



Action Sustainability

Danielle Mulder - Director

Agenda

1. Green procurement – state of play in Australia
2. Government policy and directives
3. The role of standards
4. Leading practice in the construction sector with case studies
5. Challenges and key success factors
6. Performance management and tools

Green Procurement: current state of play in Australia

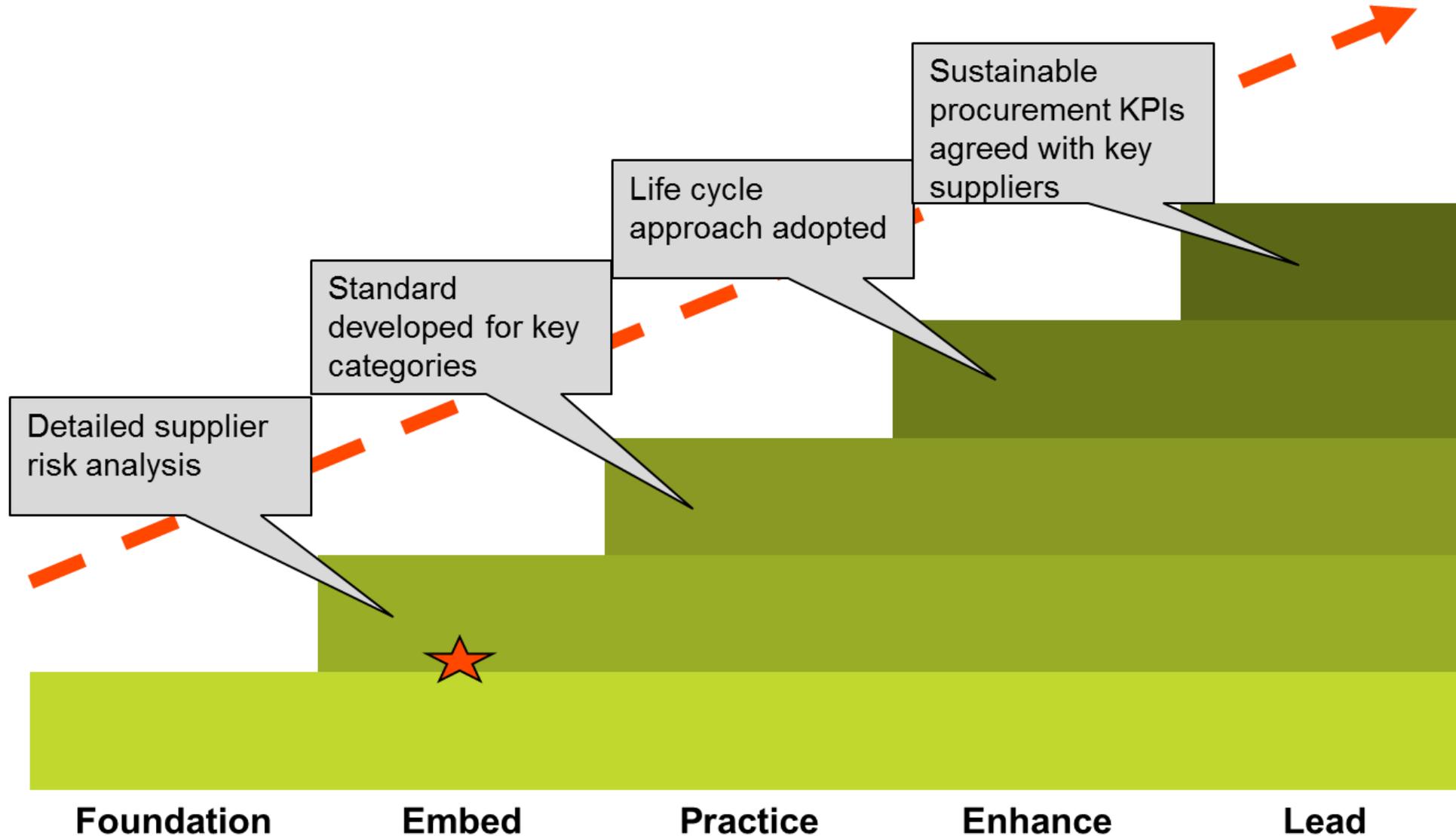
- Top down Federal level policy is lacking – focus on best value
- State level policies vary
- State departments demonstrating good practice – TfNSW, Health Victoria
- Some leading practice demonstrated in private/business sector – Westpac, Mirvac, Lendlease
- Sustainable procurement is the new frontier in sustainability practice



Sustainable procurement maturity: Australasia



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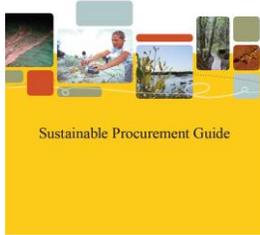


Government policy and directives



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ISO 20400



Sustainable Procurement Guide - Federal

- Sustainable procurement practice guidelines



- Sustainable procurement definition document



Fragmented policy and guidance
Big focus on value for money

ANZ Government Framework for Sustainable Procurement

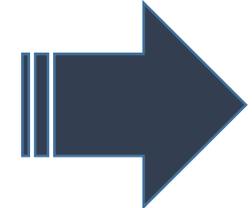
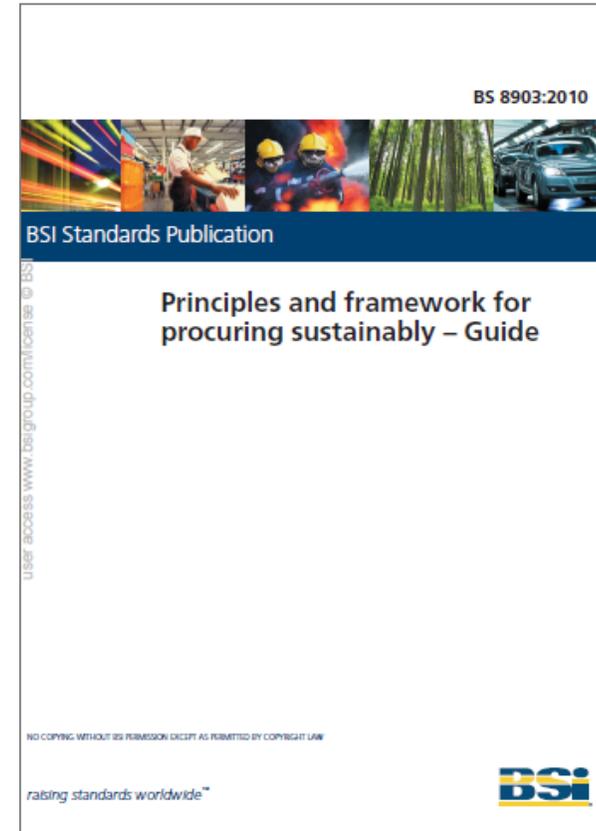
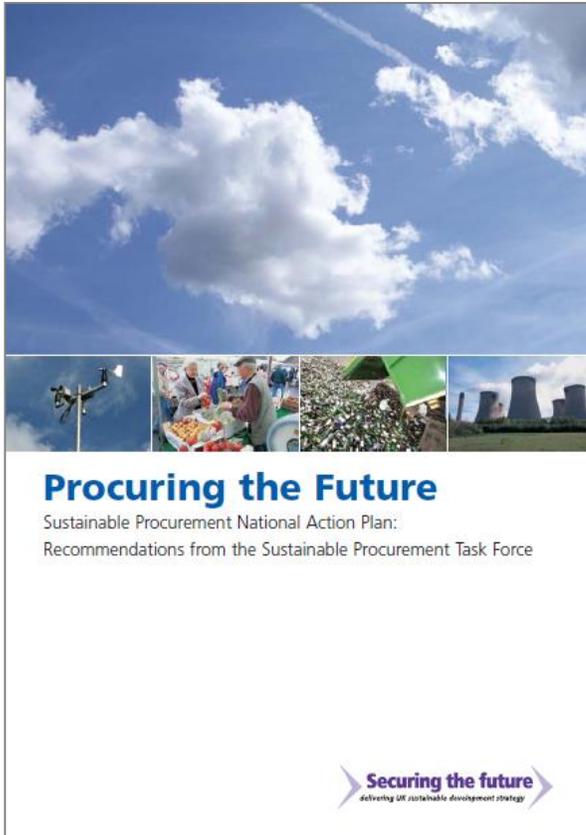
- procurement guide
- Climate Change Act

The role of standards and frameworks

Standards and trends

	<ul style="list-style-type: none">• National adoption of ISO20400: Sustainable Procurement in early 2017
	<ul style="list-style-type: none">• Projects comply with ISCA requirements, including on sustainable procurement
	<ul style="list-style-type: none">• Sustainable procurement and EPDs are built into the Green Star ratings scheme
	<ul style="list-style-type: none">• Procurement Accreditation Scheme: including Sustainability in next version
	<ul style="list-style-type: none">• Government Resource Efficiency Policy, Climate Change framework: getting more momentum
	<ul style="list-style-type: none">• Collaborative learning platform to build the capability of the Construction Industry supply chain
	<ul style="list-style-type: none">• Responsible Construction Leadership Group: forum for major contractors, facilitated by OEH

The journey towards ISO20400



Sustainable Procurement Best Practice

ISO 20400

The first international guidance standard on Sustainable Procurement



Sustainable Development Goals

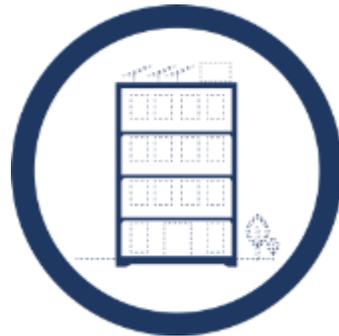


The role of standards

Green Star



Communities



Design &
As Built



Interiors



Performance

The role of standards



Green Star – Performance

Green Star – Performance assesses individual building operations against nine environmental impact categories:



Management



Indoor Environment Quality



Energy



Transport



Water



Materials



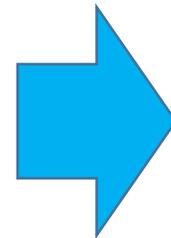
Land Use and Ecology



Emissions



Innovation



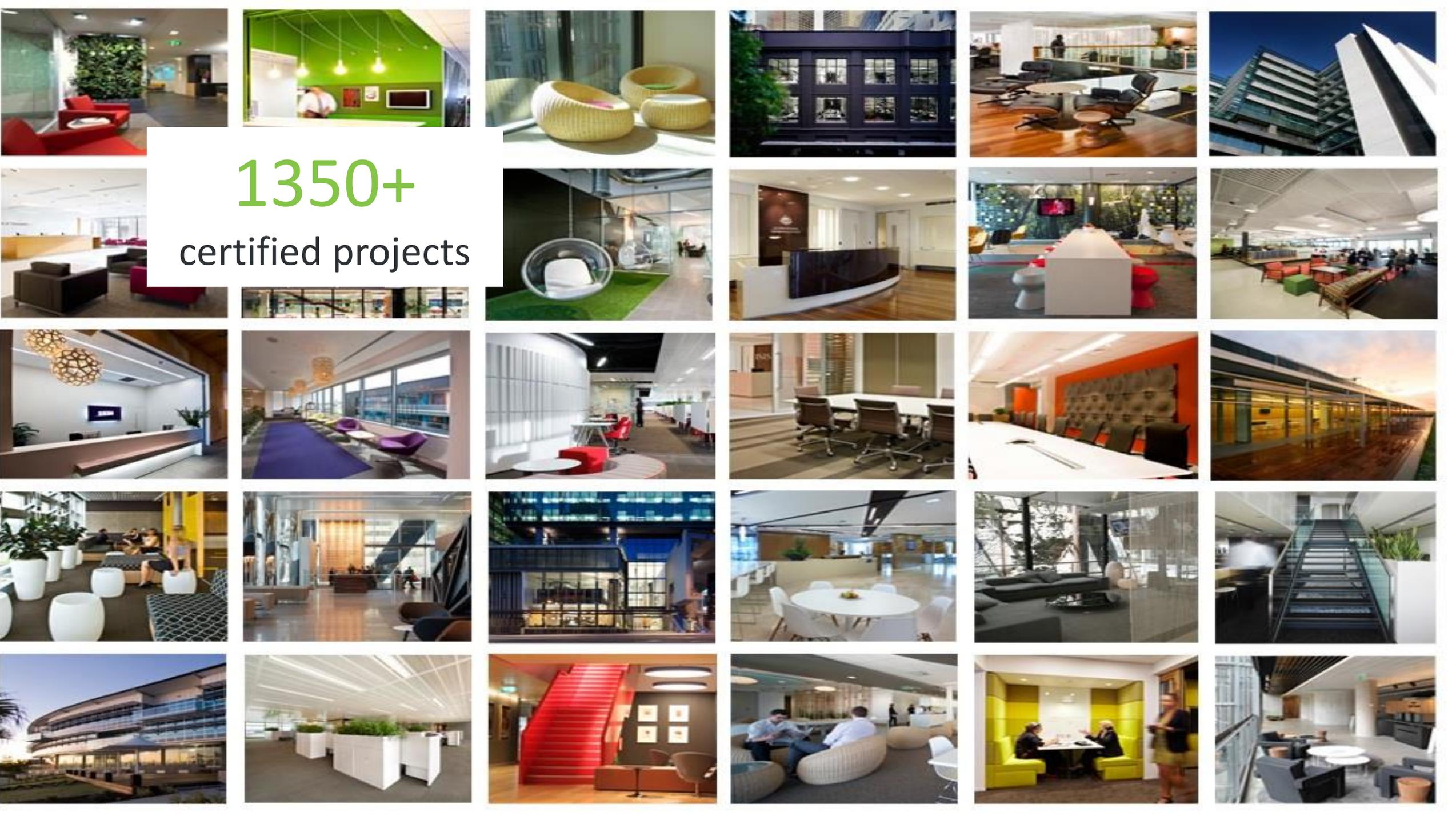
Procurement and Purchasing

The 'Procurement and Purchasing' credit rewards buildings for which a sustainable procurement policy has been developed and implemented and where the materials acquired for its operation, maintenance and refurbishment are procured in accordance with this policy.

As a minimum requirement, a procurement framework must be in operation that outlines metrics for measuring procurement results. This framework must be developed in line with a recognised standard or guideline, such as British Standard 8903:2010 or the *Australian New Zealand Government Framework for Sustainable Procurement*. This procurement framework may be the same as that outlined in the 'Commitment to Performance' credit.

Where a procurement framework is in place, points are awarded based on the percentage of the top three consumable materials (determined via the materiality assessment specified in the procurement framework) that has been procured in accordance with sustainable procurement specifications.

Additional points are available based on the percentage of refurbishment materials that are purchased in accordance with the sustainable procurement framework (calculated as a percentage of their total cost).



1350+
certified projects



- Member-based, not-for-profit, industry council
- Purpose: to improve the productivity & liveability of industry & communities through sustainability in infrastructure
- Education and awareness
- Advocacy
- Assurance projects, assets and professionals



- Sustainability rating scheme
- Measures sustainability performance across the quadruple bottom line
- Voluntary but can be mandated
- ISCA administers scheme
- ISCA facilitates independent certification
- ISCA facilitates ongoing benchmarking and development of IS tools
- ISCA trains and administers accreditation of professionals

IS Themes & Categories



Themes	Categories
Management and Governance	Management Systems
	Procurement and Purchasing
	Climate Change Adaptation
Using Resources	Energy and Carbon
	Water
	Materials
Emissions, Pollution and Waste	Discharges to Air, Land and Water
	Land
	Waste
Ecology	Ecology
People and Place	Community Health, Well-being and Safety
	Heritage
	Stakeholder Participation
	Urban and Landscape Design
Innovation	Innovation

The role of standards: ISCA

		Pro-1		Pro-2		Pro-3		Pro-4	
		1	2	1	2	1	2	1	2
Procurement and Purchasing	Commitment to sustainable procurement	1	There is a commitment to require environmental aspects to be considered in the procurement process	2	0.34	1.02	✓	3	1.02
		2	There is a commitment to require sustainability aspects to be considered in the procurement process						
		3	Requirements of Level 2 are achieved						
		3	The sustainable procurement commitments are publicly stated Sustainable procurement commitments are embedded into sustainability objectives and/or targets						
	Identification of suppliers	1	Potential suppliers requested to provide details of their environmental policy and its implementation	2	0.34	1.02	✓	3	1.02
		2	Potential suppliers requested to provide details of their sustainability policy and its implementation						
		3	Requirements for Level 2 are achieved						
		3	Engagement with potential suppliers is undertaken to explain sustainability requirements and expectations, and to help stimulate innovation in relation to sustainability through the procurement process.						
	Supplier evaluation and contract award	1	Supplier evaluation considers environmental aspects through use of qualitative criteria	2	0.00	0.00	✓	2	0.00
		2	Supplier evaluation considers sustainability aspects through use of qualitative criteria. Supplier contracts incorporate sustainability objectives and/or targets						
		3	Requirements for Level 2 are achieved						
		3	Supplier evaluation considers sustainability aspects through use of multi-criteria analysis or other scored means.						
Managing supplier performance	1	Suppliers have environmental objectives and/or targets	2	0.00	0.00		2	0.00	
	1	Supplier environmental performance is monitored for the duration of contracts, against the objectives and/or targets.							
	2	Requirements for Level 1 are achieved Suppliers have sustainability objectives and/or targets. Poor sustainability performance or non-compliance is actively managed							
	3	Requirements for Level 2 are achieved Contract managers work with suppliers to identify any emerging or new sustainability opportunities							





update

Registrations



Projects / Assets



Capital Value

\$80.4
billion

Product Labels

Type I: Certified eco-labels

- Overall environmental preference



Type II: Self-declared environmental claims

- Not 3rd party verified

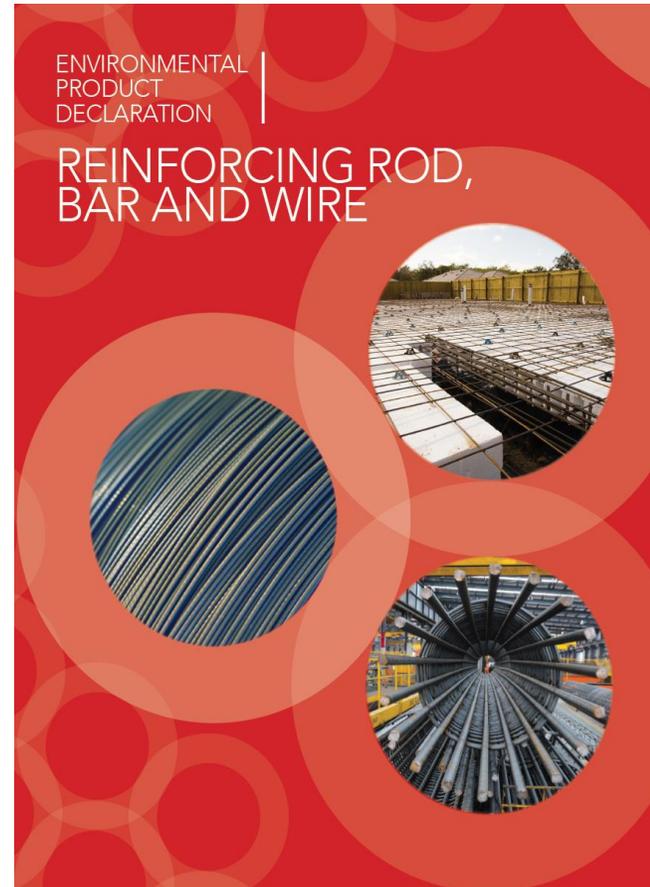
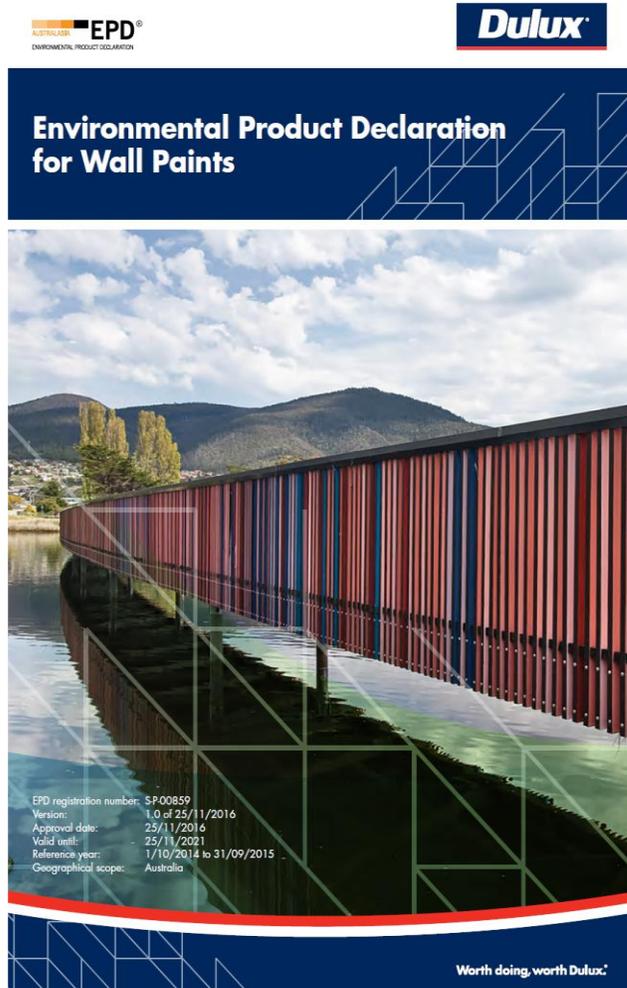


Type III: Environmental Product Declarations

- 3rd party verified but no preference



Building Products EPDs



onesteel BUILDING
POSSIBILITIES



ENVIRONMENTAL PRODUCT DECLARATION

PRINTED LUXURY POLYVINYL CHLORIDE FLOOR COVERING



Company Name: Karndeans Designflooring
Address: Karndeans Designflooring, 835 Stud Road, Knoxfield, Victoria 3180, Australia
Phone: +61 1800 428 963
Email: customerservice@karndeans.com.au
Website: <http://www.karndeans.com/en-au/floors>

Standards by product category



GECA Standards

Standards by product category

Adhesives, Fillers & Sealants	Carpets	Cleaning Products	Cleaning Services	Floor Coverings
Furniture, Fittings & Foam (A)	Furniture & Fittings (B)	Hard Surfacing	International Ecolabelled Products	Machine Dishwashing Detergents
Paints & Coatings	Panel Boards	Paper & Stationery Products	Personal Care Products	Printers & Printed Matter
Recycled Products	Refrigerants	Sanitary Paper Products	Textiles & Leather	Thermal Building Insulations Materials

A collage of images illustrating various product categories: a yellow sofa, a blue office chair, a stack of papers, a printer, a black bin labeled "ECHO crates", a potted plant, a mattress, a circular seal, a white shelving unit, a red and black office chair, a green and pink armchair, and several colorful cube stools.

Certified Site Furniture

In 2014, we embarked on a project to lift the quality of our site accommodation; our site office of the future became 'Nextplace Site Office'

- More open plan, collaborative work environment
- Fun and healthy finishes and colours
- High quality, ergonomically designed furniture
- Environmentally friendly (GECA certified) furniture, sourced from Direct Ergonomics for a number of Pilots



Leading practice in the construction sector

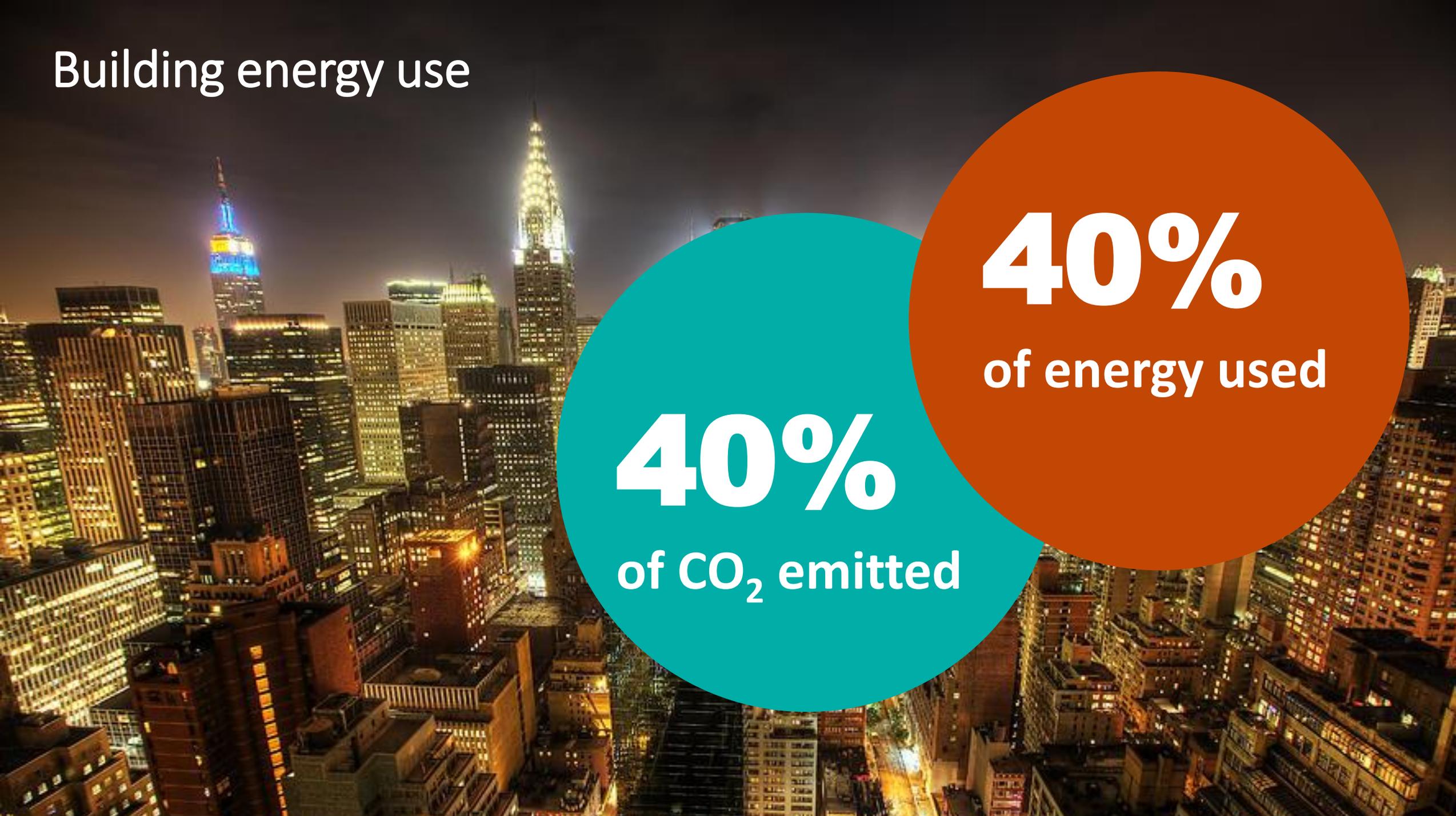
Context. The problem case.

The global population already consumes 1.5 times the resources that can be renewed in a year and 2 billion extra mouths to feed by 2050 will only intensify this pressure.



7.2 Billion and counting

Building energy use

An aerial night view of a city skyline, likely New York City, with numerous skyscrapers illuminated. The Chrysler Building is prominent in the center, glowing with white lights. To its left, another skyscraper is lit with blue and yellow lights. The rest of the city is a dense grid of lit-up buildings, creating a vibrant urban scene against the dark night sky.

40%
of CO₂ emitted

40%
of energy used



40%

of waste
produced

40%

of resources
used

How do we develop a greener built environment?

Design



Procure



Construct

Current trends

- Smart buildings
- Whole of life optimisation
- Climate change resilience
- Sustainable supply chains
- Social procurement
- Low embodied materials/EPDs
- Workforce engagement
- Placemaking/communities/SROI
- Biophilic design

Leveraging the buying process to achieve the best outcomes

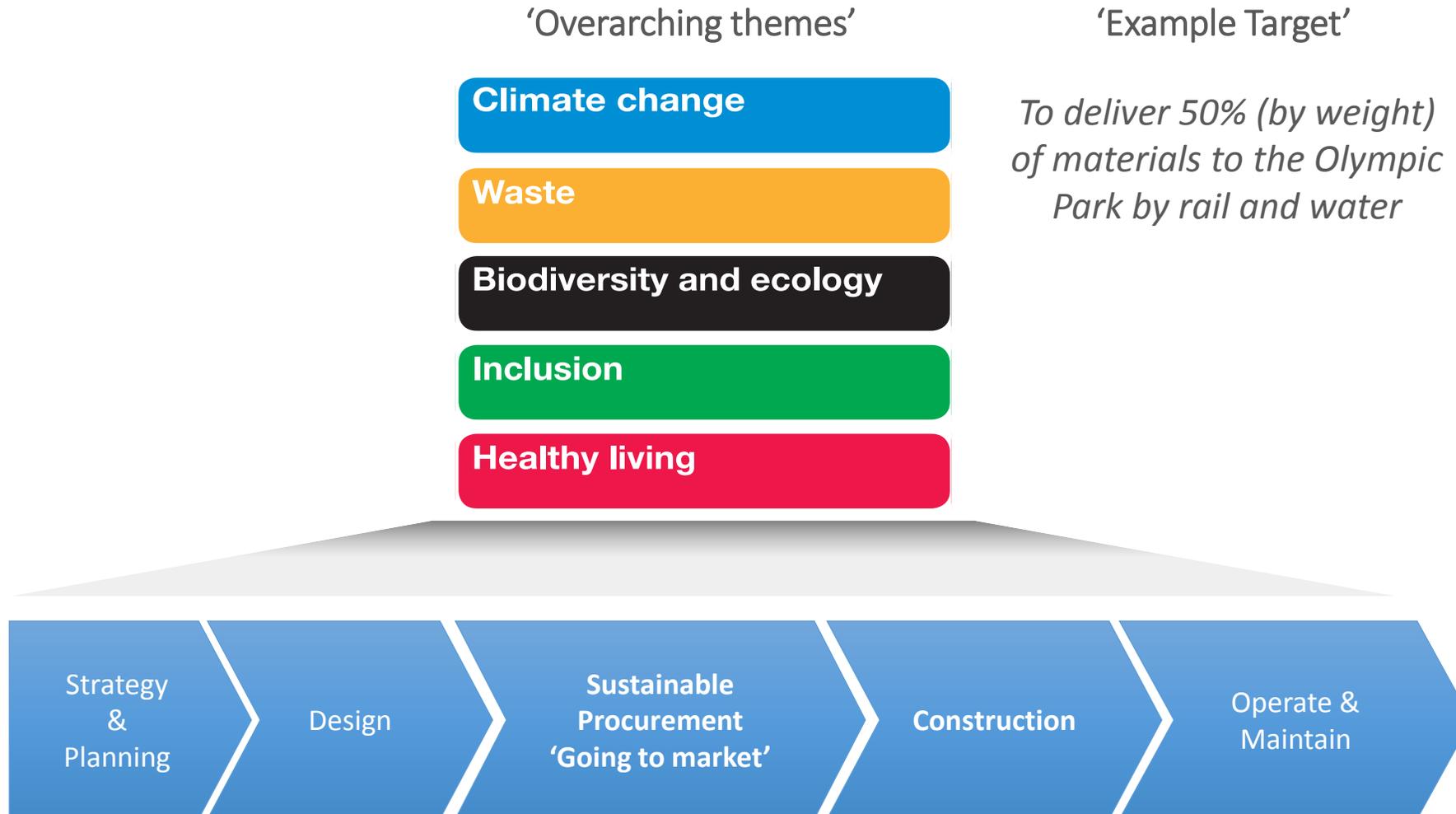


One Central Park Development - Sydney

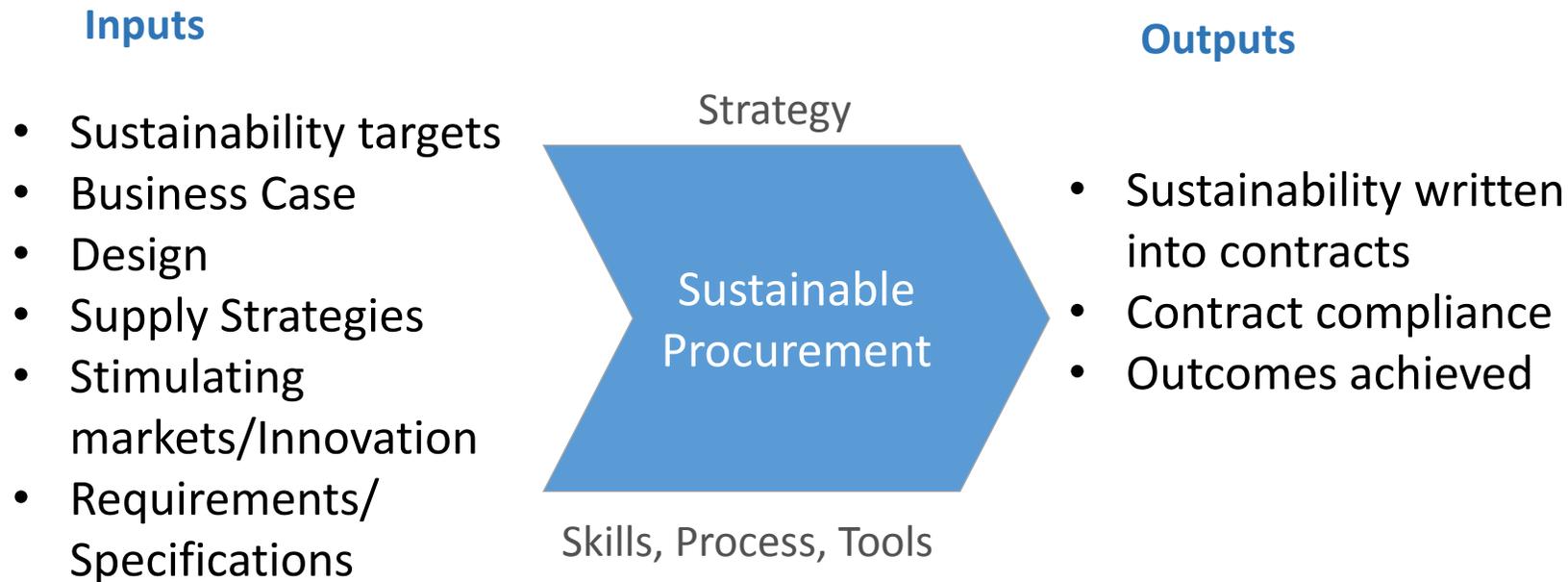
London 2012 – leading practice in sustainability



Top down and embedded at every stage....



The buying process is key for achieving outcomes....



“The single best way of achieving sustainability for the Olympics is to embed it up-front in the procurement process”

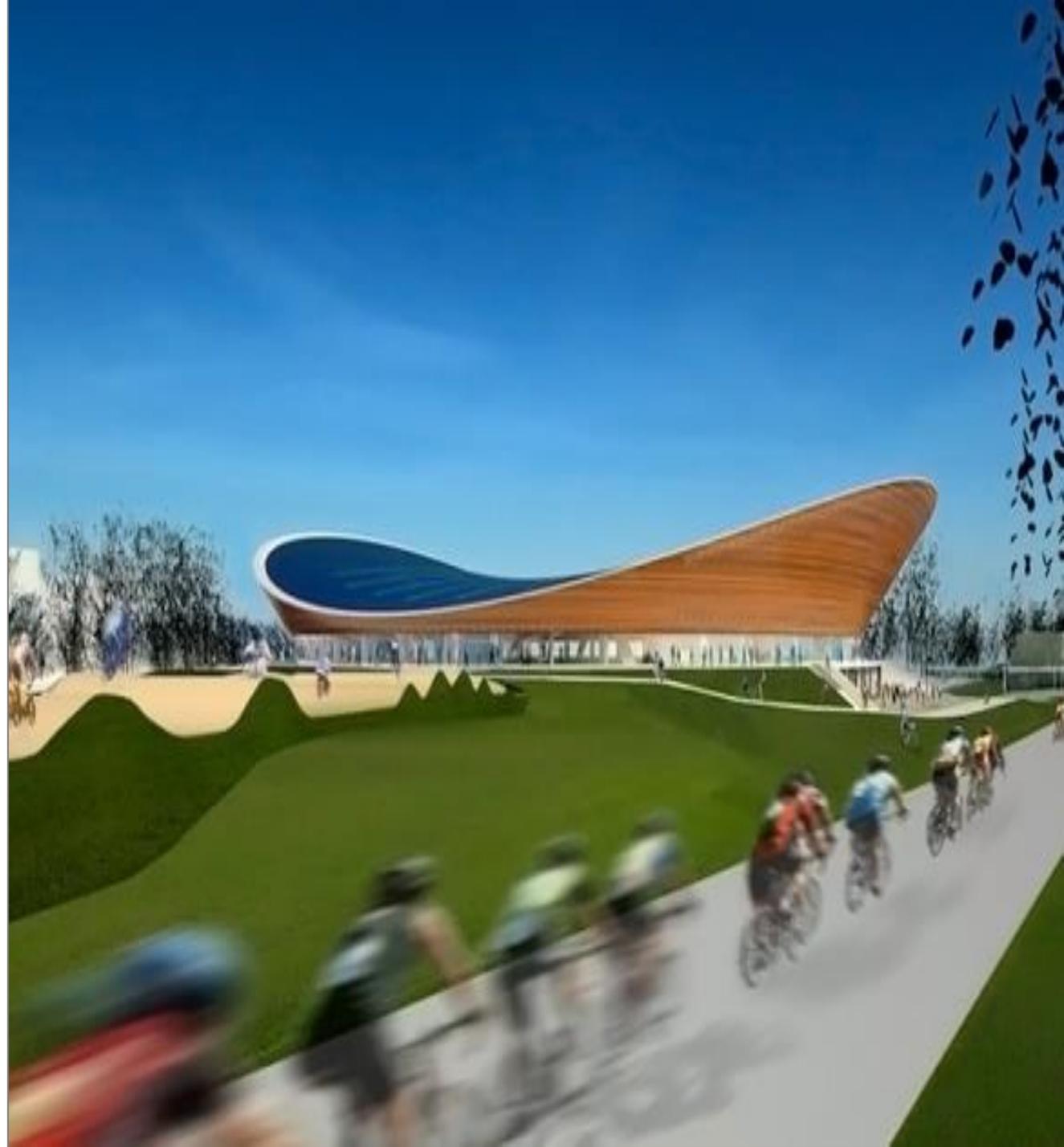
Paul Dayton, CEO LOCOG

Does it cost more?

Challenging assumptions can lead to more sustainable and lower cost outcomes:

Velodrome

- ✓ Roof 100 tonnes of steel
- ✓ 5000m² cable-net roof
- ✓ Weighs 30kg/m²
- ✓ Beijing Velodrome 65 kg/m²
- ✓ \$70M under budget
- ✓ 31% more energy efficient than requirement



Measuring carbon in the design

	Competition scheme 2007		Flat scheme Early 2008		Steel arch scheme Mid 2008		Construction scheme Early 2009	
	Mass kt	Embodied carbon kt CO ₂	Mass kt	Embodied carbon kt CO ₂	Mass kt	Embodied carbon kt CO ₂	Mass kt	Embodied carbon kt CO ₂
Materials								
Concrete	20.0	2.3	28.5	3.3	25.9	3.0	16.6	1.9
Reinforcing steel	1.5	2.6	2.5	4.4	2.4	4.1	1.7	2.9
Structural steel	1.4	2.5	0.9	1.6	1.0	1.7	0.8	1.5
Other	4.8	1.3	4.2	1.1	4.6	1.2	4.2	1.1
Total	27.6	8.7	36.2	10.4	33.9	10.1	23.3	7.4
Images								

Table 3: Four alternative roof options for the Velodrome¹⁰

Olympic stadium – unused gas pipelines for truss



- Unused gas pipelines used for stadium truss
- Lightweight steel reduced materials used and carbon
- Low carbon concrete used in the terraces



25% of tender evaluation score was on the carbon footprint

Outcomes

- 11% concrete reduction achieved through Design
- 52% Reclaimed aggregate from Blast Furnace Slag
- 43% reduction in carbon
- On site batching plants - 50% reduction in lorry movements
- Concrete was competitively priced and delivered significant \$ savings

Impressive outcomes achieved by LOCOG



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LOCOG Sustainable Sourcing Code

Key questions:

Where does it come from?

Who made it?

What is it made of? **57% Reduction in the Carbon Footprint was achieved!**

What is it wrapped in?

What will happen to it afterwards?



'London 2012 sustainable merchandising efforts were the best the Olympic Games and Paralympic Games had seen to date. New standards are being set for the event and retail industries.'



Merchandise at Heathrow Terminal 5, March 2011

Melbourne Metro

- Targeting “Excellent” ISCA Rating
- 5* Green Star for the stations
- Local Procurement
- Indigenous Procurement



Challenges and success factors

Challenges and success factors

Barriers to sustainable procurement

1. Perceived cost implication
2. Lack of mandate from the top
3. Too hard – additional work and time
4. Skills and capability gap
5. Risk of change
6. Existing relationships too deep
7. Need for planning upfront

Key success factors

1. Mandated from the top down
2. Clear communication and commitment
3. Driven by strategic outcomes/targets
4. Understanding your spend and impacts
5. Skills/capability to deliver
6. Enabled and competitive supply chain
7. Upfront planning to drive opportunities

1. Mandated from the top down

This Changes Everything



KEY TARGETS:

- To be net positive (2030)
- To demonstrate community investment within and beyond our boundaries (2018)
- To reduce carbon intensity by 20% (2018)
- Recycle 75% of waste (2018)
- Increase water capture and recycling to 15% (2018)

2. Clear communication and commitment



OUR SUPPLY CHAIN

A picture of our supply chain

Mirvac works with a diverse range of suppliers, both within Australia and overseas. While we engaged directly with almost 6,000 suppliers, in some instances they purchase products and services on our behalf. This means we indirectly engage many businesses in addition to our immediate suppliers.

To help us manage these critical relationships in an appropriate way, we tier suppliers.

Tier 1 suppliers are those we do a lot of business with, or those we deem to have a risk factor, such as supplying us with materials from offshore, providing labour hire services, or those with a preferred supplier agreement with Mirvac. There are very few suppliers in this category, and we monitor them closely via a very comprehensive process, including site visits to offshore suppliers, and ongoing monitoring.

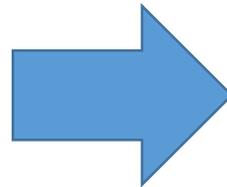
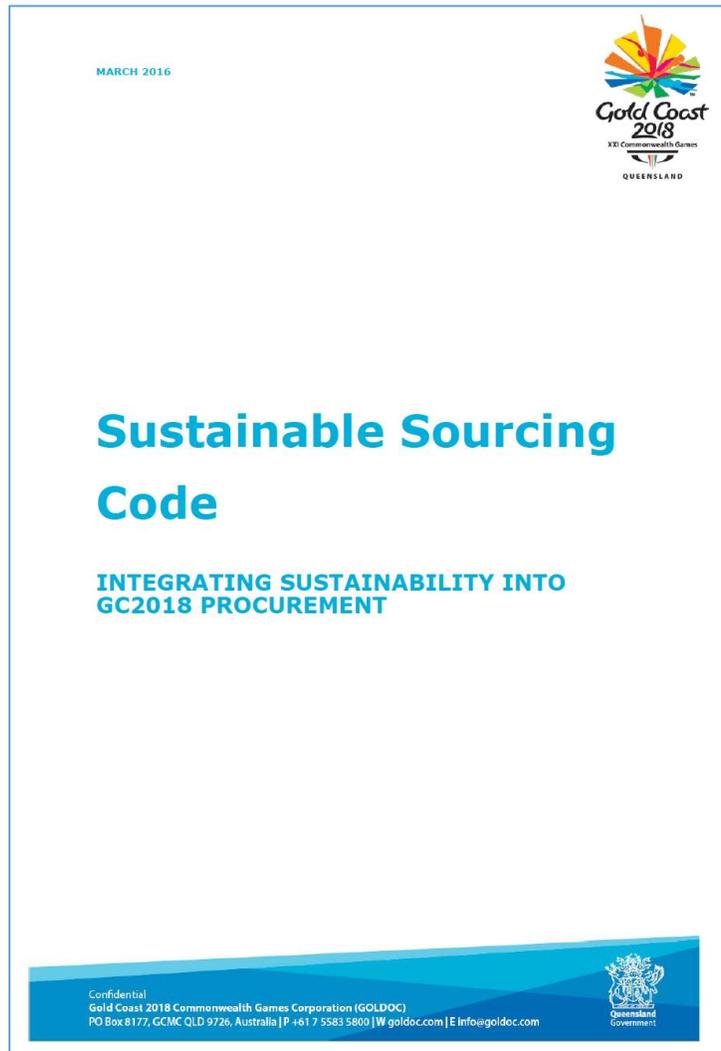


TIER	SUPPLIERS	TOTAL SPEND	% OF SPEND
1	105	\$762,048,097	46%
2	219	\$455,408,062	28%
3	5,474	\$430,856,036	26%
Total	5,798	\$1,648,312,195	100%

Tiers 2 and 3 suppliers represent less risk, and are determined based on annual spend.

2. Clear communication and commitment

Commonwealth Games: Sustainable sourcing code



Letting our supply chain know that this is how we do business

3. Driven by strategic outcomes/targets

Barangaroo

Barangaroo's goal is to be the first precinct of its size in the world and certainly the first CBD precinct in Australia, to be climate positive.

green building council australia

6 greenstar

3. Driven by strategic outcomes/targets



The equivalent of 36,000 cars off the road per annum

WHY CARBON NEUTRAL?

BUILDINGS GENERATE 40% OF GLOBAL GREENHOUSE GAS EMISSIONS

85%
ENERGY



12%
TRANSPORT



3%
WASTE



=100%
CARBON EMISSION

BARANGAROO: CARBON NEUTRAL

exporting more renewable energy than consuming

NEW RENEWABLES

BUILDING DESIGN

EDUCATION & BUILDING MANAGEMENT

HARBOUR COOLING & TRIGENERATION

GREEN TRAVEL ACTION PLAN

ZERO WASTE ACTION PLAN

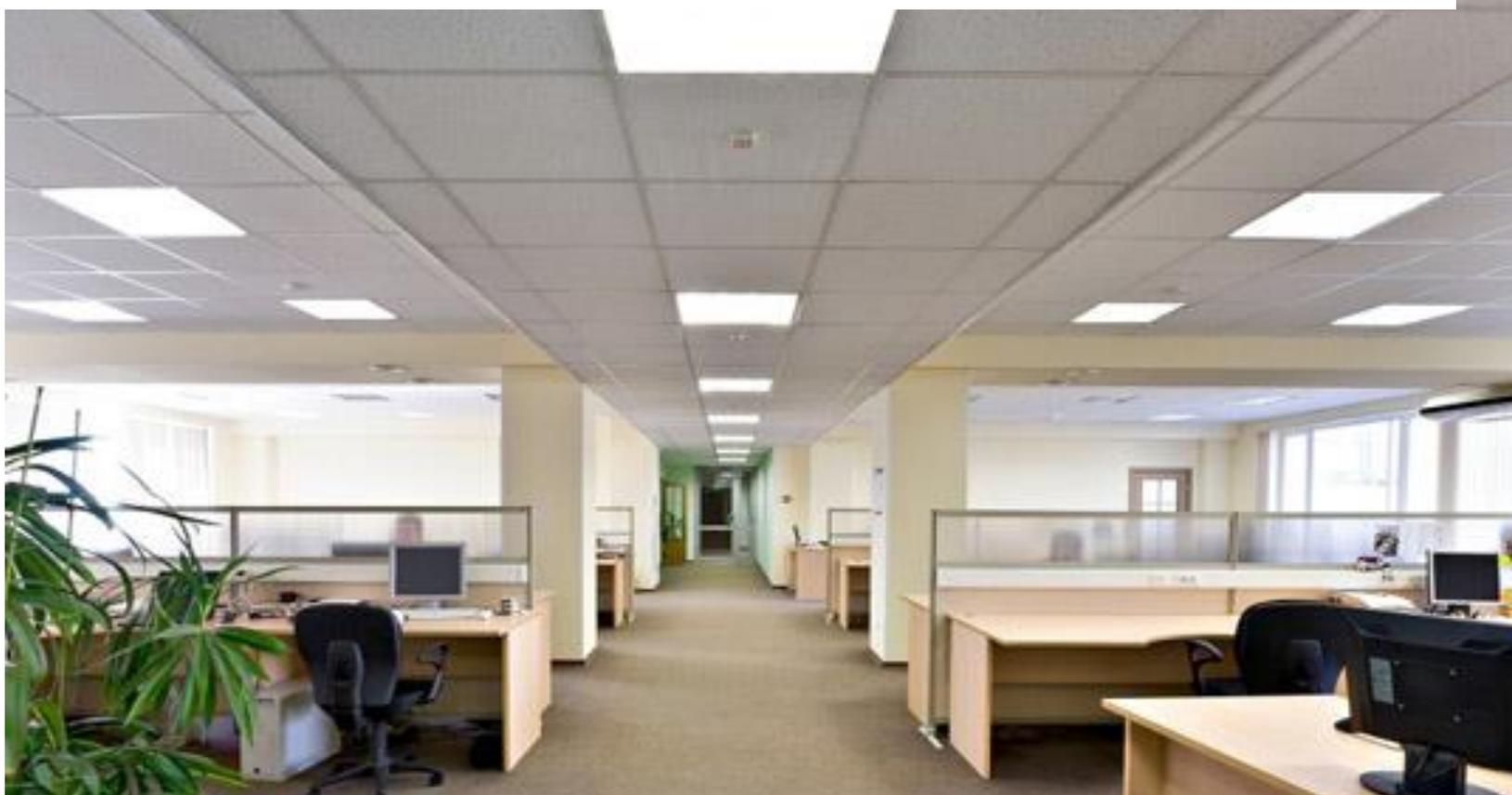


4. Understanding your spend and impacts

Spend category	FY13-14 (\$)	t CO2e/k\$	t CO2e
Concrete	\$148,321,639	0.61	91016
Electrical Services	\$62,791,826	0.01	382
Joinery	\$61,600,723	0.02	1106
Mechanical Services	\$51,656,068	0.00	41
Ceilings and Plasterboards	\$40,735,957	0.13	5433
Glazing and Facades	\$30,783,975	0.26	8112
Structural Steel	\$24,513,068	0.50	12246
Carpentry	\$19,646,423	0.01	190
Excavation	\$14,480,411	0.01	210
Civil Works	\$13,491,508	0.38	5124
Painting	\$13,299,251	0.02	232
Metalwork	\$11,700,855	0.54	6309
Piling	\$5,763,954	0.31	1759
Total	\$498,785,658	0.22	132160

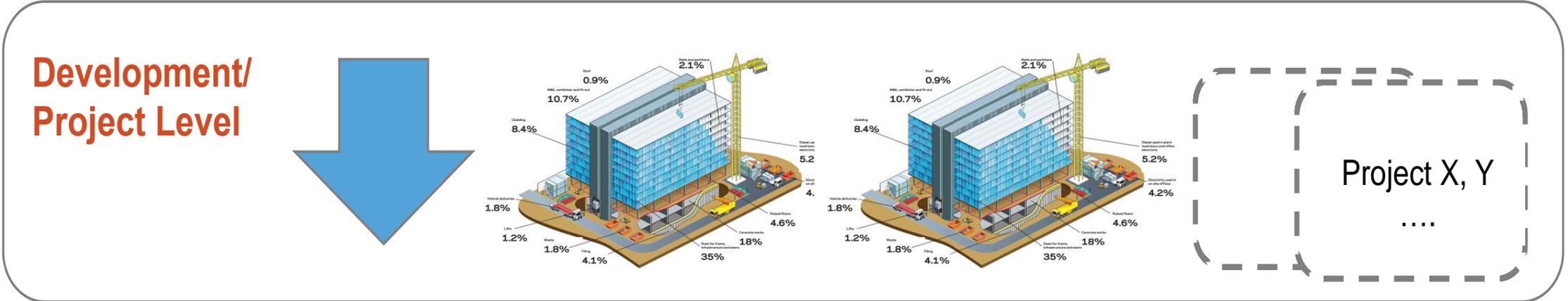
4. Understanding your spend and impacts

The temptation is to go after what you directly control....



LED lighting in the office for example

4. Understanding your impacts at all levels



4. Understanding your impacts – supply chain mapping

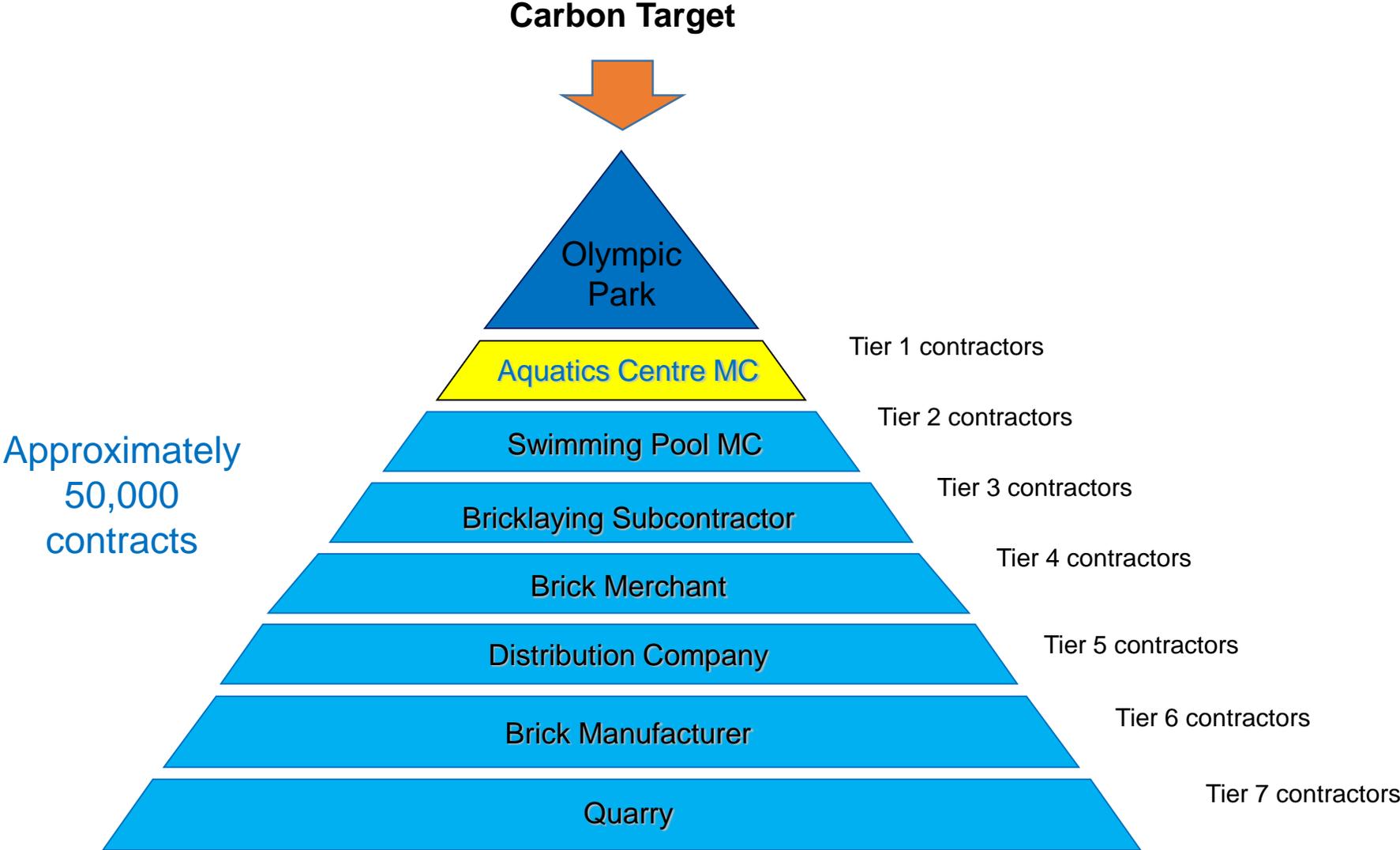
Where is it sourced from?

What are the impacts and risks?

How resilient is the supply chain?

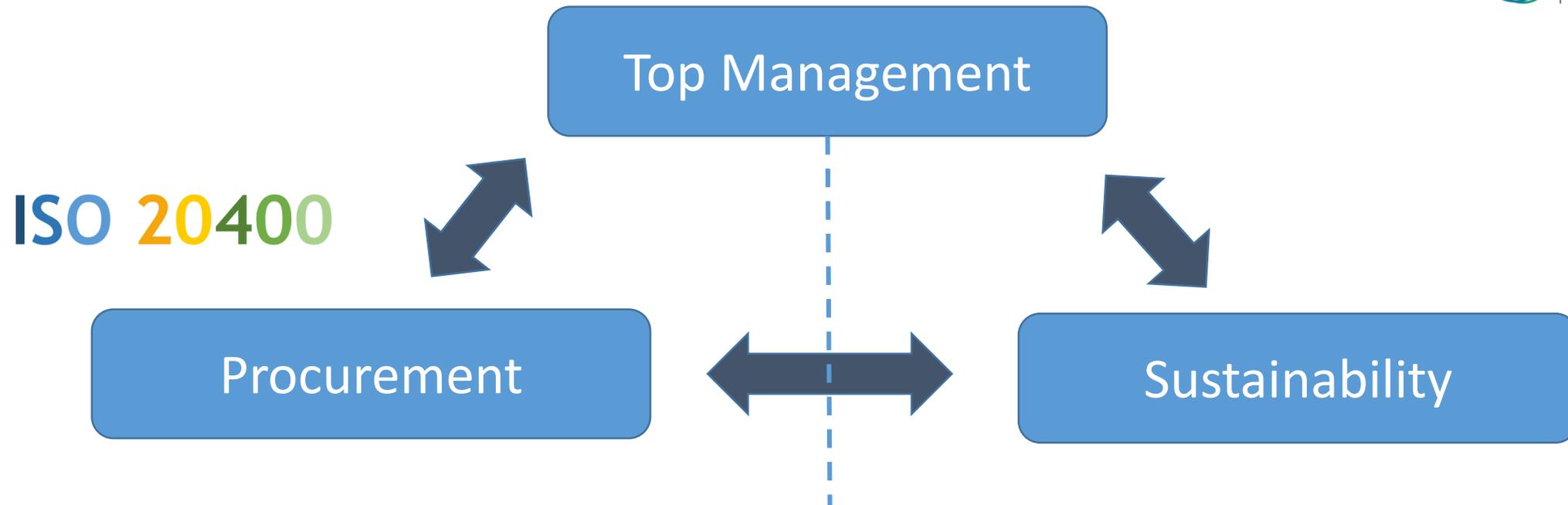


4. Understanding your impacts – supply chain mapping



CompeteFor is targeting around 20% of the contracts in the London 2012 supply chain

5. Skills/capability to deliver

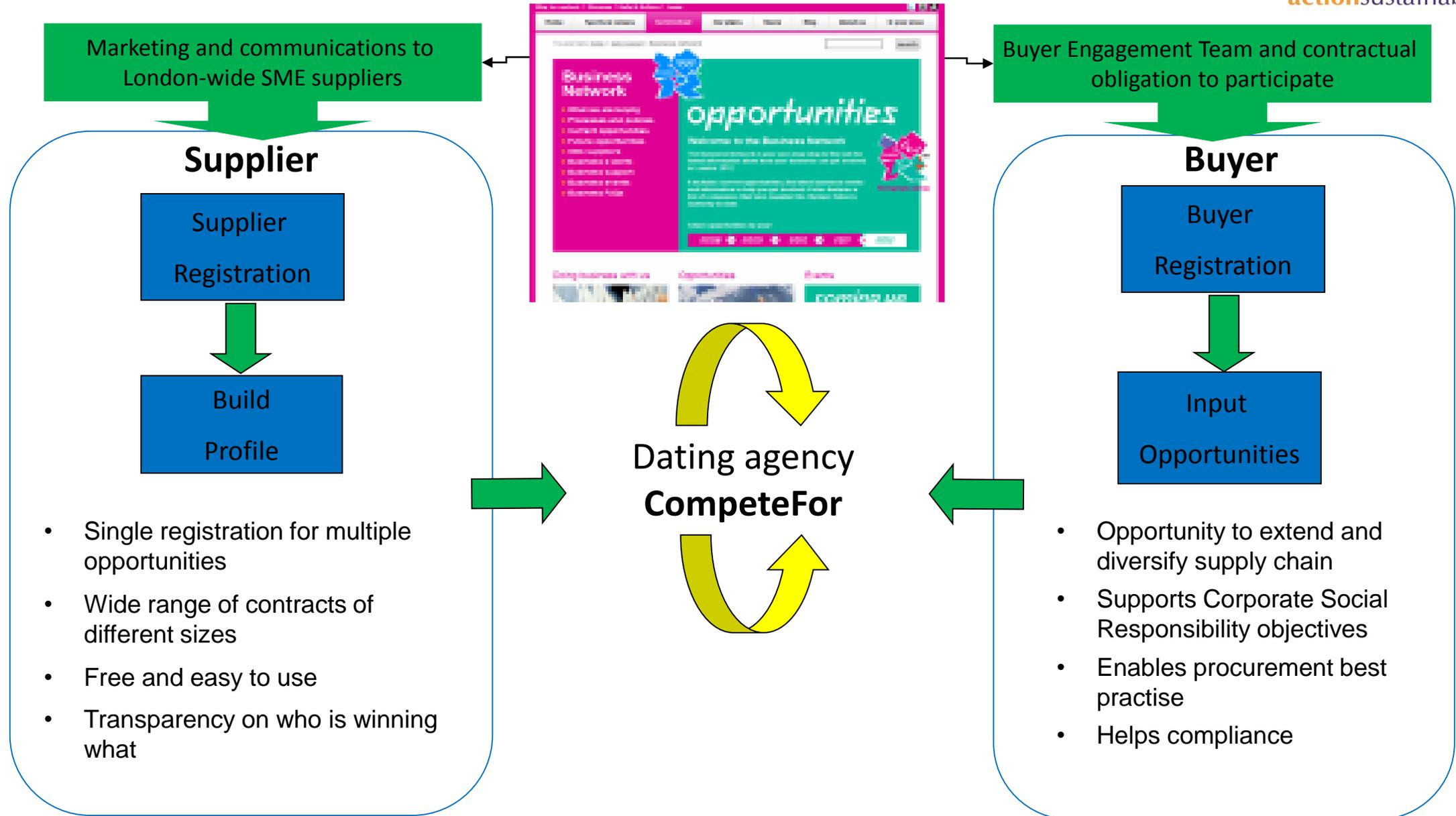


Often a disconnect between procurement and sustainability. Ideally sustainability to be embedded into procurement team.

6. Enabled and competitive supply chain - CompeteFor



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7. Upfront planning

International House: first timber commercial building



- Cross-Laminated Timber (CLT) and Glulam (glue laminated timber) – setting a new benchmark in the use of sustainable building materials.
- The timbers are sourced from sustainably managed forests in Austria. The CLT has PEFC chain of custody certification.

7. Upfront planning: materials strategy

1. Dematerialisation

2. Material Substitution
& Recycled Content

3. Manufacturing &
Sourcing

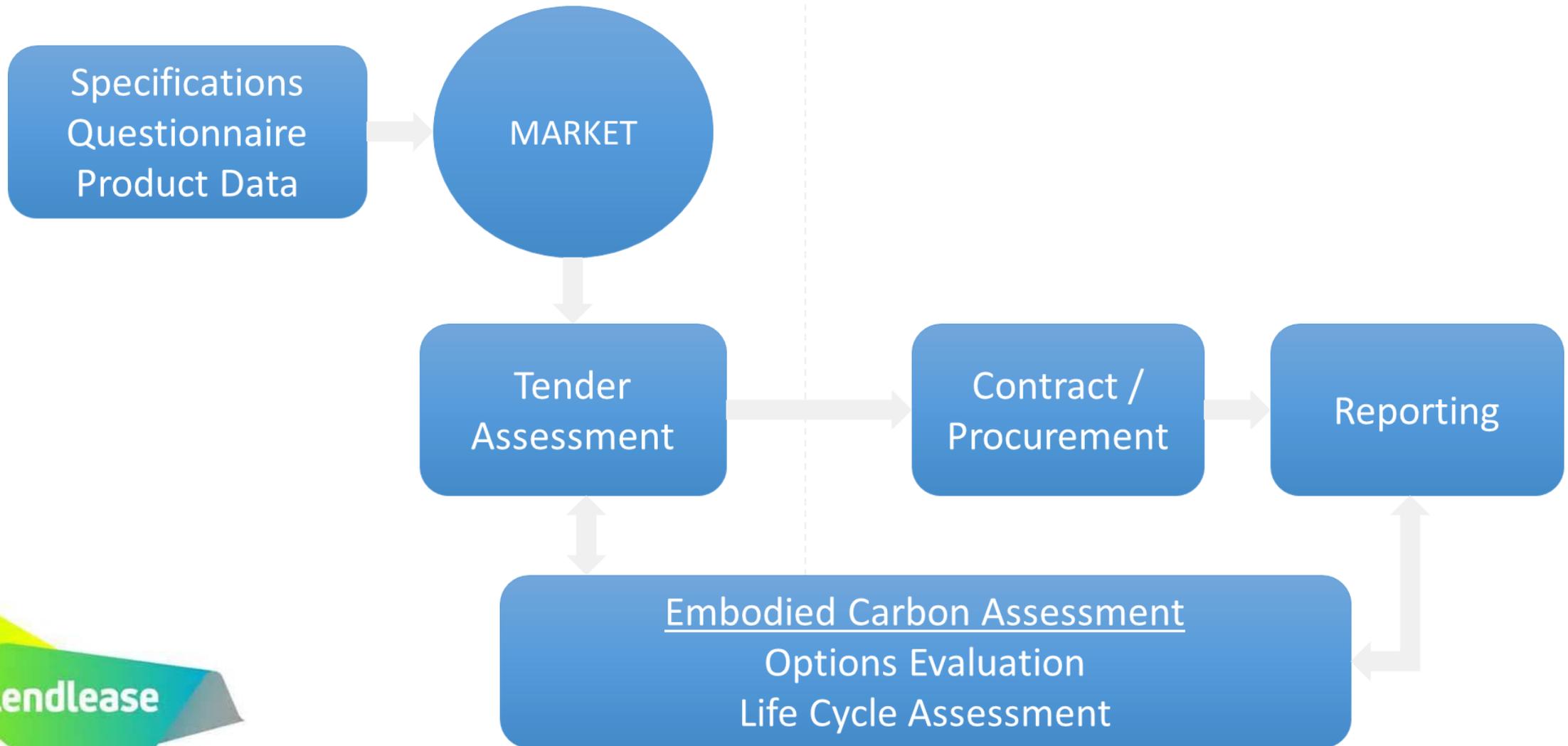
4. Logistics & Packaging

5. Offsetting, Third Party Certifications & EPDs

- Barangaroo undertook LCA against 20 key materials
- Utilised low carbon materials and technologies where possible



7. Upfront planning: pre-qualifying suppliers



7. Upfront Planning

Pixel Building – carbon neutrality



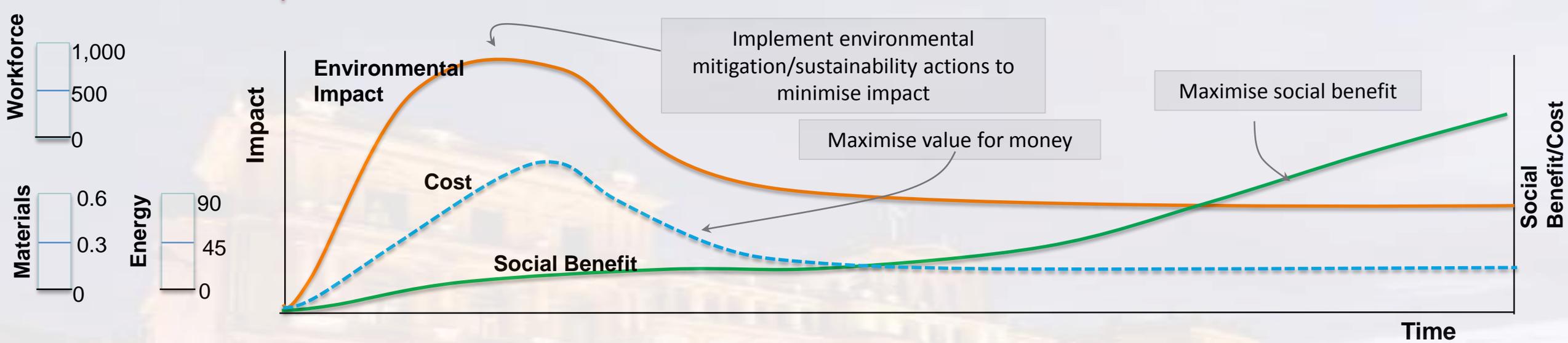
- Extensive photovoltaic array on the roof with tracking device to improve output by 40%
- 1kW wind turbines
- Low carbon concrete working with Boral
- Pixelated sun shade system which allows daylight while protecting from glare and heat gain
- Smart windows



Sustainable procurement – why do it?

- Supply chain is where the **majority of impacts and risks** sit – procurement presents the biggest opportunity for managing this
- Helps to create **resilient** organizations which can manage their impacts and risk
- Enables **opportunities to be maximized** – management of environmental impacts and the creation of shared value with suppliers
- Done properly will **result in efficiency gains, revenue growth and competitive advantage**

Changing our thinking: triple bottom line



Performance Management and Tools

“Alone you can go faster, but
together we can go further.”

African Proverb

Complete your
free assessment

Assess your knowledge
to access your personal
dashboard!

Find Out More 



Login 

Sign-up 

To access the online self assessment
tool you will need to be a registered user
of the sustainable Supply Chain
Sustainability School.

Registration is free and very easy to
complete.

register now 

Welcome to the Australian Supply Chain Sustainability School

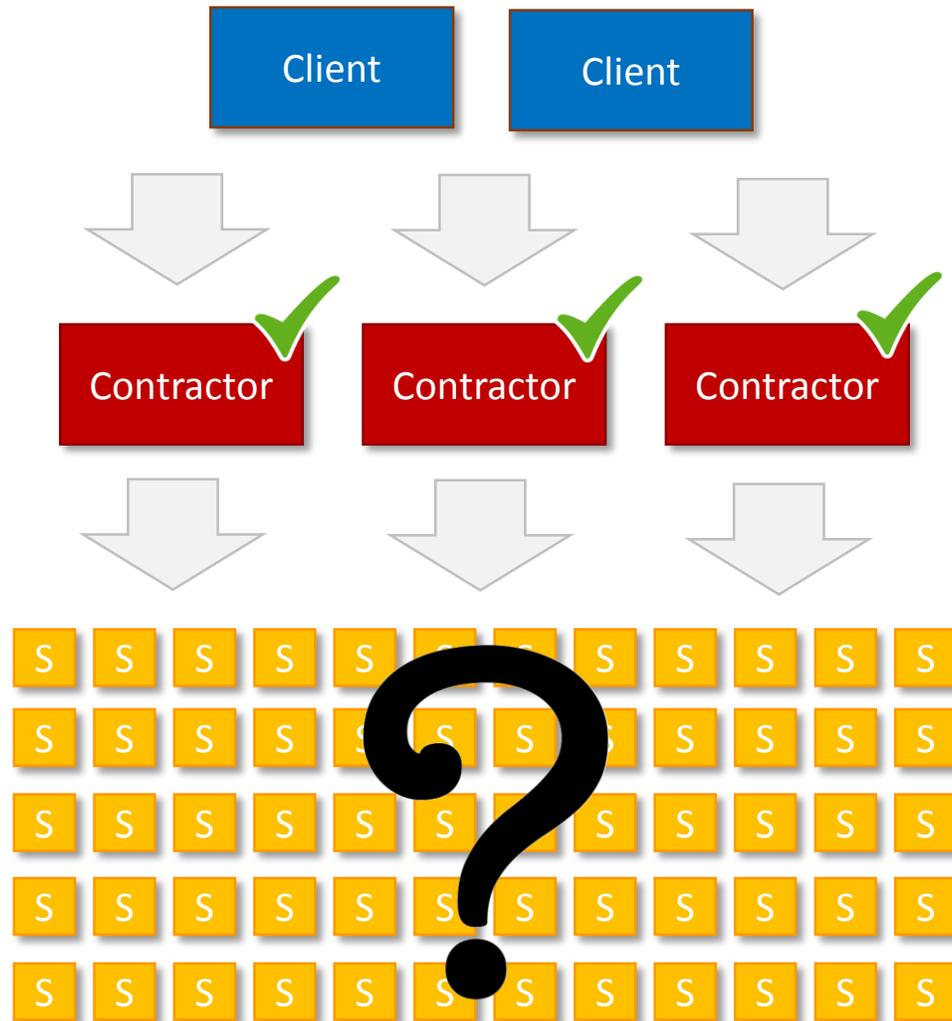
This site is an online learning forum designed to help the construction sector assess and improve their knowledge of sustainability issues facing our industry.

Click here to complete your
Self Assessment Tool 

Complete the confidential self-
assessment tool and get your
personalised action plan

Use the tool 

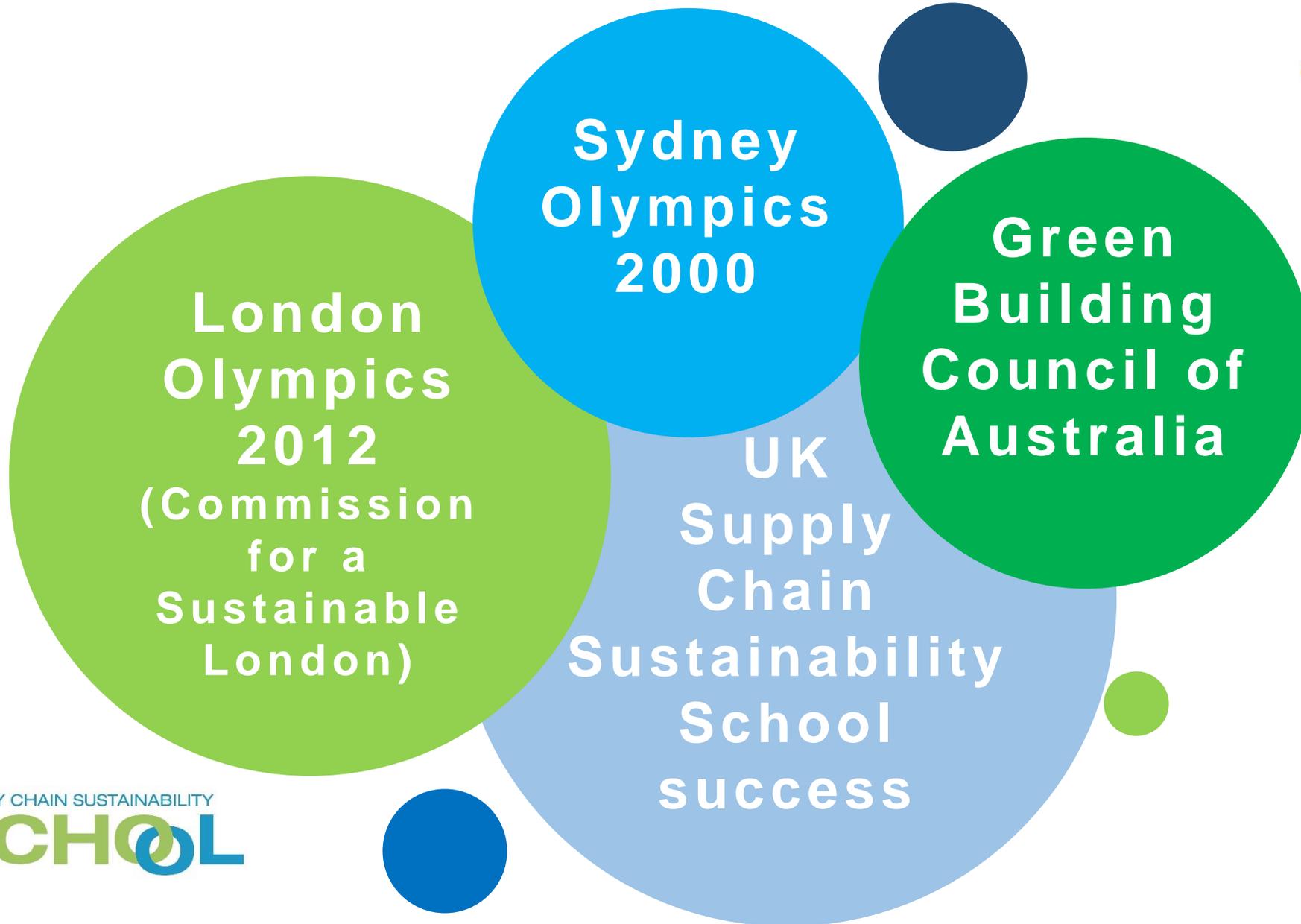
How to develop a competitive supply chain in terms of sustainability?



- Sustainability requirements on construction projects are growing
- Major contractors are well equipped to raise the challenge
- The thousands of small subcontractors, where 95% of the turnover is spent, do not have the capacity to easily scale up
- Consequences are multiple:
 - ✗ Struggling subcontractors
 - ✗ Reduced competitiveness
 - ✗ Issues in delivery

The School - Developed by the Industry, for the Industry

1. Neutral, joint initiative led by major companies of the Construction sector (UK: 45)
2. To help subcontractors develop their capacity to deliver sustainability requirements
3. On a large scale basis (UK: 14,000 suppliers)
4. Through an on-line platform providing diagnostic tool, elearning modules (UK: 44) and other resources (UK: 1K)
5. And training sessions & supplier days (UK: 90 p/y)
6. Free of charge for suppliers
7. Providing great ROI for Partners



Supply chain school in Asia?



Since 2012



2015



2017?

The 10 Sustainability themes



Success by numbers...

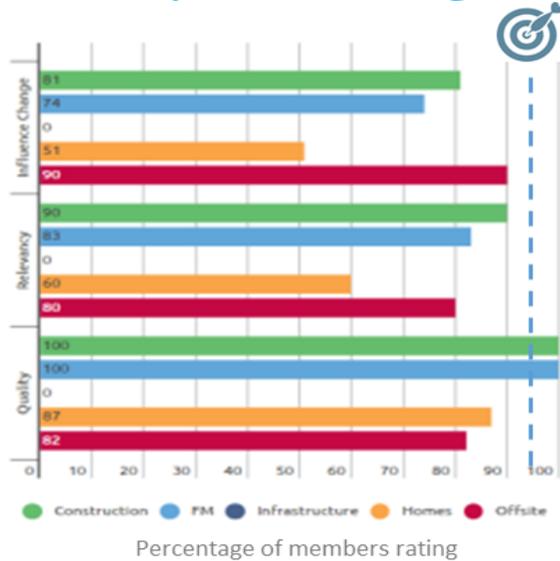


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Performance dashboard June 2016

● Construction ● FM ● Homes ● Infrastructure ● Offsite

Quality of Learning



Impact of Learning



Active members: 523



Partners

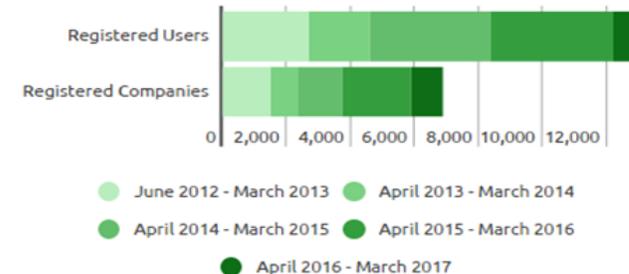
45
60



Engagement

	Const.	FM	Homes	Infra	Offsite
Priority Suppliers	4,838	8,005	550	1,850	26
% suppliers engaged					
Lists provided	17	7	4	8	1
% Partners providing lists	85%	46%	44%	36%	10%

Registered users: 13,384

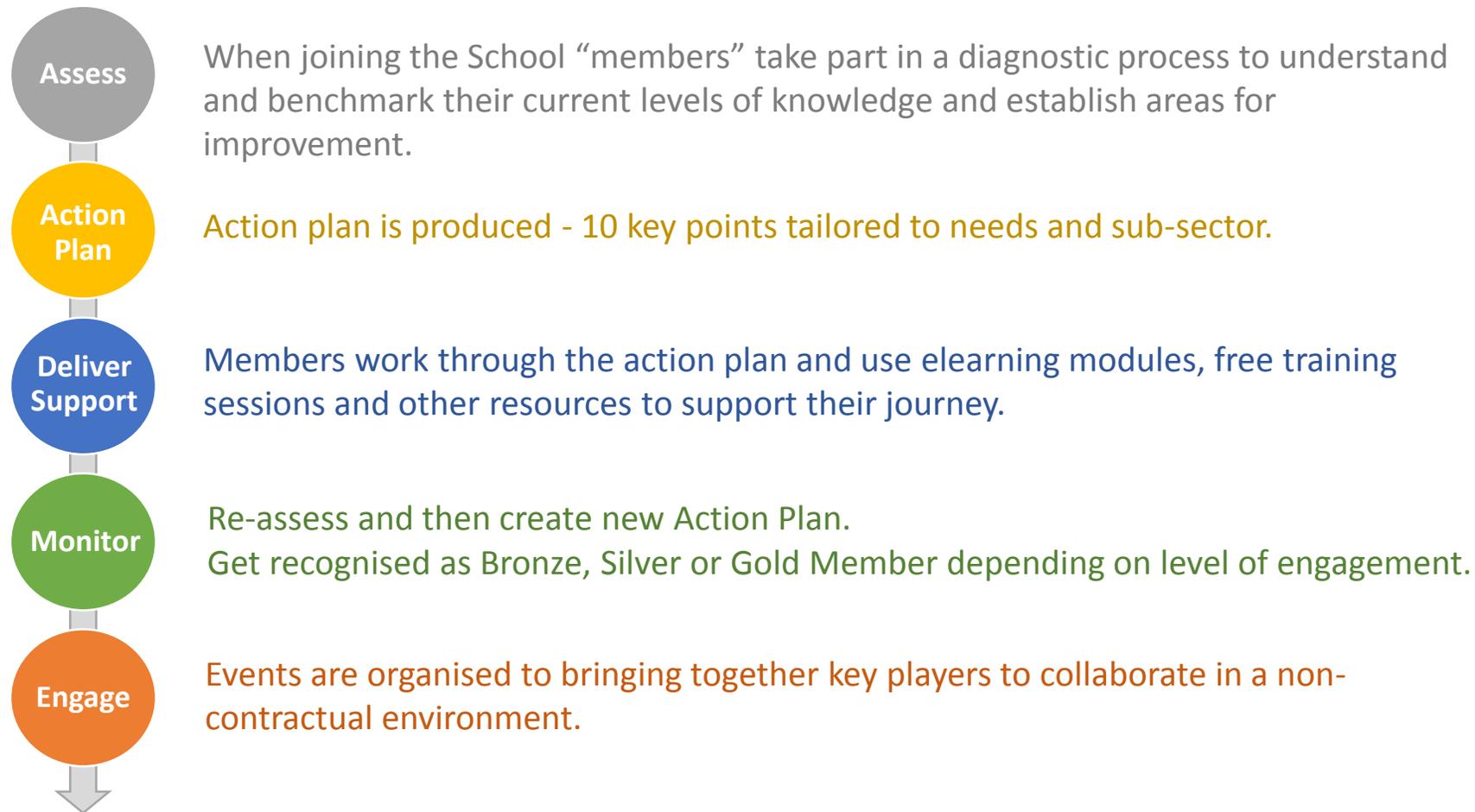


45 contractors and clients in the UK



Overview of Services

The School provides a virtual learning environment that improves the industry's ability to understand sustainability issues, build knowledge and innovate.



44 e-learning modules



Sustainability Beginner	Sustainability Intermediate	Management
Sustainable Procurement	Making the Business Case	Leadership & Culture
Sustainable Construction	BIM	Change Management
Water	Carbon Reporting	Collaborative Working
Waste	Energy Efficient Buildings	Quality Management
Materials	Materiality	Project Management
Environmental Management	Sustainable Timber	Marketing & Business
Climate Change & Carbon	EMS	Supply Chain Management
Biodiversity	Life – Cycle Analysis	
Economy and Community	BES 60001	Offsite
Ethical Business	Fairness, Inclusion & Respect 1 & 2	Design Product & Process
Local & SME Supply Chains	Green Infrastructure	Offsite Process
Business Case for FM	Carbon in Infrastructure	Onsite Process
Building Management	CEEQUAL	Best in Class Maintenance
People, Skills & Labour	SuDS	Logistics
Sustainable Homes	Performance Gap	
	Overheating in Homes	

Events and training



Supplier days

- Opportunity to share best practice examples
- Understand challenges faced by supply chain
- 100 – 200 attendees including clients, contractors and suppliers



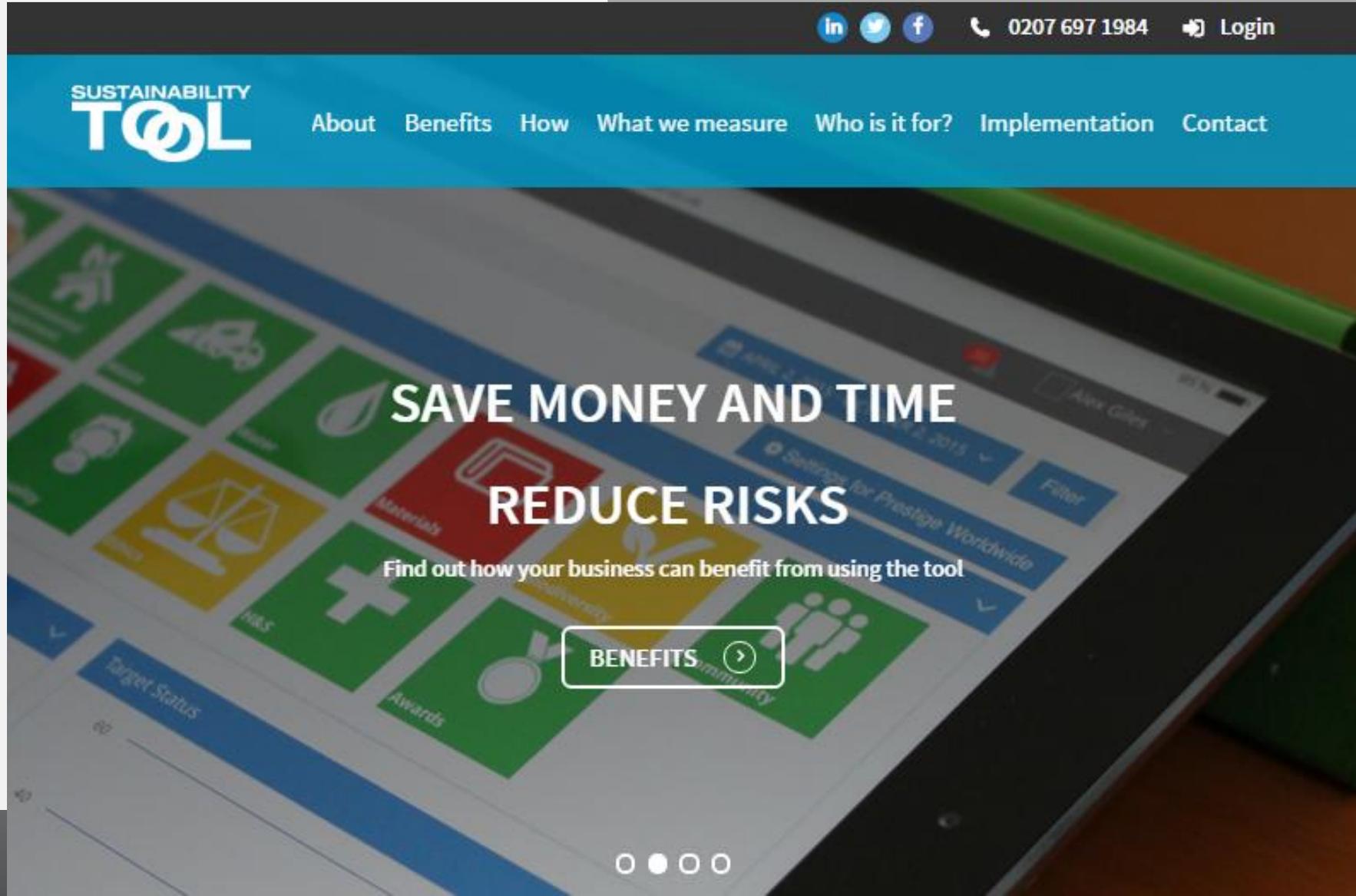
Tailored workshops

- Internal workshops to drive increased understanding of sustainability issues
- External workshops to drive understanding amongst your suppliers

Gold, Silver, Bronze – Recognising engagement of suppliers

- **Registered** - Organisation has registered with the School but not yet completed a self-assessment.
- **Member** - Organisation has completed a self-assessment, but viewed less than 5 resources in the last 6 months.
- **Bronze** - Organisation has submitted at least 1 assessment in the last year, and viewed 5+ resources in the last 6 months.
- **Silver** - Organisation has submitted at least 1 reassessment in the last year, and viewed 5+ resources in the last 6 months.
- **Gold** - Organisation has submitted at least 1 reassessment in the last year, viewed 10+ resources in the last 6 months, and actively shared their knowledge and learning with others through the School.

Web based reporting tool aggregates data from projects and suppliers to multiple business units levels and corporate level



RAG rating of sustainability performance against your targets. Allows you to concentrate on where the performance risks lie

Corporate Dashboard - Overview
Prestige Worldwide

Home > Corporate Dashboard DECEMBER 22, 2014 - JUNE 22, 2015 Filter

Settings for Prestige Worldwide

Sustainability Issues


 Carbon


 Environmental Management


 Waste


 Water


 Materials


 Biodiversity


 Community


 Employees


 Procurement

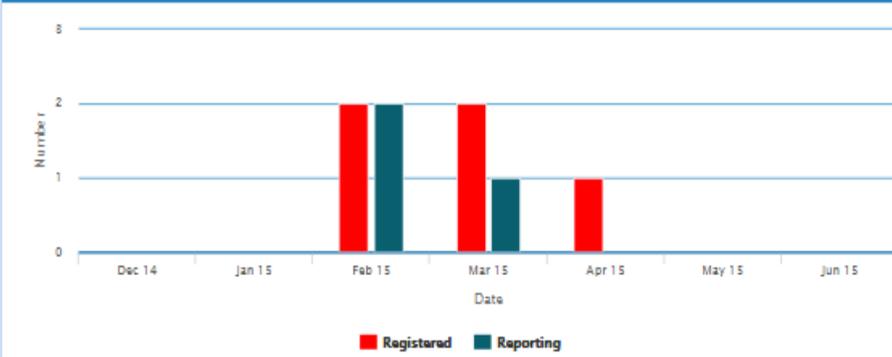

 Air Quality


 Ethics


 H&S

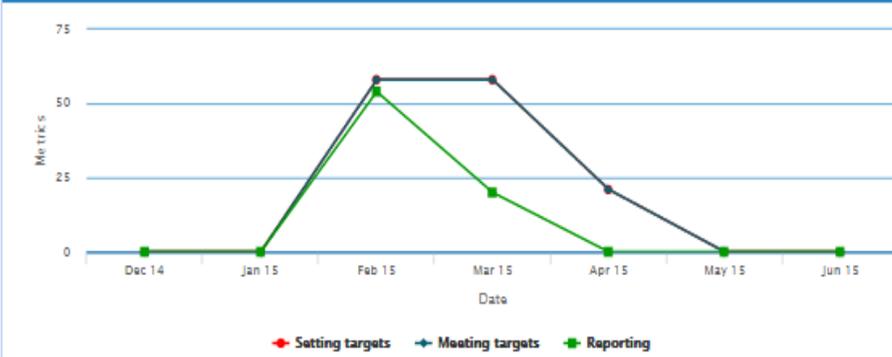

 Awards

Reporting Status



Date	Registered	Reporting
Feb 15	2	2
Mar 15	2	1
Apr 15	1	0

Target Status



Date	Setting targets	Meeting targets	Reporting
Feb 15	60	60	55
Mar 15	60	60	20
Apr 15	20	20	0

Employees | London x

https://www.sustainabilitytool.co.uk/secure/projects/view-category.aspx?category=b48b25&project=a8265f

Apps Settings Rail Action Sustaina... School School Dash Tool System Log LMS Citrix 2 CRedit360 Tool Dash Cobham Radio 5

SUSTAINABILITY TOOL

lan Heptonstall

Projects

- View Projects
- Add Project
- Performance Evaluations

Personal Details <

Company Users <

Metrics <

Conversion Factors v

Glossary

Employees - London Development Project

Local Workforce

Date	Actual % Local workforce	Target % Local workforce
Nov 13	0	0
Dec 13	0	0
Jan 14	0	0
Feb 14	0	0
Mar 14	0	0
Apr 14	~5.5	0
May 14	9.47	0

Apprenticeships

Date	Actual % Apprenticeships	Target % Apprenticeships
Nov 13	0	0
Dec 13	0	0
Jan 14	0	0
Feb 14	0	0
Mar 14	0	0
Apr 14	0	0
May 14	~9.5	0

Indicators

% Diverse workforce	% Local workforce	% Long term unemployed	% Paid Living Wage	% Apprenticeships	% Traineeships
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Focus on the issues where performance is poor and understand why

20:22
14/07/2014

We understand the problem

The demand for science-based, verified and comparable information about environmental performance of goods and services is increasing

Government, producers, manufacturers, companies – need to understand, measure and take responsibility for their

It's time to take action



Thank you