

SUSTAINABLE SUPPLY CHAIN AT BD

NJDEP

June 17, 2014



Who is BD?

- **FORTUNE 500** company (#332)
- Locations in **more than 50 countries**
- Nearly **30,000 associates** worldwide
- Serves healthcare institutions, life science researchers, clinical laboratories and the general public
- Sells a broad range of medical supplies and services, devices, laboratory equipment and diagnostic products



FY 2013 Revenues / Segments

Revenue

(billions of dollars)

\$8.054

- BD Medical
- BD Diagnostics
- BD Biosciences

BD Medical



BD Nexiva™ Closed IV Catheter System



BD™ Syringes



BD™ Pen Needles

BD Diagnostics



BD GeneOhm™ MRSA Assay



BD Vacutainer® Push Button Blood Collection Set



BD Eclipse® Blood Collection Needle

BD Biosciences



BD Influx™ Flow Cytometry System

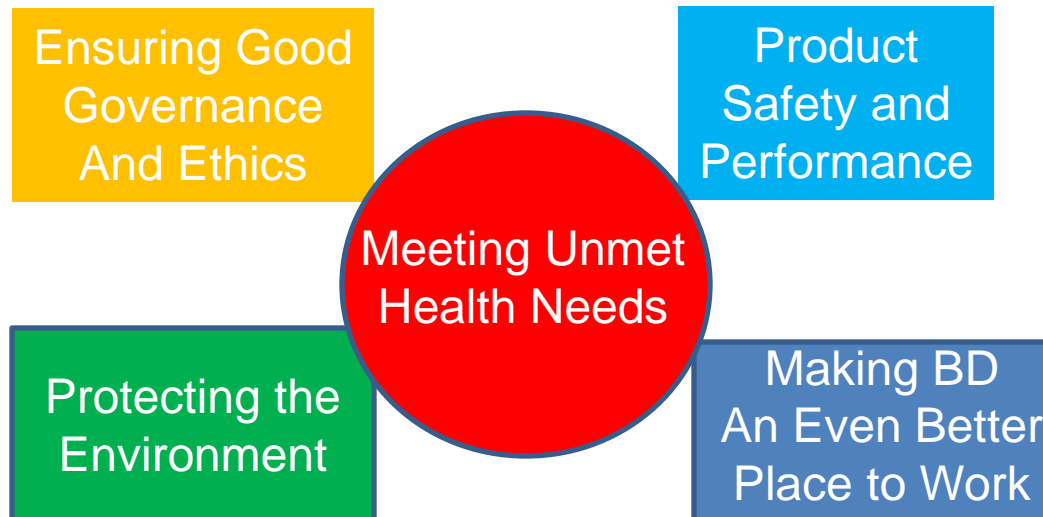
BD FACSCount™ System



BD Advanced Bioprocessing Cell Culture Media Supplements

OUR SUSTAINABILITY APPROACH

Meeting unmet health needs is our core mission. All other operations and activities exist so BD can fulfill this fundamental charge as effectively as possible. Our history testifies to our dedicated pursuit of this shared commitment with our business and stakeholders



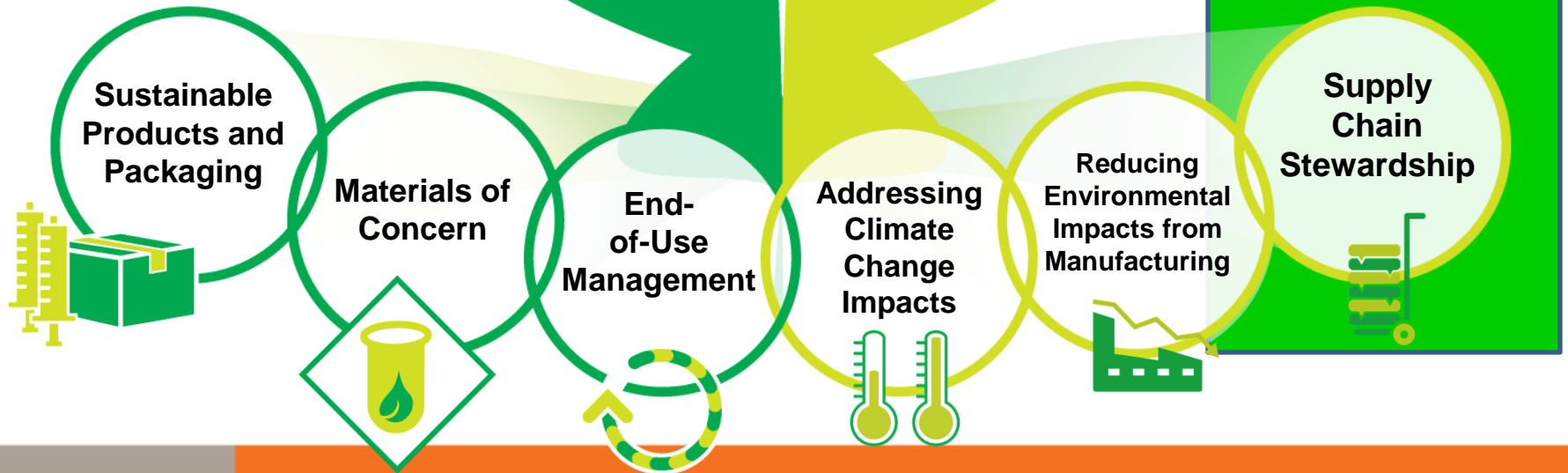
PROTECTING THE ENVIRONMENT

The Office of **Global Sustainability**



Product Stewardship

Sustainable Operations



TARGETS

BD 2015 Sustainability Targets

Progress Against Targets

(Status in FY 2013, from FY 2008 baseline)



Reduce energy consumption from operations by 30%



Reduced by 15%



Increase renewable energy use to 25%*



32% of total*



Reduce water consumption by 15%



Reduced by 29%



Reduce hazardous waste generation by 10%



Reduced by 48%



Reduce non-hazardous waste generation by 15%



Reduced by 15%

Upstream Supply Chain Activities

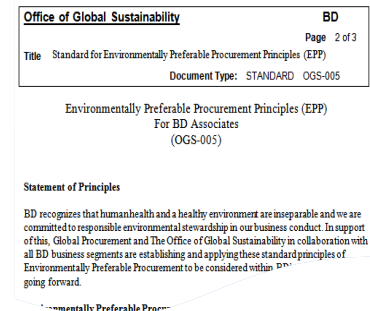
BD Expectations for Suppliers

- BD Expectations for Suppliers available on the www.BD.com website in 12 languages
- First published in 2009, revised yearly
- Specific standards for suppliers regarding
 - Social Responsibility
 - Environmental Stewardship
 - Ethical Practices
 - Governance
- Referenced in all contract documents (RFP, PO, Agreements)
- Verification of compliance based on risk based analysis
 - Audits at suppliers that could pose a risk of non-compliance
 - Corrective action and continued monitoring where necessary



BD Environmentally Preferable Procurement (EPP) Principles

- Internal **BD Standard** issued in 2012
- Standard principles for **specifying and buying** environmentally preferable goods and services
 - Recycled content
 - Product life cycle – end of life (reuse, recycle, take back)
 - Minimal resource use: materials, energy, water, packaging, etc
 - Reduce/eliminate waste, emissions, use of HazMat, MOCs
 - Transport optimized
 - Measure track and disclose resource use and emissions



Procurement Sustainability Summits

- 5-8 suppliers** meet at a BD site
- Discuss** approach to sustainability of all in attendance, including BD
- Brainstorm** sustainability project ideas

Transportation Participants:



KUEHNE+NAGEL



Small Business/Supplier Diversity

- Working to increase opportunities to include **small/diverse suppliers**
 - In the IIGs of all sourcing associates
 - Incorporated into sourcing strategy work
 - Outreach through conferences, speaking engagements and local groups such as SBA/PTAC
- Increase visibility of **current suppliers**
 - Small Business
 - Women Owned
 - Minority Owned
 - Small Disadvantaged Businesses
 - HUBZone Businesses
 - Veteran Owned Businesses
 - Service Disabled Veteran Owned Businesses



Other Procurement activities

- **Value Formulas** to quantify suppliers' contribution to
 - Reducing BDs carbon footprint
 - Protecting BDs reputation
- **Sustainability Award**
 - Recognize suppliers contributing to Sustainability
 - Also CSR component in all supplier awards



Supply Chain Challenges

- **Regulatory Reporting Requirements** – such as REACH, RoHS, GPL, WEEE require supplier transparency
- **California Supply Chain Transparency Act (SB657)** – addresses the risks of slavery and human trafficking in the direct supply chain.
- **Conflict Minerals** – the Dodd Frank Bill (HR4173) requires annual reports to the SEC disclosing whether products contain minerals (Tin, tungsten, tantalum and gold) from Congo or adjacent countries.
- **Customer Requirements** – PGH Standardized Environmental Questions for Medical Products

Downstream Supply Chain Activities

EPA Smart Way Transport Partnership

- BD is participating as a **“Shipper”**
- **94%** of our carriers are in the program
- Uses a **continuous improvement** approach



PARTNER Predictable & Reliable Transport Network Europe Region

PARTNER-1: Temse to the NHS Depots in the UK eliminated half filled trucks

- **Fill rates improved** to 85% in 2013



- Reduction of 80.000 km – a reduction in carbon emission of 23 metric tons CO2

PARTNER-1: Fraga -> Temse

- 800 shipments/year switched from **Truck to Rail**

- Reduction of 1.000.000 km - a reduction in carbon emission of 297 metric tons CO2

PARTNER-1: Plymouth -> Temse

- 1500 shipments per year: **partially road , partially short-sea**

- Reduction of 300.000 km - a reduction in carbon emission of 87 metric tons CO2

Other Initiatives

- **COMPASS**, BD's anti-corruption program, focuses on the ethics and procedures that ensure compliance everywhere we operate. The program assists BD to “win business the right way.”
- **ISE Supply Chain Roundtable Series**
- **Global Transport Team**
- **Distributor** sustainability sessions – VWR, Henry Schein (SW, Cold Chain)



Other Initiatives

- Partner with Rutgers University, Pennsylvania State University and Rider University to identify and hire top graduates interested in supply chains. Interns in the **SCDP program** spend six months in five rotations among departments.
- BD minimizes our contribution to climate change by reducing our greenhouse-gas emissions (GHG) through actively managing energy and water consumption, emissions and waste generation, and transportation efficiency. We have been a longtime responder to the **Carbon Disclosure Project (CDP)**.

CARBON IMPACT OF TRANSPORT

Transport accounts for 23% of global CO₂ emissions from fossil fuels



10 Grams CO₂ per ton per kilometer



2x



6x



47x

Global CO₂ from transport will grow by 40% by 2030

Supply Chain Operations

Checklist for DC's and Warehouses

- Energy
- Renewable Energy
- Water
- Waste
- Carbon Footprint
- Associate Engagement

	Point	50 Max	100 Max
Energy 100 points			
Is your site's energy usage tracked in the Smart Energy Vision tool?	4		
Has your professional lighting analysis (lumens or foot-candle study)?	2		
Has your site's lighting been upgraded to T-8 fixtures or T-5 fixtures?	2		
Has your site's lighting been upgraded to high bay LED fixtures?	4		
Does your site use occupancy sensors to control lighting in the aisles?	4		
Has your site used four wall sensors from the local utility or meter reader service?	2		
Does your site use day lighting (aka skylights, windows, translucent skylights)?	2		
Has your site's large windows (SHG or quartz) using variable toning glass?	2		
Does your site use energy efficient back doors and roller doors?	2		
Does your site use a Building Management System to control HVAC and lighting?	2		
Does your site practice energy management / load shedding?	1		
Does your building have a real time utility, highly visible scoreboard?	2		
Do you have electric back feeds or transformer energy on the wall?	1		
Has your site the "Energy, Emissions & Waste Best Practices for DC's" work...	2		
	57		
Renewable Energy 100 points			
Is your site participating in utility renewable energy certificates (REC's)?	4		
Do you have a power purchase agreement (PPA) for renewable energy?	3		
Does your site generate solar, wind or geothermal energy?	4		
Does your site purchase renewable energy from your local utility (as defined)...	2		
	13		
Water 100 points			
Does your building have a Green roof (water or plant material) in central or east?	2		
Does your site have water conservation management system?	2		
Does your site use low flow and other water saving fixtures?	2		
Does your site use Xeriscaping or other low water landscaping?	1		
Does your building have rain water harvesting or toilet flushing?	3		
	10		
Waste 100 points			
Does your site reuse server racks?	1		
Does your site reuse fiber based slip sheets?	2		
Does your site use kiln-dried pallets and other pallets, processed?	3		
Has your site reduced the quantity of cardboard usage used?	1		
Does your site have a program to manage e-waste?	1		
Does your site recycle products that are repaired, in stock or have been damaged?	3		
Does your site recycle cardboard, plastic and wood?	4		
Does your site recycle reimbursement for recycled materials?	1		
Has your site achieved "zero landfill" (B-X required, balance waste to energy)	5		
	25		
Carbon Footprint 100 points			
Do you use SmartVeg (both hours and/or other non-renewable)	5		
Does your site have a carbon footprint or other non-renewable?	5		
Does your site have a Net Zero goal?	5		
	15		
Associate Engagement 10 points			
Does your Green Vision Display Board in common area large or progress?	3		
Does your site have a DO Green Champion and Sponsor?	1		
Does your site have local practices or sustainability with other DO facilities? (YES/NO/Not known yet)	1		
Did your site participate in DO Green activities?	1		
	6		
	57		
TOTAL SUSTAINABILITY SCORE 1000 points max	TOTAL SCORE	100	100
DO Dev't Class	85-100%		
Leader	75-85%		
Raiser	58-75%		
Mobilizing	0-58%		

Energy, Emissions, Waste Best Practices for DC's and Warehouses

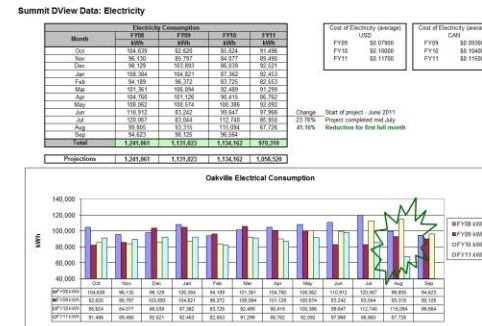
- Energy Procurement
- Lighting
- HVAC
- Motors & Pumps
- Electrical Equipment
- Fork trucks , Material Handling



**Energy, Emissions and
Waste Best Practices
Evaluation Form (EBP) for
Distribution Centers**

Warehouse Energy Audits

- Conducted audit at Oakville DC - 41% energy reduction through **lighting upgrade**
- Teach Audit Techniques, **provide instruments**
- Work with site personnel or **maintenance suppliers** focusing on lighting and HVAC
- **“Virtual Energy Audit”** Data review/opportunity analysis being piloted



Data Collection and Metrics

Scorecard for all DCs over 50,000 sq. ft.

- Direct Energy
- Indirect Energy
- Non Hazardous Waste
- Regulated Waste
- Water

Dashboard / Home » Site Info

Site Info [more info](#)

Search Sites:

Division / Group: Site: Site Status:

Distribution Centers Click or Begin Typing

Account #: Meter #:

[apply filter](#)

[PDF](#) [Excel](#)

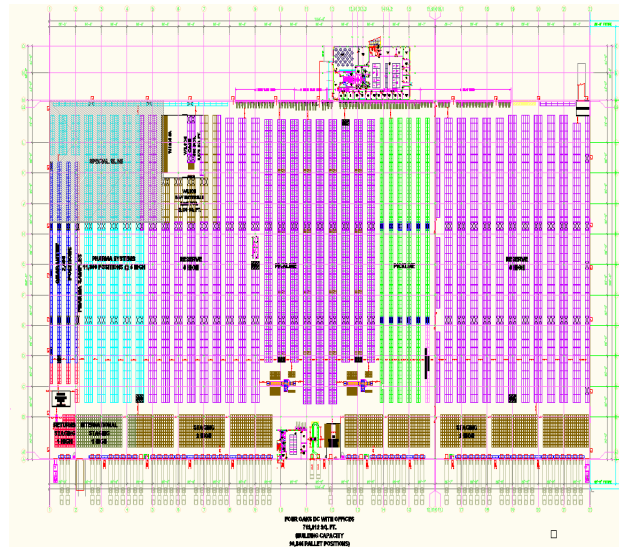
Sites			
	Site	Account / Meter	
Site	Address	City	State
Beijing, China	Units B-D, 7th Fl, Tower A, East Gate Plaza	Beijing	CHN
Four Oaks, NC	130 Four Oaks Pkwy	Four Oaks	NC
Gyeongbuk, KOR	4522, Daburi	Gassan -Myun	KOR
Melbourne, VIC	20 Dalmore Dr	Scoresby	VIC
Muridkhe, Pakistan	10-Km Muridkhe-Shaikhupura Road	Muridkhe, Punjab	PAK
Oakville, ON	2771 Bristol Circle	Oakville	ON
Plainfield, IN	2350 Reeves Rd.	Plainfield	IN
Redlands, CA	2200 W. San Bernardino Ave	Redlands	CA
Sao Paulo DC	PCA Agricola La Paz Tristante 121, Via Simoes De Almeida	Sao Paulo	SP
Shanghai, China	Hanjing Rd., West	Shanghai	CHN
Swedesboro, NJ	200 Birch Creek Rd.	Swedesboro	NJ
Temse, BEL	Leegstraat 37	Temse	BEL

Page 1 of 1 | 1 | 12 Total records

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EAST COAST DC – FOUR OAKS, NC (OPENED 8/2011)

- BD's **first** Leadership in Energy and Environmental Design (LEED) **Gold** certified Distribution Center.



720,000 SQ FT Facility

SUSTAINABLE DESIGN ELEMENTS

- **Cool Roof:** A light-reflecting roof surface that keeps internal temperatures down and lowers utility costs.
- **Skylights:** that use solar-powered GPS technology and mirrors to track the sun and channel the light into the building
- **Intelligent Lighting:** Lights in all office areas and the warehouse are equipped with motion sensors / Exterior lights are connected to photo sensors that constantly adjust to seasonal light changes.
- **Idle Policy:** Carriers requiring >3 minutes than for Loading / Unloading are required to shut their engine off.
- **Regenerative forklifts:** State-of-the-art forklift fleet harnesses residual energy from the lowering motion and returns it to the battery.



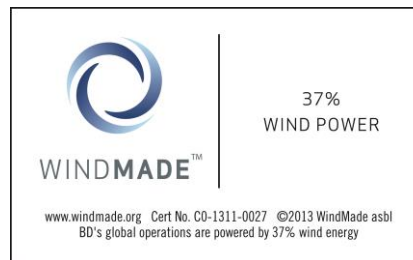
SUSTAINABLE DESIGN ELEMENTS

BD's **distribution center** in Four Oaks, North Carolina, is generating nearly one megawatt of solar electricity from **four acres** of rooftop photovoltaic panels.



Achievements in Renewable Energy

- BD, an **EPA Green Power Partner**, has been awarded membership to the **Green Power Leadership Club (2011, 2012 and 2013)**
- Green Power Partnership Rankings
 - BD ranks **#12** on the Fortune 500 list
 - BD ranks **#17** on the National Top 50 List
- In the US we buy RECs to offset **83.9%** of our electricity with wind sources



REPORTING ON SUSTAINABILITY AT BD

- Covers BD's approach and performance in **three key areas**:
 - Economic
 - Environmental
 - Social
- BD's 2013 Sustainability Report resides on BD.com
 - <http://www.bd.com/sustainability>

