Destination: Sustainability

There are many routes to the same destination, but we may not start from the same place. In addition, there are trade-offs for one route vs. another.
Motivations and Roadblocks for Green Chemistry Innovation

Good for the planet
Good for business

Trade-offs
Transparency vs. intellectual property
Technology gaps
Dow Sustainable Chemistry Case Studies

DOW™ POWERHOUSE™ roof shingles
- Combines roofing protection and power generation in one product
- Reduces installation costs by more than 50%
- Proprietary electrical connections eliminate tedious and costly on-roof wiring
- US DOE grant

Sustainability Profile
- Utilizes 1/100 of the material of Si solar cells
- Consumes 1/3 of the energy to produce
- Delivers up to 20% conversion efficiency

#13 on TIME Magazine’s “50 Best Inventions of 2009”
Dow Sustainable Chemistry Case Studies

Natural Oil-based Polyols
• Dow's patented technology
• Eliminates odors typically associated with soy-based products
• Delivers processing and performance with high levels of renewable content

Sustainability Profile
• Greenhouse gas neutral
• Uses up to 60% fewer fossil fuel resources than conventional polyol technology
Important Considerations

Risk = exposure x hazard

- Focus government resources on restricting uses believed to pose the greatest risk
- Innovations should reduce *both* hazard and exposure

*Use matters*
Dow’s Approach

- **Sustainable Chemistry**
  - 10 year Goal including index that assesses all sales for sustainable chemistry attributes annually
  - Tools for businesses to evaluate opportunities
  - Footprint tool to guide R&D choices

- **Product Safety Leadership**
  - Commitment to have product safety assessments (> 250 to date)
  - Process for assessing product safety
  - Principles for chemicals management
  - Formal product stewardship program for over 30 years
  - Toxicology lab for over 70 years
Dow’s Position on TSCA Reform

- Agrees TSCA needs reform
- Believes new legislation should
  - Screen all chemicals in commerce
  - Base safety decisions on weight of scientific evidence
  - Provide incentives and tools to advance sustainable chemistry
  - Foster life cycle thinking
Point of Intersection - Collaboration

ACADEMIC
- New Curricula
- New Technology
- New Tools

INDUSTRY
- New Products
- Sponsored Research
- Product Stewardship

GOVERNMENT
- Incentives
- Education
- Legislation

SOCIETY
- Purchase Preference
- Advocate for Change
- Education/Awareness
References to “Dow” mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted