

## Industrial Biotechnology – a new beginning



## Delivering a low-carbon economy

Diminishing metal/material resources

Oil Resources

Water

Waste



# Enabling a Bio-based Economy in the UK



or/and

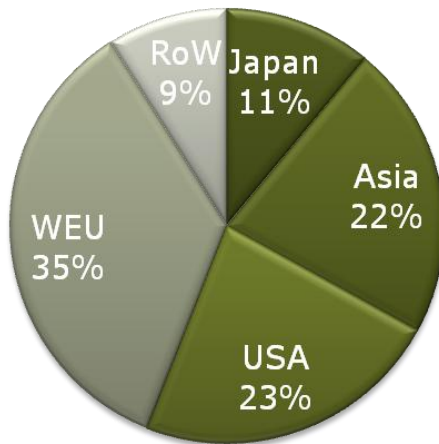


## Market opportunities for bio products

### Gigantic market opportunities for biochemicals

- Total value of chemical market in 2003  
~ USD 1.24 trillion (approx. £12b in the UK)
- Virtually all chemicals are produced from oil and gas today
- EU is the world's leading producer of chemicals

Chemical output by region\*



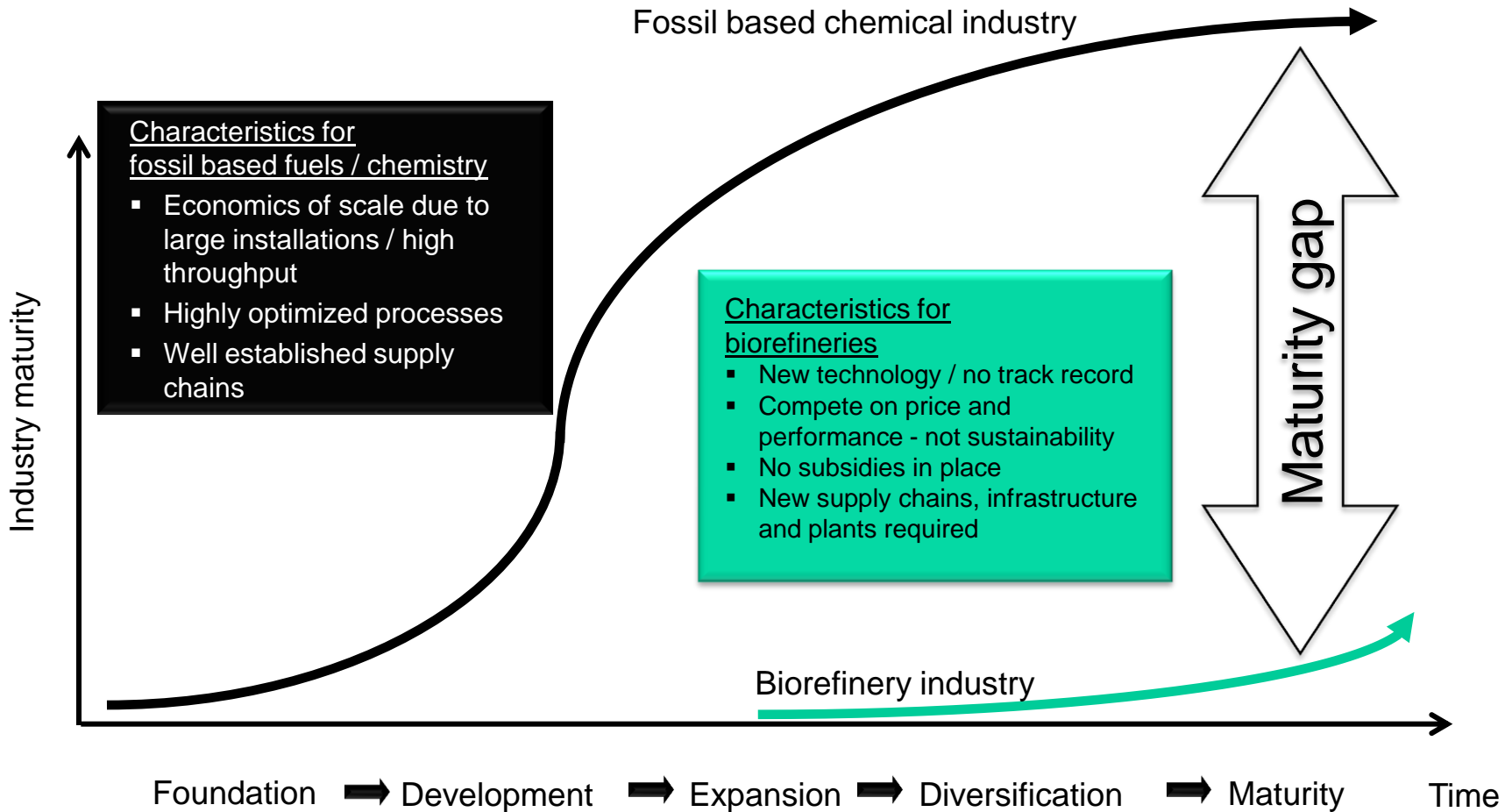
### Global trends favor bio-based products

- Increasing and fluctuating oil prices suggest that bio-based alternatives will become competitive soon
- Increased focus on climate change, the use of renewable products and rapid biotechnological advances support this development

\* Excluding pharmaceutical and consumer products  
SOURCE: *Value Creation*, Ed. Budde, Felcht, Frankemölle, 2006.

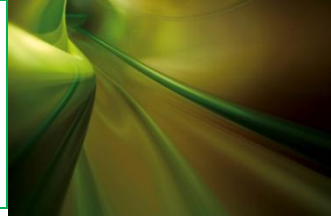
# Enabling a Bio-based Economy in the UK

However, significant challenges remain to realise opportunities



## So what are we doing?

- Delivered the IB-IGT with input from many lead companies
- Established the IB Leadership Forum
  - Ambassadors for IB in the UK and Europe
  - Developing a coordinated promotion plan of UK IB strengths
- Securing Government investment :
  - Demonstrator facility at CPI (£12m)
  - Technology Strategy Board project funding (£5m)
  - Set up a Special Interest Group to deliver the IBIGT actions



## So what are we doing?

- Raising the profile of IB with an aggressive engagement strategy
- Commissioning AD Little to work on defining the prize for UK
- Developing a collaborative academic approach to IB
- Ensuring life cycle analysis tools are in place for IB
- Developing an new MENU approach address the skill needs for IB

# Enabling a Bio-based Economy in the UK

## Who's involved?

The image displays a collection of logos for various organizations involved in the UK bio-based economy. The logos are arranged in a grid-like fashion. The organizations include:

- MANCHESTER 1824**
- Technology Strategy Board** (Driving Innovation)
- P&G**
- syngenta** (UK & IRELAND)
- CoEBio3** (Centre of Excellence for Biocatalysis, Biotransformations and Biocatalytic Manufacture)
- EPSRC**
- cpi** (...the future inspired)
- green biologics**
- Chemistry Innovation** (Knowledge Transfer Network)
- NNFCC**
- bbsrc** (biotechnology and biological sciences research council)
- AkzoNobel** (Tomorrow's Answers Today)
- excelsyn** (delivering process excellence)
- HERIOT WATT UNIVERSITY**
- BRITISH SUGAR**
- CRODA**
- AstraZeneca**
- University of Oxford**
- Boots**
- Unilever**
- Piramal Healthcare** (knowledge action care)
- Queen's University Belfast**
- gsk** (GlaxoSmithKline)
- Imperial College London**
- UCL**
- Plymouth Marine Laboratory**
- University of BRISTOL**
- Cardiff University** (PRIFYSGOL CAERDYDD)
- Bioscience for Business** (Knowledge Transfer Network)
- the UNIVERSITY of GREENWICH**
- Britest**
- INEOS**
- PRIFYSGOL CYMRU ABERTAWE UNIVERSITY OF WALES SWANSEA**
- WARWICK**
- UNIVERSITY OF NEWCASTLE UPON TYNE**
- UNIVERSITY of GLASGOW**
- UNIVERSITY OF BRADFORD** (MAKING KNOWLEDGE WORK)
- UNIVERSITY OF GLASGOW** (PRIFYSGOL MORGANNŵG)

## Summary

- We are on track to deliver the step change in IB for the UK.
- Leadership for the UK is now recognised.
- The size of the prize is in excess of £10b.

# Enabling a Bio-based Economy in the UK

## For further information

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Or

Join us at the Chemistry  
Innovation Stakeholder Forum  
on the 30<sup>th</sup> June 2010.

