Sustainability in the Tire Industry

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Agenda

Overview
What is Sustainability?
How the Tire industry performs

NR industry
Prices
Supply and demand
Tire industry exposure to NR

Tire Industry
Speciality - Commodity split
Pricing & brands - comparison with China
Impact of labels

De-risking from NR
Changing tread compounds
Bio-sourcing & Circular economies

Conclusions
Tire Industry Research

News

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Opinion, Commentary, Analysis

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Market Research

Sustainability in the Tire Industry 2016
China Tire Industry 2015-2018
China Tire Newsletter (Weekly)
More coming in 2016

Conference planning

Tire technology - Hanover 2016
VDI EuroTyre - Brussels Nov 2016
What is Sustainability?

- Environment
- Financial
- Social
What is Sustainability

- Change & complexity
- Security of supply
- Differentiation
- Damage Limitation

Mix of external best practice standards & ‘own’ standards and data to evidence achievements e.g. GRI + LeafTc

- Leading tire makers include Pirelli, Bridgestone, Nokian

Unilever, Kraft, Hersheys

Extensive, company specific metrics integrated with financial reporting to international standards, audited

Few metrics if any, low transparency, use of issue specific standards/indexes e.g. Sedex, ILO, ETI

Less advanced tire makers

- Pre-compliance
- Compliance
- Beyond compliance
- Integrated strategy
- Purpose & passion

Commitment

Bob Willard, The Next Sustainability Wave - 5 stages of sustainability

Source: AB Sustain, Tire Industry Research

Quantitative

Qualitative
What is Sustainability?

- Social
- Environment
- Financial
NR price to April 2016
Global tire production - growth

- MEA: 15.11m tonnes, 15.85m tonnes, 16.45m tonnes, 17.25m tonnes, 18.07m tonnes, 18.78m tonnes
- Korea: 2013: 15.11m tonnes, 2014: 15.85m tonnes, 2015: 16.45m tonnes, 2016: 17.25m tonnes, 2017: 18.07m tonnes, 2018: 18.78m tonnes
- USA: 2013: 15.11m tonnes, 2014: 15.85m tonnes, 2015: 16.45m tonnes, 2016: 17.25m tonnes, 2017: 18.07m tonnes, 2018: 18.78m tonnes
- Other Asia: 2013: 15.11m tonnes, 2014: 15.85m tonnes, 2015: 16.45m tonnes, 2016: 17.25m tonnes, 2017: 18.07m tonnes, 2018: 18.78m tonnes

Global tire production growth from 2013 to 2018, with specific data points for various regions, showing a steady increase.
Rubber consumption (NR) 2015

Source: IRSG and Tire Industry Research
Rubber consumption (SR) 2015

Source: IRSGs and TireIndustryResearch
NR supply-demand projection

- Actual production
- Normal production
- Actual demand
- Projected demand

Graph showing the comparison of actual and projected demand and production for NR supply over the years 2005 to 2027.
Exposure to rubber price

- Developed
- China
- India

2012 data

Source: TireIndustryResearch

2012 data

Other Ingredients
Other
Labour
Fabric
Chemicals
Fillers
SR
NR

Other
Sales/Mktg
R&D
Depreciation
Capex
NR interventions - What to do?

Things that don't work

Intervention in the markets
Traders are always faster and smarter, intervention is usually signalled

Promises to restrict tapping
individual smallholders ignore policy

Restricting exports
Smuggling is always possible

Subsidising farmers
Depends on the implementation, tends to subsidise traders

Price ‘stabilisation’ agreements
Too much international administration

Things that might work

Consumers agree to pay more
Brave move by consumers, risks competitive disadvantage, how about price cuts when prices rise?

New applications
(eg) road construction to restrict supply

‘Industrial’ pricing
Will agreements hold at price extremes?

Direct, long-term agreements
If supplier has something unique to offer, requires courage on both sides

Cut costs; improve efficiency
Automation; better clones; Genomics
Effect of volatile NR prices on tires

Around 150m CV tires made each year
Each contains up to 20 kg of NR
Price of NR is around $1/kg below cost of production
Each tyre represents a subsidy of $20 from producers to consumers
Total subsidy is $3000m per year at current prices

Tire makers want NR to be sustainable
Discussions of ‘Industrial Pricing’
Tire makers want transparency and stability

De-Risking strategies
Using SR tread technology
Developing alternatives - Guayule; TKS
Developing bio-sourced monomers
 Developing circular economy - recycling
Commodity - speciality split

China now a good example of this
Extreme segmentation between international and domestic players

Gives strength to international players
Reinforced by OE fitments on major brand vehicles

Local players compete mainly on price
Customers have little information on which to base buying decisions

Started in developed world with Price-mix
Was a strategy to compete against greater imports of low-value tires

Now becoming significant strategic factor
especially in the high-end & foriegn-branded vehicles
Standards & Accreditations

Carbon Disclosure Project
The Global Reporting Initiative
Dow Jones Sustainability Index
World Business Council for Sustainable Development
UN Global Compact
International Integrated Reporting Council
Sustainability Accounting Standards Board
Forest Stewardship Council
Sustainable Natural Rubber Initiative
Fair Rubber Association

ISO Standards
ISO 9000:2015 Quality Management system
ISO 19011:2011 Audit standards
ISO 14001:2015 Environmental Management
ISO 50001:2011 Energy Management
ISO 26000:2010 corporate social responsibility
# De-Risking from NR-1

## Switching to SR treads

**Car tires (SR):**
- Michelin's Green X in 1995
- S-SBR, Silica - Silane
- SR suppliers are very responsive
- Life, wet grip and rolling resistance
- Functionalisation chemistry
- Distributed supply base

**Truck tires**
- Mostly NR treads
- Strong need for long life
- Rolling resistance more important
- Retreadability?
- Overloading?
- NR risks

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Sustainability in the Tire & Rubber Industry by David Shaw

Alternatives to NR

**Guayule**
- Desert shrub
- Grown from seeds
- Intense genetic development
- Whole plant converted to latex, biomass, resins
- Grown & harvested on 18-month cycle

**TKS (Kazakh Dandelion)**
- Related to common dandelion, but less vigorous
  - Issues with cross-contamination
- Grown from seeds
- Intense genetic development
- Roots harvested for latex
- Grown & harvested on 6 - 12 month cycle
Bio-monomers

**Synthetic polyisoprene**
- Goodyear-DuPont
- Bridgestone-Ajinomoto
- China, Russia developing polyisoprene from synthetic sources

**Bio-sourced butadiene**
- Genomatica - Versalis
- Lanzatech
- Global Bio-Energies

*A range of different projects*
De-Risking from NR-4; Recycling

Recycling old tires into new tires
Granulation & De-vulcanisation
Micro-grinding (Micronisation)
Reclaim, high-tensile reclaim
Aim is to find a source for rubber if/when NR price accelerates

Biological processing of old tires
Bio Butterfly (Michelin)
Conclusions & Take-Aways

**NR**

Prices are not sustainable
Tire industry is taking pro-active action to de-risk
NR community needs to listen to customers and respond to their needs

**Global tire industry**

Increasingly moving to commodity/speciality segmentation
Market insight is the key to mid-term profit
China dominates in volume, but not in profitability

**Tire industry seeking to de-risk from NR**

Developing alternatives such as Guayule, TKS
Using car tire tech to develop SR-based truck tire tread compounds
Circular economy becoming high priority in consuming markets
Use of recycled materials likely to increase
Thank you for your attention

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