Opportunities and threats of natural fibres:

A wool industry perspective

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The world of wool has changed dramatically in the last decades

The coming decades will see accelerated change

- 2 billion more people, mostly in the under-developed world
- Rapidly ageing first world populations

Implications for wool?
Wool: an increasingly rare noble fibre

Source: PCI Fibre (Apr 2013)
Wool: an increasingly rare, noble fibre

1.05 mt global clean wool produced per annum

~6 mt annual increase in cotton and MMF production

Wools volume share < 1% by 2022.

Rapid growth of ‘man-made natural fibres’

How do we create sustainable competitive advantage for wool?
Asia is driving the global economy (& spending)
As GDP per capita rises, spending changes

- **$0**
- **$5,000**
- **$10,000**
- **$15,000**
- **$20,000**
- **$25,000**
- **$30,000**

**GDP per capita (USD)**

- **US, Japan, Western Europe, Australia**
  - Health & financial services
- **China**
  - Premium goods
- **ASEAN**
  - Entry cars, housing, brand FMCG
  - Mobile phones, TV’s, motorbikes, basic FMCG

Better cars & housing
The wealthy drive spend on apparel

Source: Clint Laurent, Global Demographics Limited (2011)
Clothing spend growth: old vs new world

Symbol size represents 2021 market size (relative)
Data source: Global Demographics Limited 2011

Share of spend growth captured by the wealthy (%)
Over the next decade, 320 million more affluent householders 440 million across Asia, worth USD5.8 trillion in income growth. 

Original data source: IMA-Asia, April 2013
Rapid population ageing

Absolute change 2012-2022 (%)

- Japan
- China

Age group (yrs)
0 - 14, 15 - 24, 25 - 39, 40 - 64, 65 +, All

-88 m

China: Shrinking youth market, and boom in the affluent elderly
Dual income, no kids couples dominate spend growth

Original data source: IMA-Asia, April 2013
4 forces

- Lifestyles of health and sustainability
- Affluent ageing
- Declining birthrates
- Casualisation
Wool has a great story to tell

✓ Wool is a natural fibre protein.
✓ Durable, yet biodegradable in soil
✓ Uniquely crimped, giving unparalleled drape and elasticity
✓ Keeps skin dry, and actively manages micro-climate
✓ Resists static charge
✓ Naturally flame and odour resistant
All fibres, including wool, are under pressure to prove/improve environmental credentials and practices.

Key developments include:
- MADE-BY Rating tool
- Greenpeace’s Dirty Laundry Campaign
- Sustainable Apparel Coalition Higg Index
- Revised Chinese environmental policy

A long-term opportunity, or threat?

2 key issues:
- Credentials: data
- Chemistry: alternatives where needed.
## Wool LCA: gaps to fill, papers to publish

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Significant unresolved technical issues affecting wool LCAs (e.g. allocation) and producing single ‘numbers’ difficult

Table source: AWI and IWTO
4 in 10 nominate prickle as the ‘why’ they can’t buy wool

Closer to 5 in 10 in USA

1 in 10 think wool is an allergen

Critical challenge to address

Data source: AWI Limited (2011), and The Nielsen Company
Assuring skin comfort

Strategic program for knitwear started in 2007.

Generated a simple commercial test for fabrics, backed by extensive consumer testing.

Pilot instrument commercialisation started in 2012/13.

Images courtesy of Sheep CRC Limited
Hygral properties reflect unique structure

Hydrophobic surface, hydrophilic interior, high regain capacity (~35%)
Skin moisture buffering?

Wool’s capacity to absorb moisture is much greater than many other fibres.

It confers ability to act as a moisture ‘buffer’ or ‘bank’

A possible application is for management of dermatological conditions caused by defective dermal moisture retention.

Atopic dermatitis is a commonly experienced example.

Source: WIRA Data Book
Clinical trial results: Atopic dermatitis skin

Clinical score (0 = none, 3 = severe)

N=30 Adult chronic sufferers

Visit (Control): 1-4, Merino: 5-7

Source: Queensland Institute of Dermatology
Our strategy is to provide science support for marketing, especially for sensitive new markets – such as babywear.

Science:
• Sleep quality
• Skin compatibility (allergy)
• Woolmark baby standards
Wool has a great story to tell, to a global consumer base ‘evolving’ in our direction.

An opportunity is to reinforce wool’s wellness and natural credentials.

Wool should be considered a logical part of a lifestyle of health and sustainability.
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