



How much does 4 Star Green Star cost?



Critical reflection – what worked well?

- Fostered stakeholder support by connecting ESD strategy to value
- Resulted in a higher value outcome rather than a cheapest approach
- Time and effort required by key stakeholders fitted within the design programme

Critical reflection – what requires more thought?

- How much does ESD actually cost?
- Resilience to Value Management processes
- Resilience to contractor changes

Questions?

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