LONDON 2012
GREEN GAMES & PVC

LSAA
LIGHTWEIGHT STRUCTURES ASSOCIATION OF AUSTRALASIA INC.

Serge Ferrari

Sydney 2000 - Policy on PVC

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London 2012 - Policy on PVC

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LONDON 2012

London's promise was :

To build for the "greenest games ever" in Olympic history

To transmit a sustainable heritage to future generations

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LONDON 2012

The Olympic Delivery Authority (ODA),
responsible for Olympic site and infrastructure,
worked with the industry to make the event a showcase
for best construction practices.

Olympic Delivery Authority

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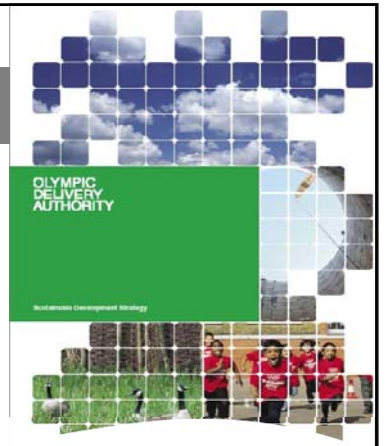
ODA - Sustainable Developpement Strategy

Environnemental
- ❑ Carbon
- ❑ Water
- ❑ Waste
- ❑ Materials
- ❑ Biodiversity
- ❑ Environmental Impacts

Social
- ❑ Supporting communities
- ❑ Transports & Mobility
- ❑ Access
- ❑ Employement & Business
- ❑ Health & Well being
- ❑ Inclusion



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London 2012 – Policy on use of PVC

The facts recognised by the Policy

The positive story
PVC is the most appropriate for certain uses
Lightweight & Durable
Lower carbon footprint compared to most plastics

The negative story
Management of waste ?
Risk for health ?

London 2012 Policy on PVC
How to solve the negative points

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London 2012 – Policy on use of PVC

PVC Production :
- ❑ In accordance with ECVM Industry Charter
- ❑ Standards for effluent discharges and vent gases
- ❑ Protect the health and safety of employees

PVC Content & formulation:
- ❑ No Lead, mercury or cadmium stabilizers
- ❑ Conformity with REACH regulations
- ❑ **30% recycled content**
- ❑ **No Phtalate Plastisizers**

PVC End of life :
- ❑ **Take back & Recycling or re-use**

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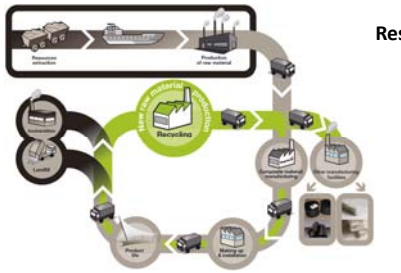
London 2012 – Policy on use of PVC

This Policy on use of PVC conveys a clear message to industry :
Only suppliers capable of offering the highest levels of sustainability would be considered.



Response to the last 3 criteria :

No solution for the 30% Recycling content

Innovation & Développment of Non Phtalate Plastisizers PVC

Waste management : Operational Texyloop® recycling plant

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London 2012 – PVC membrane projects

Phthalate free	M²
The Royal Artillery Barracks internal	14,540
The Royal Artillery Barracks external	9,200
The Royal Artillery Barracks ballistic screen	26,250
Water Polo Arena internal	17,500
Water Polo Arena external	2,500
Eton Manor	7,200
Aquatics Centre	19,000
Velodrome	1,848
Total	98,038

Phthalate containing	
Olympic Stadium	24,500
Basketball Arena	20,000
Total	44,500

Total both types	142,538
Phthalate per cent of total	31.22
Or Non-Phthalate per cent of total	68.78

Sources
[1] www.forumforthefuture.org/greenfutures/articles/place-pvc-sustainable-world
[2] www.pvc.org/en/p/how-is-pvc-used

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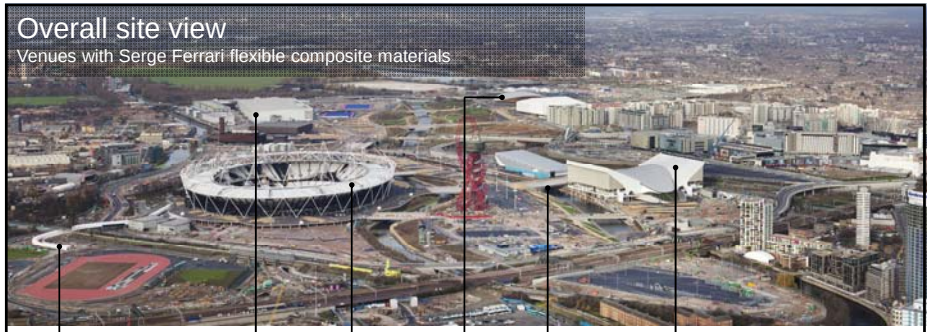

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Main Stadium

Arch. Populous
Eng. Buro Happold
Contractor : Seele
Precontraint 1202 S2

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LONDON AQUATIC CENTER

Zaha Hadid Architects
Eng. Tensys
Contractor : Architen Landrell
Precontraint 1002 & FT381

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VELODROME

Architect : Hopkins Architecture
Contractor : Base structure
Precontraint 392

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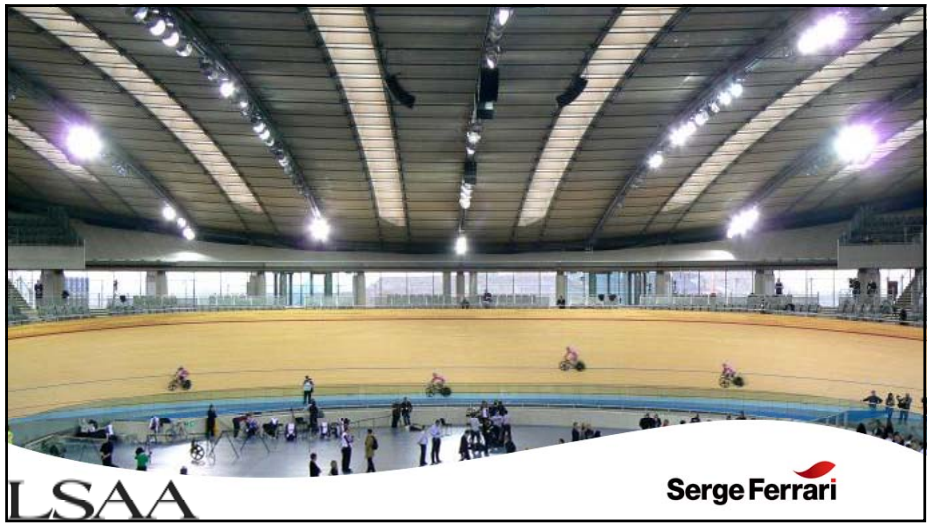

Royal Artillery Barracks
Architect : Magma Architecture
Contractor : Base Structures
Precontraint 1002 S2
Soltis 92
Stamisol FT 371

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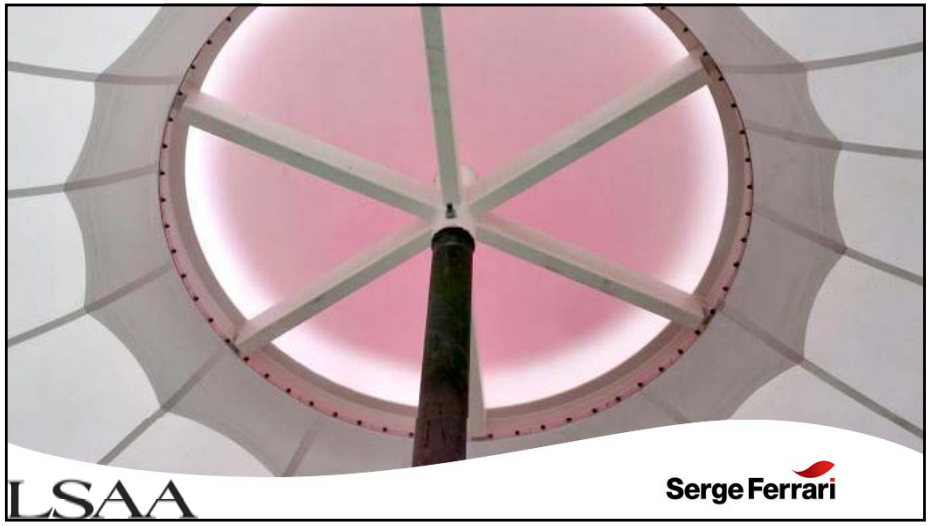
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Waterpolo Arena

Architect: David Morley Architects
Eng. Buro Happold
Contractor Architen Landrell
Precontraint 1002 & Soltis 99

International Broadcast Center

Architect : **Allies & Morrison**
Engineering : **Buro Happold**
Manufacturer : **Architen Landrell Associates**
Facade : 4500 m2 Stamisol FT 381

Walkway & light structure

LONDON AQUATIC CENTER in LEGACY MODE

LSAA ible • 100% Recyclable solutions

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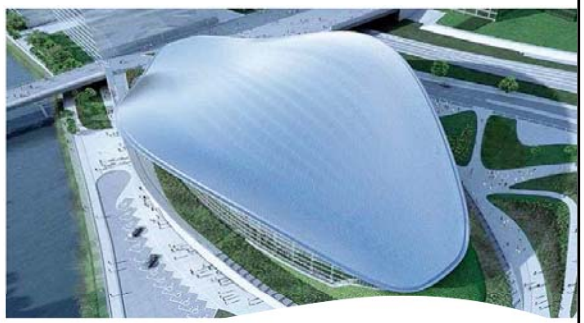
LONDON AQUATIC CENTER in LEGACY MODE

Central building - 2500 seats - is a part of the olympic legacy.

The wings - 15.000 seats - are now dimantled.



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A SPECTACULAR OPERATION IN 5 STEPS

WING DISMANTLING = 23 T. LOW IMPACT SECOND GENERATION MATERIALS

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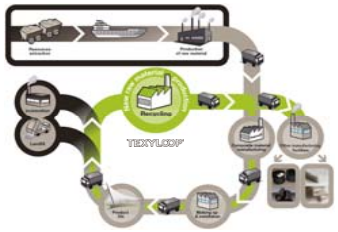
Life Cycle Assessment



Précontraint 1002 S2

Type of impacts	Texyloop Recycling	Incineration	Landfill
Resource depletion Kilograms eq. Sb	0.024	0.151	0.151
Global warming Kilograms eq. CO_2	2.572	4.757	4.104
Water consumption litre	139.6	341.3	339.6
Energy Consumption Mégajoule eq.	59.7	103.3	103.3

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Learning legacy

" Recommendations for future projects and programs

The whole life cycle of the products **needs to be considered**.

Some PVC based components are **more suitable** for installation **than non-PVC**.

More attention needs to be applied to the reengineering option, which should be considered before returning the product to source **for chemical recycling**."

Authors Richard Jackson – Principal Sustainable development & Regeneration Manager, ODA
Mike Scott – Project Assurance Manager, Government Olympic Executive

LSAA For more information visit: london2012.com/learninglegacy Published October 2011 ODA 2010/374

Thank You for your attention

Thanks to the Sources

LONDON 2012 & PVC

Joe Carris - Must RD – Legacy ambassador.

LEARNING LEGACY

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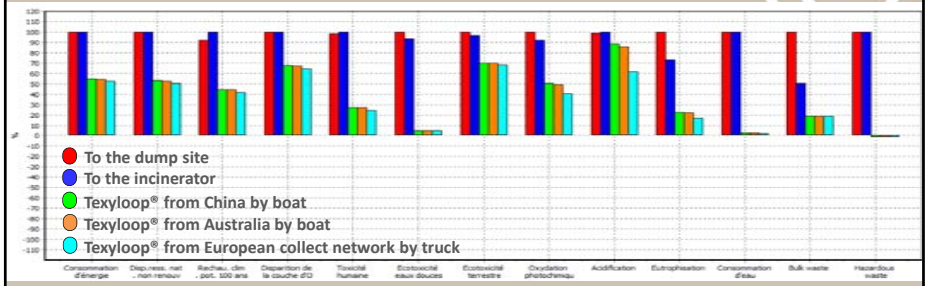
Measured impacts comparing transport from overseas



TEXYLOOP FERRARI architecture