

# Priority Policy Issues for Industrial Biotechnology and Green Growth



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# Why The Current Emphasis On Industrial Biotechnology?



- Fossil based feedstocks for energy and products are becoming more difficult to access and, as a result, more costly
- Broad based international economic growth creates greater competition for resources
- Climate change issues have focused attention on environmental sustainability
- Scientific advances have enabled development of a robust biotechnology industry
- Green growth supports sustainable economic growth

# What Public Policy Attributes Support Biotechnology and Green Growth?



- Strong support for both basic and applied biological science
- Strong support for green chemistry research
- Recognition of intellectual property rights in biological discoveries
- Strong support for developing employee knowledge and skills needed by the industry
- Public sector support for innovation
- Ability to develop and sustain creative and productive public/private sector partnerships

# Meeting the Market Test with Industrial Biotechnology Products



- **Industry Strategies**
  - Incorporate environmental considerations in product design, pricing, and promotion
  - Use life cycle assessment tools to evaluate sustainability
    - ✦ Environmental
    - ✦ Economic
    - ✦ Social
  - Assure that biotech products meet performance standards as rigorous as those of the fossil energy based products they replace
  - Target products that add unique value to consumers
  - Launch responsible consumer education programs

# Meeting The Market Test With Industrial Biotechnology Products



- **Government Strategies:**
  - Require biobased attributes in products via statutory or regulatory language
  - Adopt standardized or best practices metrics to measure sustainability attributes
  - Provide purchasing programs to support infant industry
  - Provide incentives to buy down cost of feedstocks or products for early producers
  - Provide grants, loans, and loan guarantees to support early capital investment in start-up firms with innovative products
  - Support responsible consumer education programs

# In Summary, Industrial Biotechnology Offers Real Benefits



- Countries can pursue types of products that fit their resource base, providing flexibility in focus
- Countries may reduce dependence on fossil energy
- Biobased products may improve sustainability
- Unique product attributes are easier to achieve and production processes may be simplified
- Advances in science promise more innovation in products and performance
- Can support creation of environmentally friendly economic and job growth