



# **Green Chemistry and Consumer Products**

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Boots UK Ltd

# Agenda

- Look at our past
- Look at the present

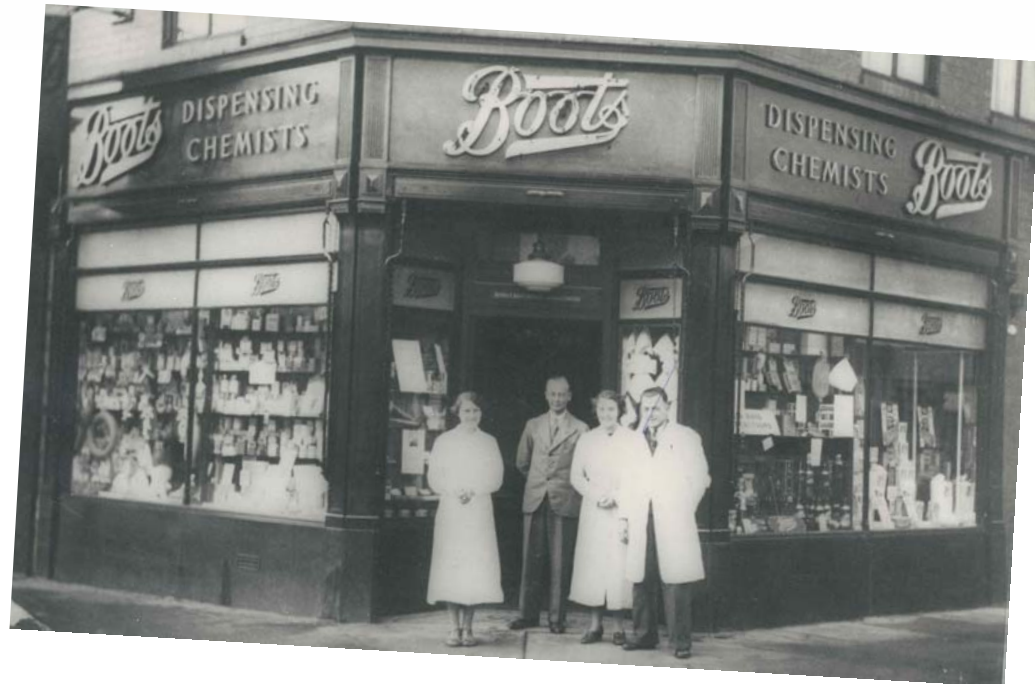


- ....and gaze into the crystal ball to see the future





**Boots Has A Proud Heritage....**

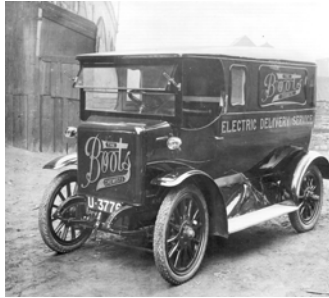


# 1860's Nottingham, UK

- “Affordable medicines for the poor”
- Healthcare facilities, welfare workers, staff outings
- Donations of land and money to city

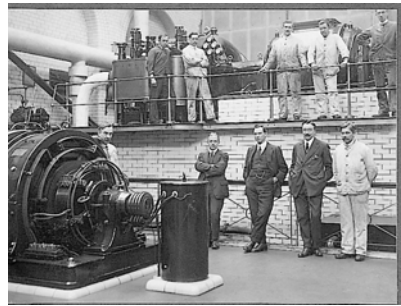


# A legacy of environmental good practice



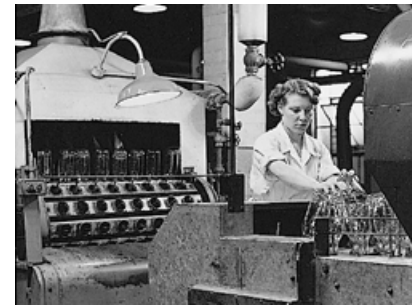
**1914**

Electric Vehicles



**1915**

Power Plant



**1930's**

Glass recycling



# A legacy of staff welfare



**1924**

Female Staff  
Outing



**1934**

5 Day Working  
Week



**1946**

Boots College



# And more recently....



**1996**

Breast Cancer  
Care



**2006**

500,000 smokers  
helped to quit



**2007**

Raised £1 Million



**2008**

Selling counter top  
merchandise  
throughout the year







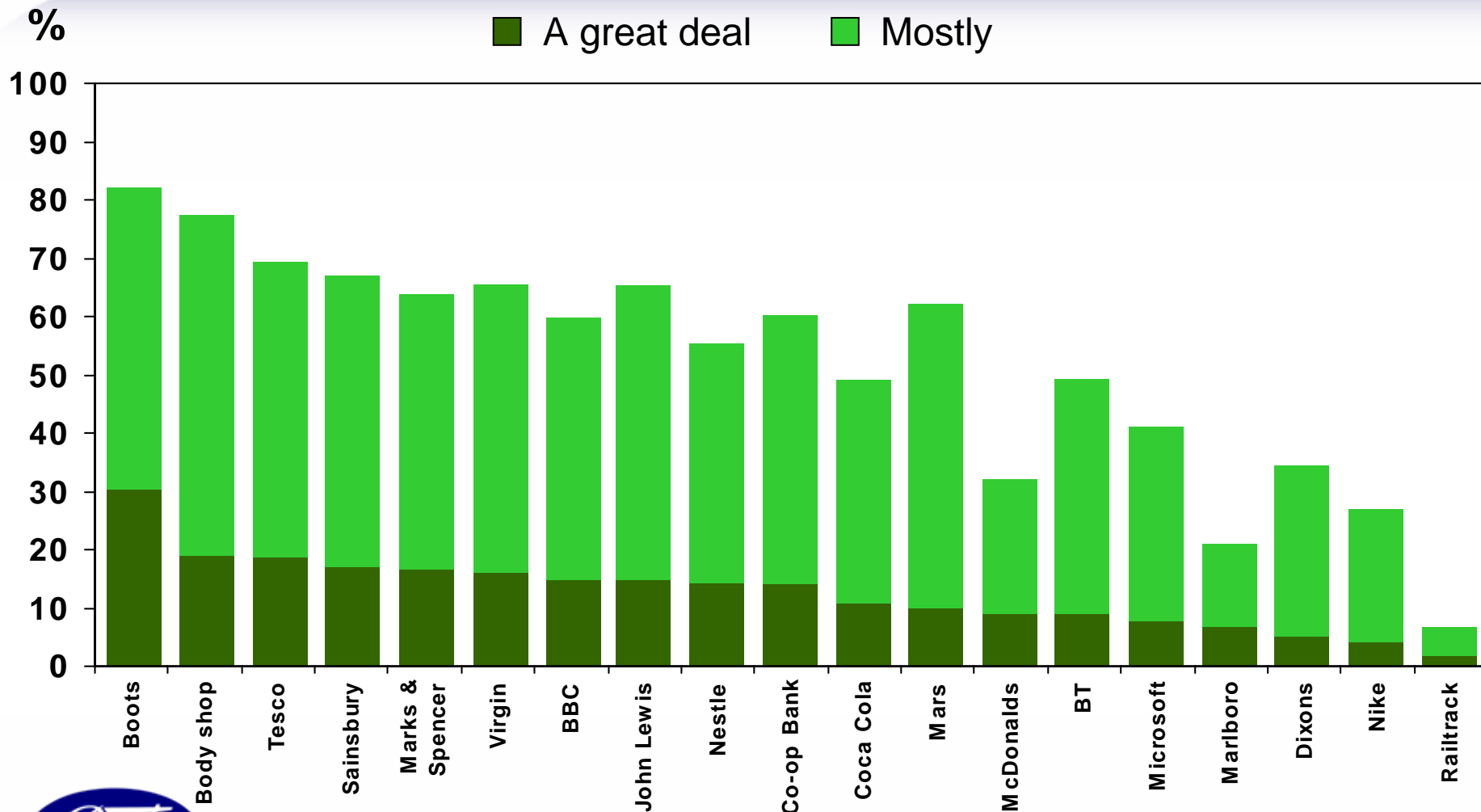
# Agenda – Boots Environmental Credentials

- **Look at the present**
  - A journey towards product sustainability



# Trust In Companies

Proportion who think that selected companies can be trusted a great deal/ mostly  
“To what extent do you think that ... can be trusted overall”



Source: The Future Foundation/ Work Foundation 2001

Business in the

Community

# COMPANIES THAT COUNT 2008

in association with

**THE SUNDAY TIMES**

Alliance Boots has received a **gold** rating in the business in the community "**Companies that Count 2008**" corporate responsibility index. The index captures the extent to which corporate responsibility is integrated into corporate strategy and translated into responsible practice throughout an organisation.

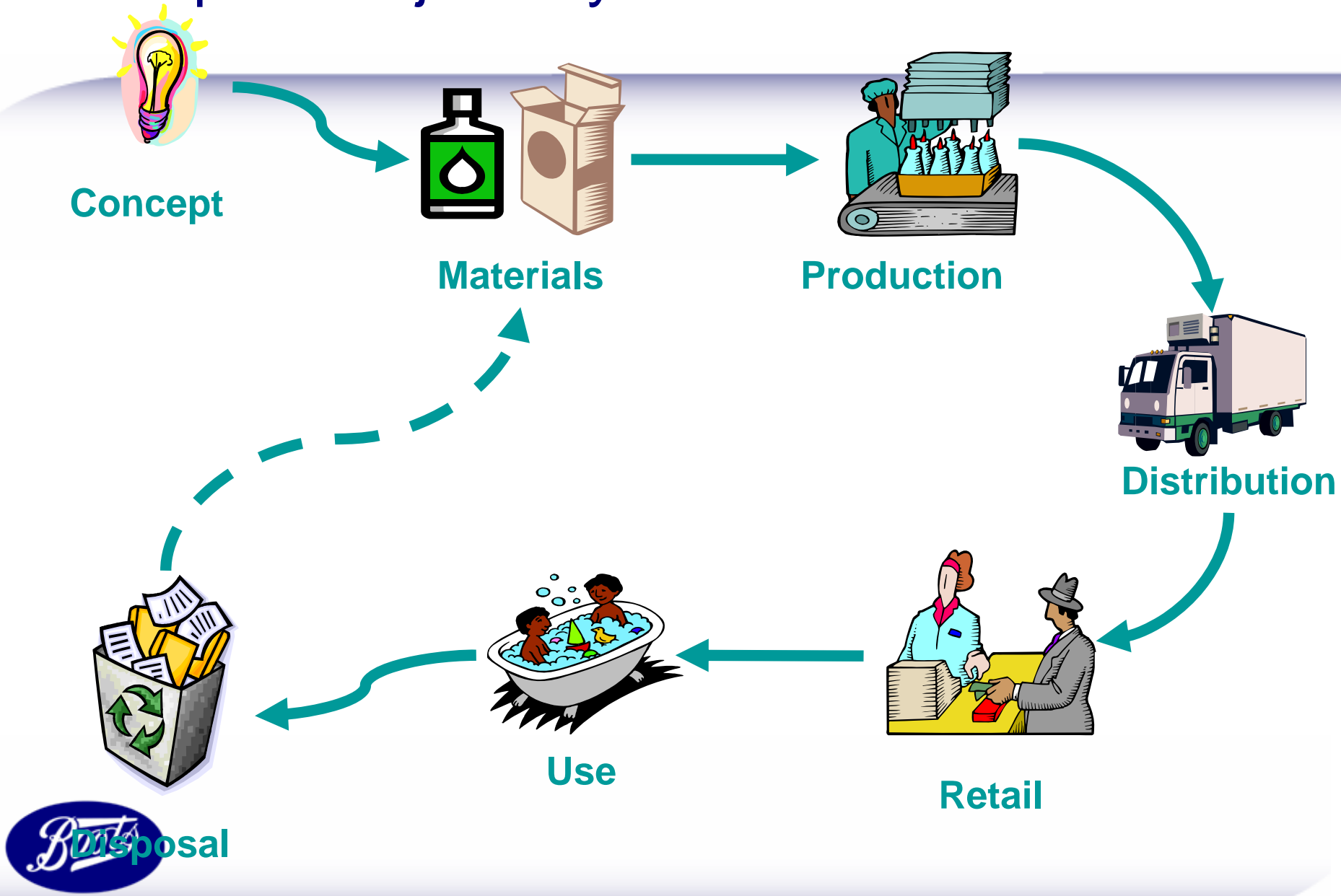
The results were announced in a recent Sunday Times supplement, listing the top 100 companies for corporate responsibility.



# Our Brands



# The product journey



# The product journey

- Product development based on sustainable development principles
- Reduces risks
- Increases brand trust
- Stimulates innovation
- Improves efficiency
- Cradle to cradle
- A journey – not a destination!

**Rosemary. Great with lamb, potatoes and blackheads.** Plants can do incredible things for our skin. But Boots know to get the most out of them you don't just need a chemist, you need a botanist. That's why we worked with experts at the Royal Botanic Gardens, Kew to create plant-based skincare that really works. Botanics Pore Perfecting Light Night Cream for example, contains rosemary, scientifically proven to help keep skin clear and prevent spots. And at £5.29, it's as good for your pocket as it is for your skin.

Trust 



The image shows a sprig of fresh rosemary with green, needle-like leaves. In the bottom right corner, there is a small jar of Boots Botanics Pore Perfecting Light Night Cream. The background is white.



# The product journey - materials



- Large user of chemicals and components
- Applied to the skin, or ingested
- First retailer to publish a strategy on the use of chemicals that commits us to take a precautionary approach.
- Developed environmental sustainability criteria for use of all our chemicals and currently reviewing their impact
- Continually reviewing our existing portfolio of chemicals and have reduced number of chemicals by 50%
- Constructive external NGO dialogue
- Have close relationships with academia to develop and introduce Green Chemistry initiatives



# What Are The Business Benefits of our approach to chemicals?

- Societal benefit
  - healthcare first
  - encourage the use of substances that provide the best protection of public health and the environment
- Commercial benefit
  - encourage innovation to produce long term sustainable products
  - remove unnecessary reformulation cost and issue management
- Better products.
- Business is prepared for legislative changes.
- Continued trust in brand.
- Green Chemistry is the future for all our products!





# Agenda



- .....and gaze into the crystal ball to see the near future



# Research - Development of high value ingredients from Algae

Proposed to use waste and heat from Boots own power station to grow marine algae in photobioreactors on site

- Harvest and process algae to provide components to be used in Boots cosmetics and toiletry products.
- Flue gases from Boots power station used as a source of heat and nutrients i.e CO<sub>2</sub>/NO<sub>x</sub> to grow the algae on a larger scale.
- This could lead to a reduction in the CO<sub>2</sub> emissions and be of significant importance for our Carbon management programme.
- If successful the project will provide Boots with renewable sources of raw materials.



# Research

## **Evaluation of the Environmental Impacts of Chemical Substances in Use in Boots Products**

### **Phase 1: Development of Algorithms & Phase 2: Application of Screening Algorithms**

**CJ Sinclair, GP Bryning, ABA Boxall and EJ Smith**

FINAL REPORT FOR BOOTS  
CSL Project P3QM

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**Table 23. Compounds considered high or moderate risk to surface water ecosystems**

CAS number(s)	Group ID Number	High annual production <sup>a</sup>	High partitioning to water <sup>b</sup>	Default ecotoxicity used	Potent estimated ecotoxicity <sup>c</sup>	Potent experimental ecotoxicity <sup>c</sup>	PEC/PNEC <sub>sw</sub>	Risk category
4390-04-9; 60908-77-2	3	y	n	n	y	n	9.29E+02	high
12042-91-0	4	n	y	y	n	n	2.24E+02	high
154702-15-5	3	n	n	n	y	n	2.12E+02	high
7789-77-7	4	n	y	y	n	n	1.68E+02	high
68411-27-8	3	y	n	n	y	n	1.32E+02	high
111-60-4	3	y	n	n	y	n	1.09E+02	high
19666-16-1	3	y	n	y	n	n	6.18E+01	high
64-17-5	3	y	y	n	n	n	3.67E+01	high
557-04-0	7	n	n	y	n	n	2.52E+01	high
5333-42-6	3	n	n	y	n	n	2.04E+01	high
3055-97-8	3	n	y	y	n	n	1.49E+01	high
8006-54-0	1	y	n	n	y	n	1.22E+01	high
13463-41-7	7	n	y	n	n	y	1.20E+01	high
541-02-6	3	y	n	n	y	n	7.69E+00	moderate
540-97-6	3	y	n	n	y	n	7.23E+00	moderate
61789-40-0	7	y	n	n	n	n	4.50E+00	moderate
91080-23-8	1	y	n	n	n	y	4.47E+00	moderate
1338-41-6	3	n	n	n	y	n	2.89E+00	moderate
118-60-5	3	y	n	n	n	y	2.74E+00	moderate
8001-25-0	1	y	n	y	n	y	2.26E+00	moderate
1119-97-7	7	n	n	n	n	y	2.18E+00	moderate
90320-37-9	1	y	n	n	n	y	2.11E+00	moderate
52304-36-6	3	y	y	n	n	n	2.02E+00	moderate
68916-39-2	1	n	n	n	n	n	1.45E+00	moderate
31566-31-1	3	y	n	n	n	n	1.38E+00	moderate
8012-89-3	1	n	y	y	n	n	1.26E+00	moderate
112-02-7	7	y	n	n	n	y	1.18E+00	moderate
8002-31-1	1	y	n	n	n	y	1.04E+00	moderate

more than 10 tonnes per annum

highly mobile to very mobile or 100% partitioning for ionic compounds

# Education

The SHOP project

- Aimed at engaging with the general public to increase their awareness of the role of green chemistry and sustainability of consumer products.
- Produce an interactive unit that will introduce consumers to the vital chemistry that underpins a whole series of personal care products.



THE UNIVERSITY *of York*



([www.greenconsumerproducts.com](http://www.greenconsumerproducts.com))

# GREEN CONSUMER PRODUCTS

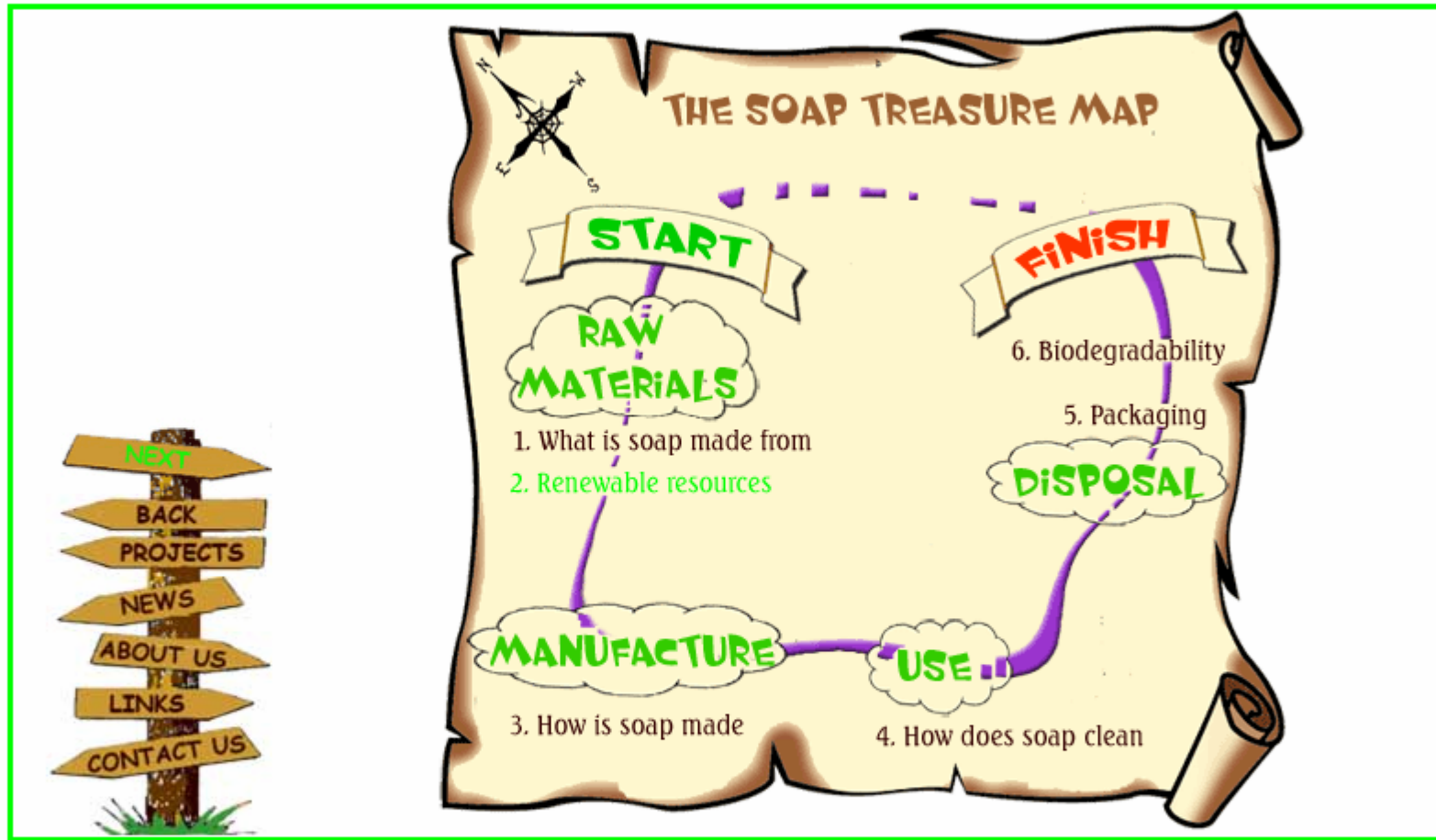


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# GREEN CONSUMER PRODUCTS

Home > Projects > Personal care products > Soap > Raw materials: Impact of renewable resources on the environment

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## Impact of renewable resources on the environment



1. Orangutan



2. Chicken



3. Cat



4. Worm

The life of which of these animals has a link to soap ?



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# What we do know about the future....

- Continued interest from global media and NGO's on safety chemicals and their sources.
- Oil will not get any cheaper so green solutions must become the norm!
- Increase in global legislation covering the environment – from chemicals to packaging through to transport to pollution.
- Increase in consumer demand for greener products and information wherever they are sold.



# What we need to see more of....

- Data on existing and new options for greener chemicals.
- Stakeholder dialogue – involve all interested partners across the supply chain to encourage use of ‘greener’ alternatives.
- Recognition of entire supply chains.
- Media relations –good news stories!
- Technical support that really counts is increasingly being supported over cost of goods!



# For more information:

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- To Shop at Boots: [www.boots.com](http://www.boots.com)