The Business of Sustainable Development

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- One billion people are living on less than $1 a day
- One billion people lack clean water — two billion lack sanitation
- Global population is expected to reach 9.1 billion by 2050
- Two thirds of ecosystems are being degraded or used unsustainably
- Energy consumption is expected to increase 70% by 2030
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Does Business Have a Role?
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Sustainability & Profitability

- Challenges represent **unmet market needs**

- New **products, technologies** and **business models** are needed

- Business contributes by providing **jobs**, creating **opportunities** and generating **wealth**

- **Shareholders** are demanding performance
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Caterpillar’s “Intersections”: Energy

Bringing fuels to market cleanly and efficiently

Generating clean power from alternative fuels
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Caterpillar’s “Intersections”: Materials

- Harvesting resources efficiently and safely
- Remanufacturing end-of-life products
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Caterpillar’s “Intersections”: Mobility

Manufacturing clean and efficient power sources for on- and off-highway equipment
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Caterpillar’s “Intersections”: Development

Determining our role as we help build
the world’s infrastructure
Every business has an impact – we can all contribute

Opportunities will appear – sometimes in surprising places

Employees, communities, customers and suppliers can help

Investors and lenders will be asking – if they aren’t already
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Reducing Green House Gases From Operations

Global Target

• 35% reduction from 1990-2002 (over 450,000 tons CO₂ equiv.)
• 20% additional improvement by 2010

“By setting an aggressive target for the reduction of GHG emissions, Caterpillar is leading efforts to improve our global environment.”

Jeff Holmstead, EPA
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A Legacy of Innovation

• Over $5 million invested in research and development each working day – $1.35 billion in 2006
• Hundreds of Ph.D. scientists
• More than 2,500 patents in last 5 years
• Recognized for developing ACERT® Technology
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More Sustainable Products Through Advanced Technology (ACERT)

Breakthrough emissions reductions while increasing customer value
**CAT Environmental Technologies**

Established in 2005 to address rapidly expanding engine emissions with advanced catalyst and system integration technologies.

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**Renewable Energy**

Cat’s expertise is growing in renewable energy resources, including photovoltaic technology and methane management.

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**Reclamation**

Cat is already involved with machine use in landfills, landfill gas engines, haulage, demolition, and Reman.

- All new product concepts incorporate “design for remanufacturability”
- Cat Certified Rebuild program transforms vehicles to original like-new condition at end of life.
- Cat Reman business expanding to include automotive engines and powertrain components
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REMANUFACTURING AND REBUILDING ARE KEY EXAMPLES OF SD BUSINESS OPPORTUNITIES

Dealers / Distribution

The Reman Cycle

Core Logistics

Outbound Logistics

CAT Reman Services

PROGRESS RAIL SERVICES

Solar Turbines

A Caterpillar Company

Remanufactured Product
• Over two billion lbs/year
• Engines, transmissions, hydraulics locomotives, railcars
  • ~70% recycled material
  • Preserves 80% of original energy
  • Approaching zero landfill

Recycled Product
• Overhaul
  • 85% recycled material
  • 1300 engines/year
  • 300 gas compressors/year
• Package refurbishment
  – 75% recycled material
  – 75 Packages/year
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Methane Gas Conversion
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INTELLIGENT CHOICES

- business
- citizens
- academia
- government
- NGOs
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**Headline News: Energy & the Environment**

**Oil prices still rising**
Crude oil prices on the New York Mercantile Exchange surged higher Monday amid news that output at Iraqi key oil fields was stopped for security reasons.

**NYMEX light crude**

<table>
<thead>
<tr>
<th>July 26</th>
<th>Trading days</th>
<th>Aug. 9</th>
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<tbody>
<tr>
<td>$45 per barrel</td>
<td>$44.84</td>
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**SOURCE:** Department of Energy AP

**Ethanol boom**
The US produced about 3.4 billion gallons of fuel ethanol in 2004. Almost 86 percent of that came from the Midwest.

**SPECIAL REPORT GLOBAL WARMING**
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- Energy availability drives the **global economy**
- Global energy needs may increase **70%** by 2030
- **Reducing demand** is not enough
- We have access to **tremendous energy supplies**
- The missing link is **readily available technology**
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- Coal generates about **40%** of the world’s electricity
- U.S. is the “**Saudi Arabia of coal**”
- Coal reserves are found in **70 countries** – 155-year supply
- Electricity from coal is a **bargain**
- We must find **clean, efficient ways** to process and use it
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The Challenge of Climate Change

- The environmental issue of our time
- Improving energy efficiency in our facilities
- Helping customers be more energy efficient in their operations
- Participating in the development of policy and technology solutions
Not a linear activity

Must take into account all aspects of:

• Energy Security (available when you need it, where you need it, in the quantity you need it)

• Energy Competitiveness ($ per KwH)

• Environmental effects
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JULY 20, 1969

Meeting THE Climate Challenge
Recommendations of the International Climate Change Taskforce

CATERPILLAR® TODAY'S WORK. TOMORROW'S WORLD™
Thank You