From Here to Sustainability

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Chairman and Executive Editor
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@makower

FMI Sustainability Summit • August 14, 2013

WHAT IF...

Bayer

Sustainable cotton guidelines for farmers

NYSE

Joins UN-backed sustainability initiatives

DELL

75% of packaging recyclable, compostable

Coca-Cola

25% CO_2 reduction across value chain

App ranks materials' sustainability

LG

Saves $1M in six months in GHG emissions

ALL DURING JULY 2013

THREE ERAS

Doing No Harm

Doing Well by Doing Good

Creating Value

What's Our
Sustainability Strategy?

1. What's going on out there?

2. What's behind this?

3. Four key trends

Customers

Buildings

Energy

Foodservice

Products

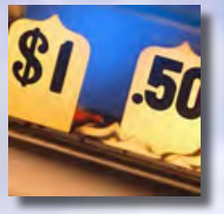
Travel

Employees

Community

Water

Reporting



Purchasing

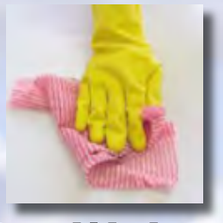
Packaging

Processes

Info Tech

Transport

Toxics



Facilities

Waste

Supply Chain

Meetings

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1. What's going on out there?

2. What's behind this?

“The Business Case”

- ✓ Increased sales
- ✓ Decreased costs
- ✓ New products and markets
- ✓ Improved quality
- ✓ Ability to attract and retain talent
- ✓ Preferred supplier
- ✓ Brand value and reputation


RISK

Financial

Brand

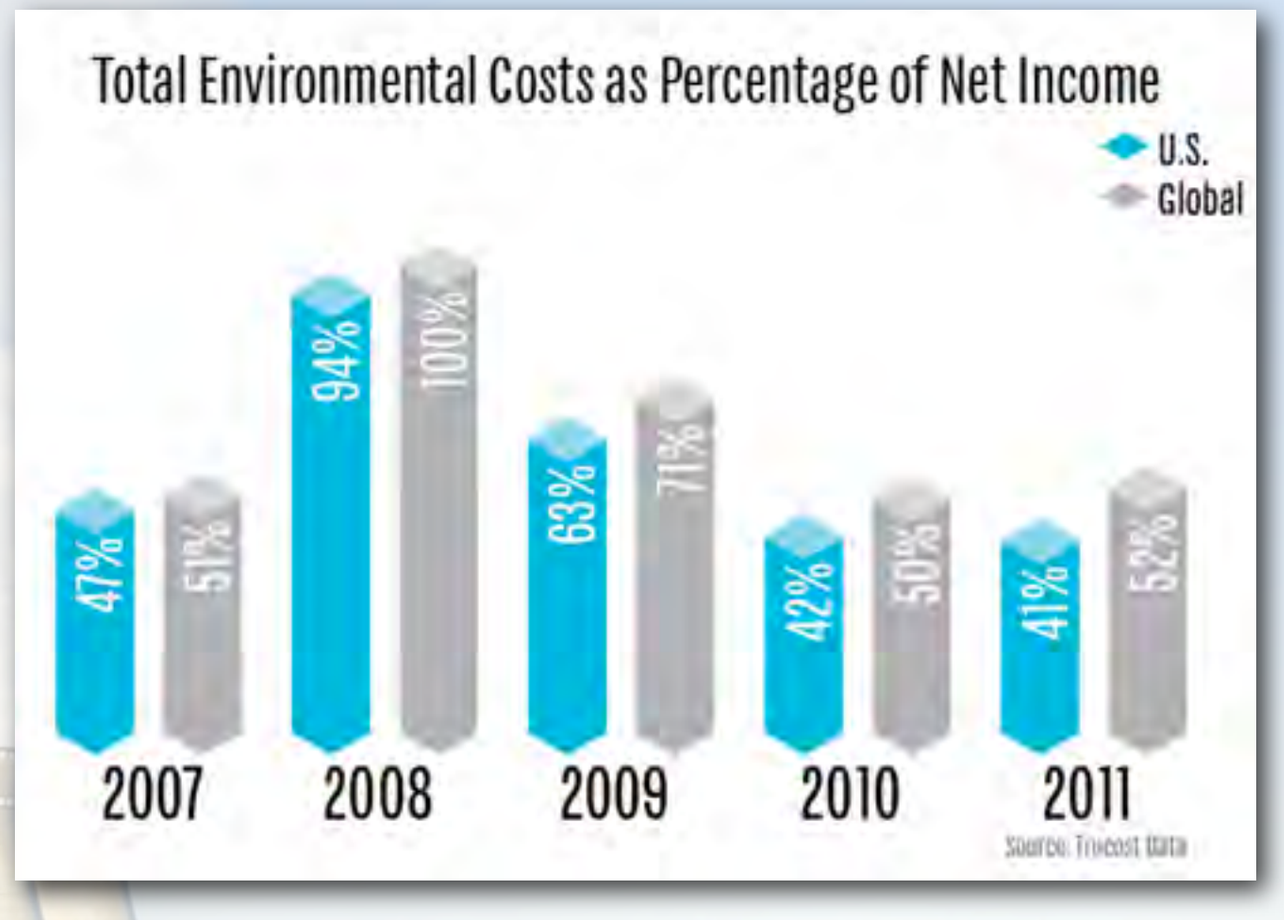
Supply Chain

Regulatory

Right to Operate

All had to restate earnings downward during past two quarters due to price volatility of key commodities

Natural Capital



If companies had to pay the full cost of their environmental impacts, it would cut profits

40-50%

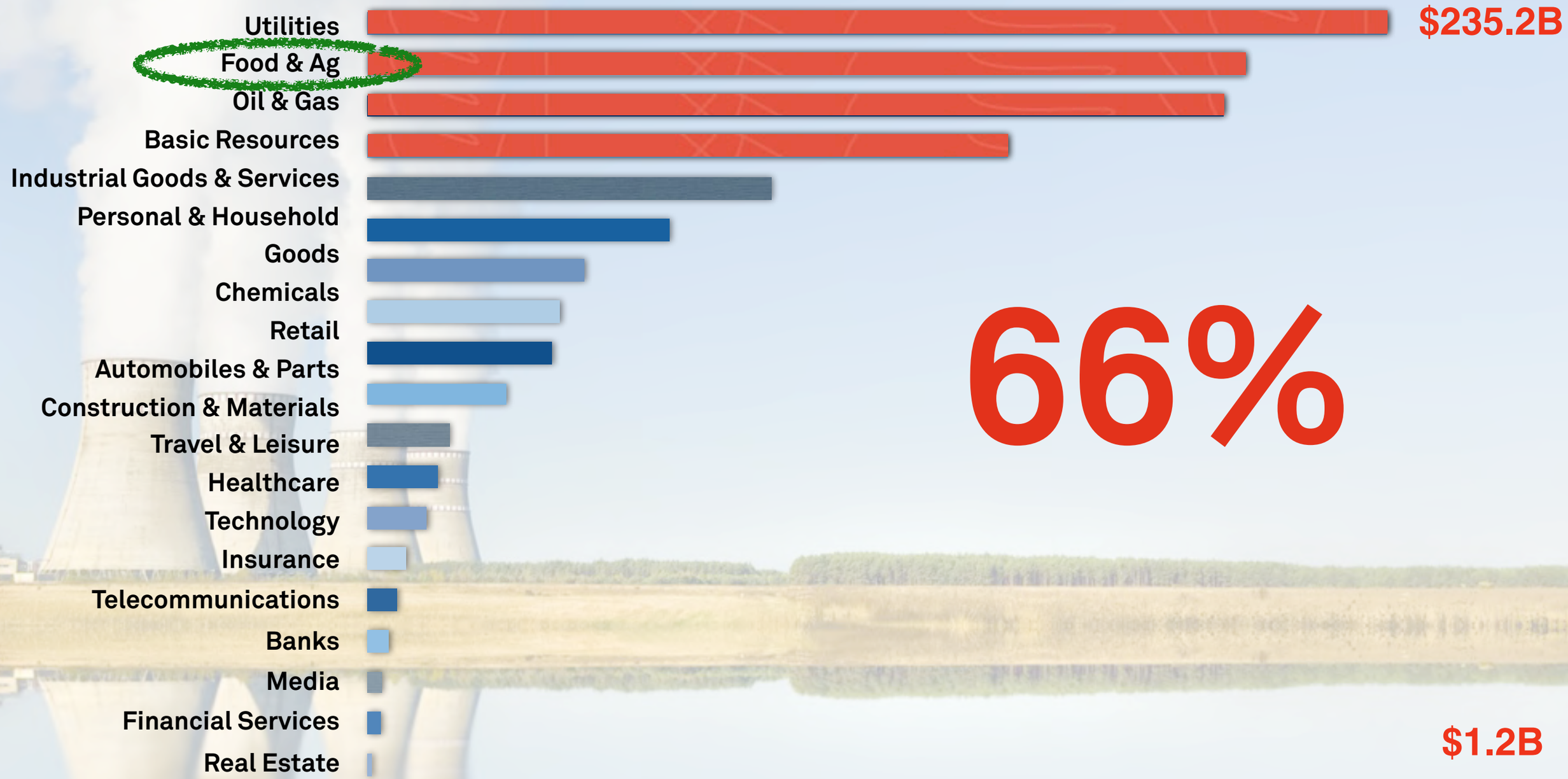
Natural capital costs are significant

~$7.3 trillion per year in environmental and social costs

- **lost ecosystem services**
- **pollution**
- **related health costs**

Source: Trucost

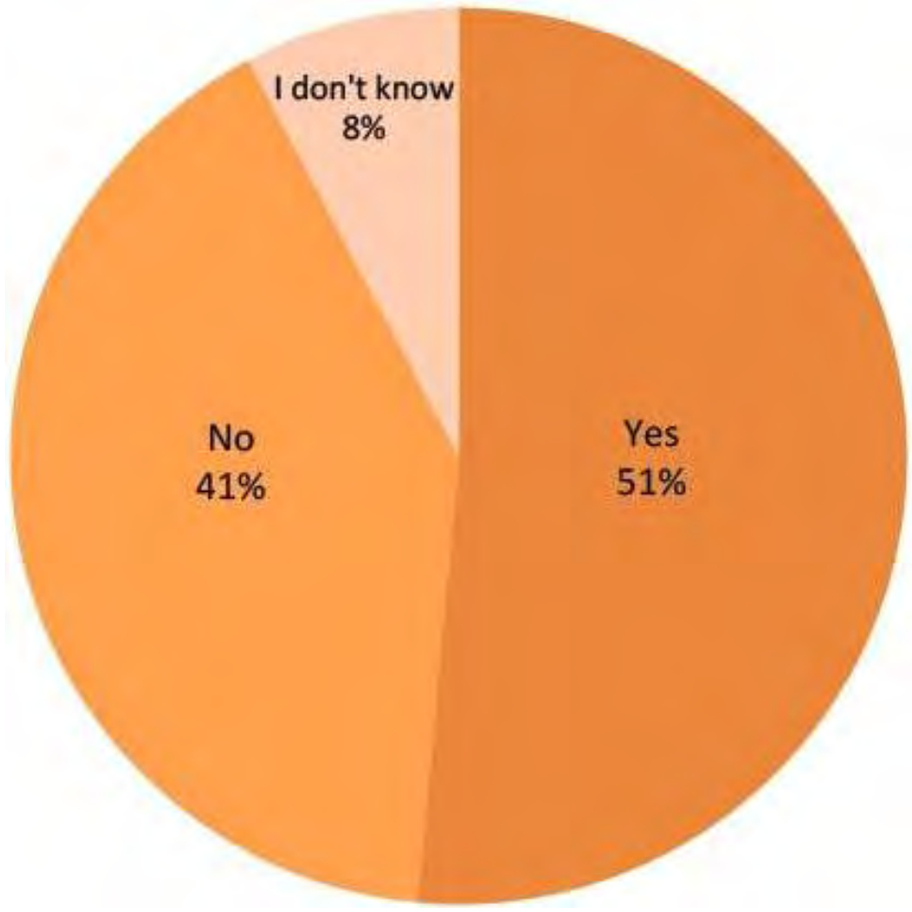
Upstream impacts are huge



Source: Trucost

Companies are paying attention...

Do you anticipate your company's core business objectives to be affected by natural resource shortages in the next three to five years?



GreenBiz Group and Ernst & Young, 2013

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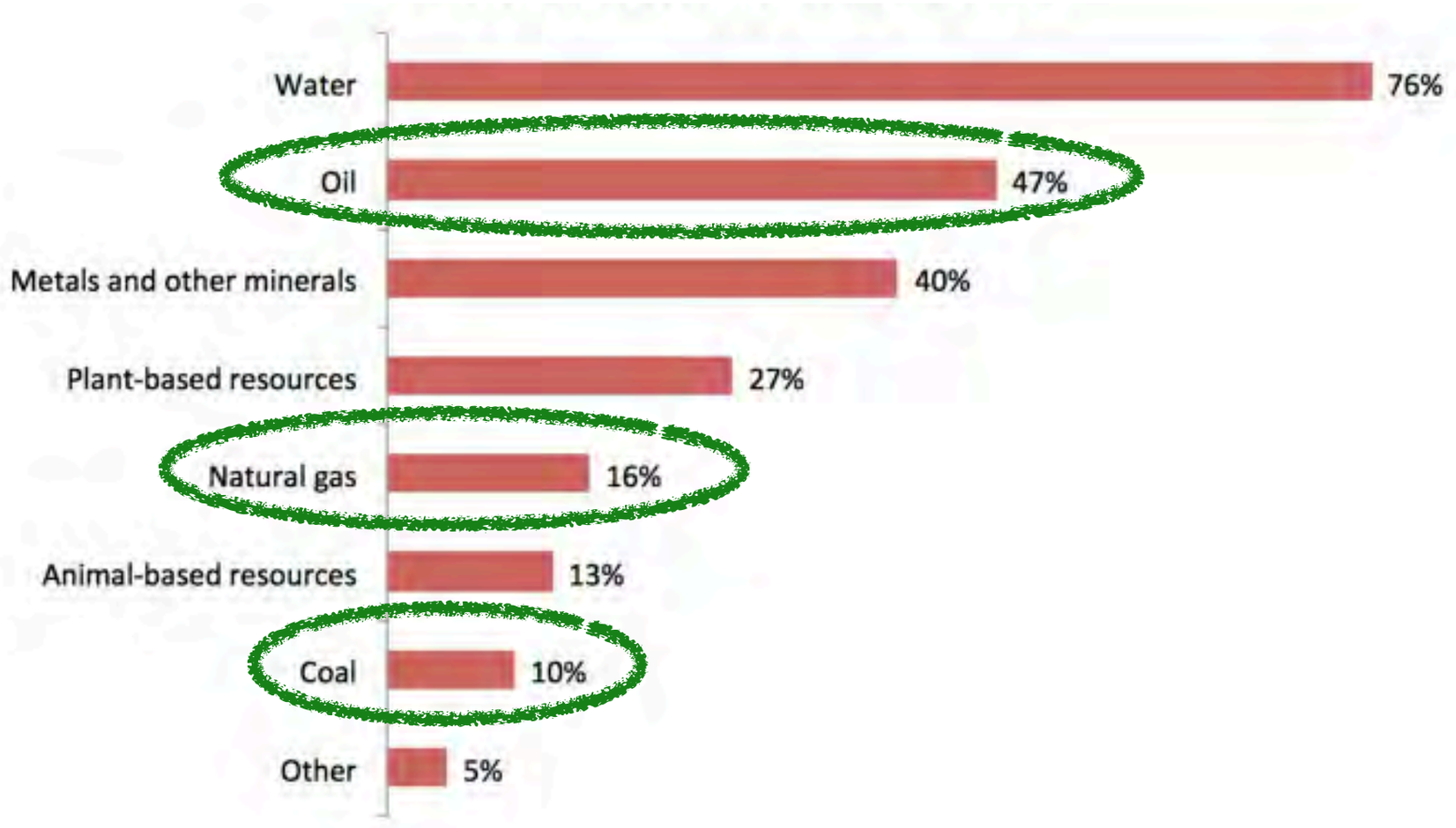
Companies are paying attention…

Which resources are most at risk?



GreenBiz Group and Ernst & Young, 2013

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Sustainable Living Plan

- **Sourcing 100% of agricultural raw materials** sustainably by 2015, including 100% sustainable palm oil.

- **Change hygiene habits of 1 billion people** to help reduce diarrhea, the second-biggest cause of infant mortality.

- **Make drinking water safer in developing countries** by extending sales of its Pureit home water purifier.

- **Improve standards of living** for 500,000 small farmers and distributors to the Unilever supply chain.

Value of Ecosystems

- **$10 million, 5-year partnership** with The Nature Conservancy to “develop tools and demonstrate models for valuing nature in business decisions.”

- Working in Bogotá, São Paolo, Quito with bottling plants, hydro facilities, water utilities to **help them understand the value of the water:** what it would cost to install their own reservoir or filtration plant if they didn't have the quantity and quality they're currently getting.

EarthSmart

- **Hedging uncertainties about the future of fuels** and related carbon impacts

- **Partners with OEMs and NGOs** to develop more fuel-efficient engines, drivetrains, and technologies

- **Large, diverse alt-fuel vehicle fleets**, from EVs to fuel cells to biofuels

Green Marketing?

QANTAS
THE SPIRIT OF AUSTRALIA

FedEx

MULBERRY

康師傅

Electrolux

Mahindra

Yum!

HALLIBURTON

सेल SAIL

中國國際航空公司
AIR CHINA

Unilever

DSM

Ternium
Hylsa
Siderar
Sidor

DAIMLER

CRANSWICK
FOOD GROUP

SUZANO
PAPEL E CELULOSE

HERMÈS
PARIS

CLOROX

TIFFANY & CO.

Givaudan

Calgon

e·on

BARRICK

GERDAU

Fibria

NIKE

MARUTI
SUZUKI

Devro plc

DOW

P&G

LG Chem

HEIDELBERGCEMENT

TSINGTAO
BEER
青島啤酒

MATTEL

CHALCO

gorenje

BAOSTEEL

1. What's going on out there?

2. What's behind this?

3. Four Key Trends

STRESS NEXUS

FOOD

ENERGY

WATER

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BY 2030...

FOOD

ENERGY

WATER

...50% more

...40% more

...30% more

STRESS NEXUS

Food / Water

1,300 liters of water to create 1 kg of wheat

Food / Energy

~7 calories of fossil fuel for every 1 calorie of food in the U.S.

Water / Energy

Moving, heating, treating water is 13% of all energy use

Energy / Water

Power plant cooling uses 3% – 4% of all U.S. water consumption

‘NEXUS THINKING’

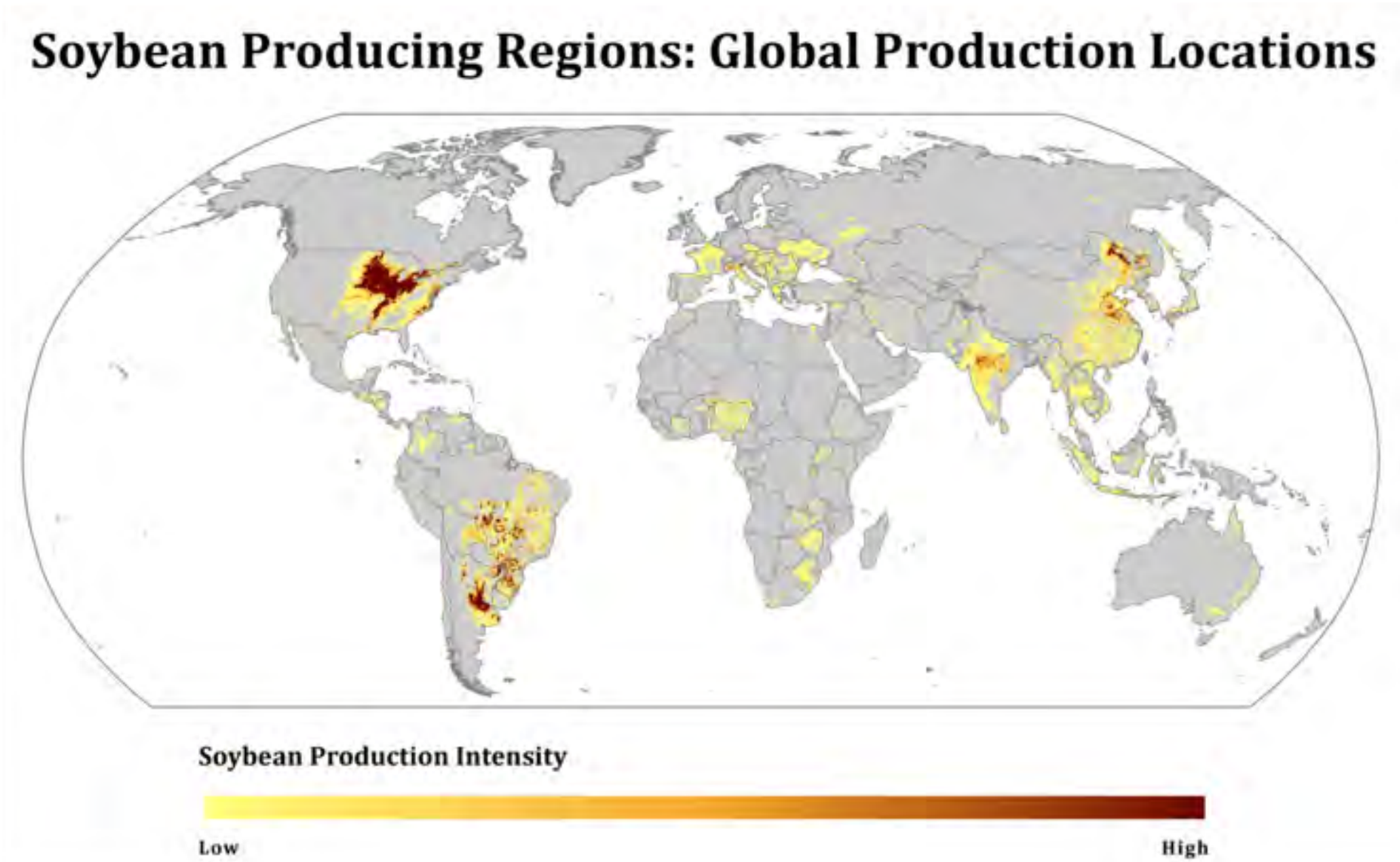
Food waste

Drip irrigation

Renewable power

No-till ag

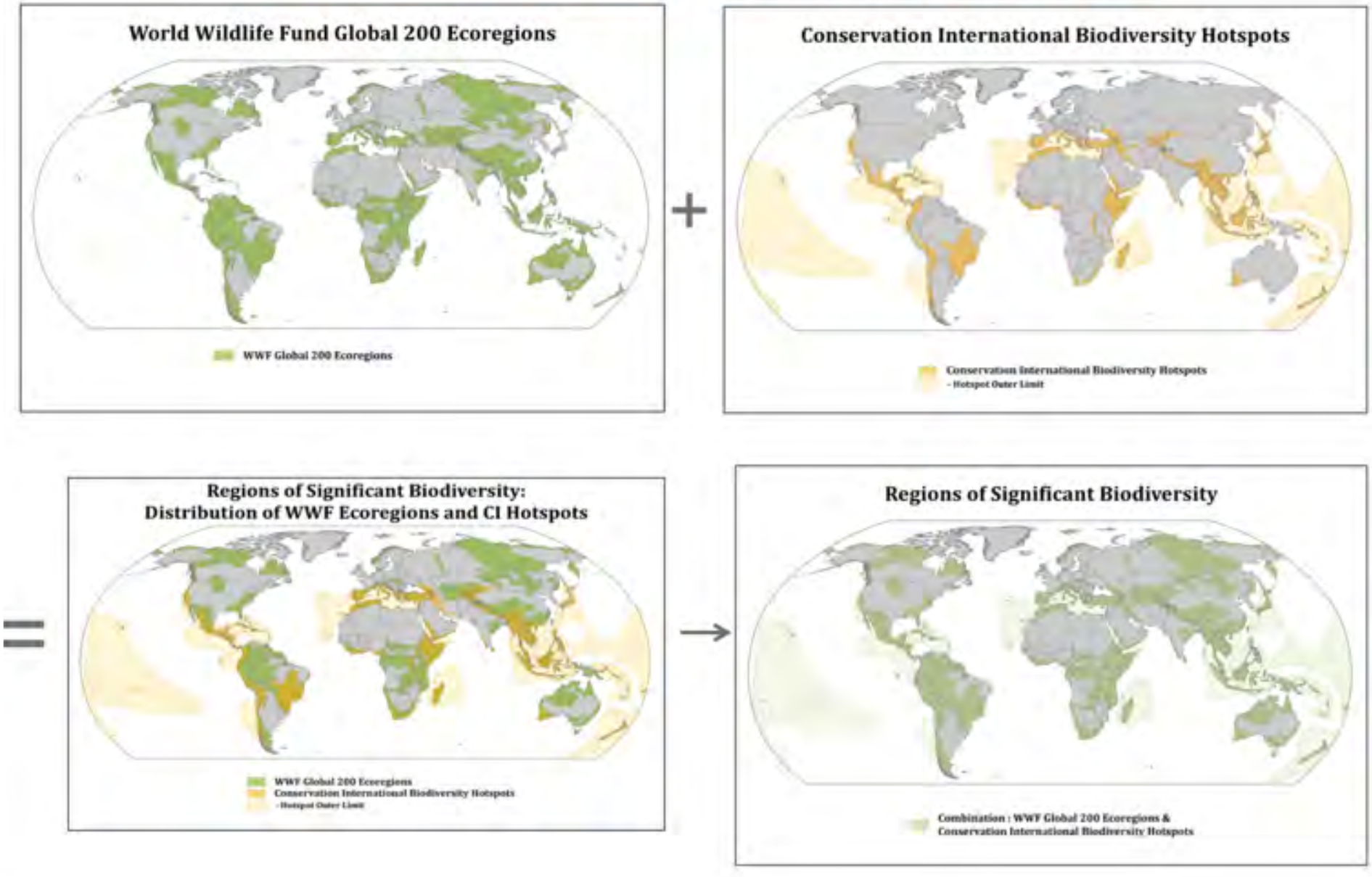
Commodity Mapping



SUSTAINABILITY CONSORTIUM

—Courtesy Christy Slay, The Sustainability Consortium
CSlay@walton.uark.edu

Commodity Mapping



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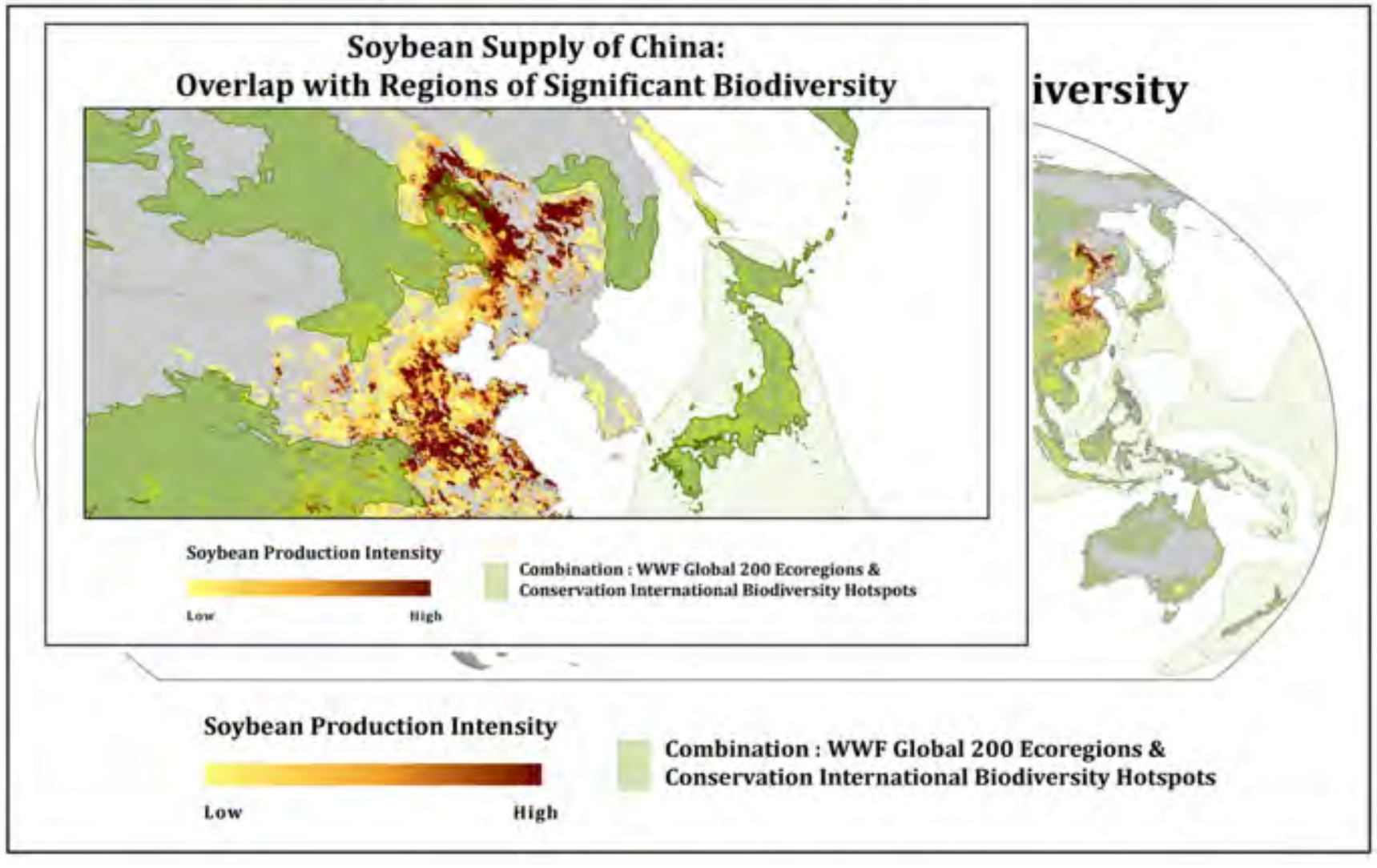

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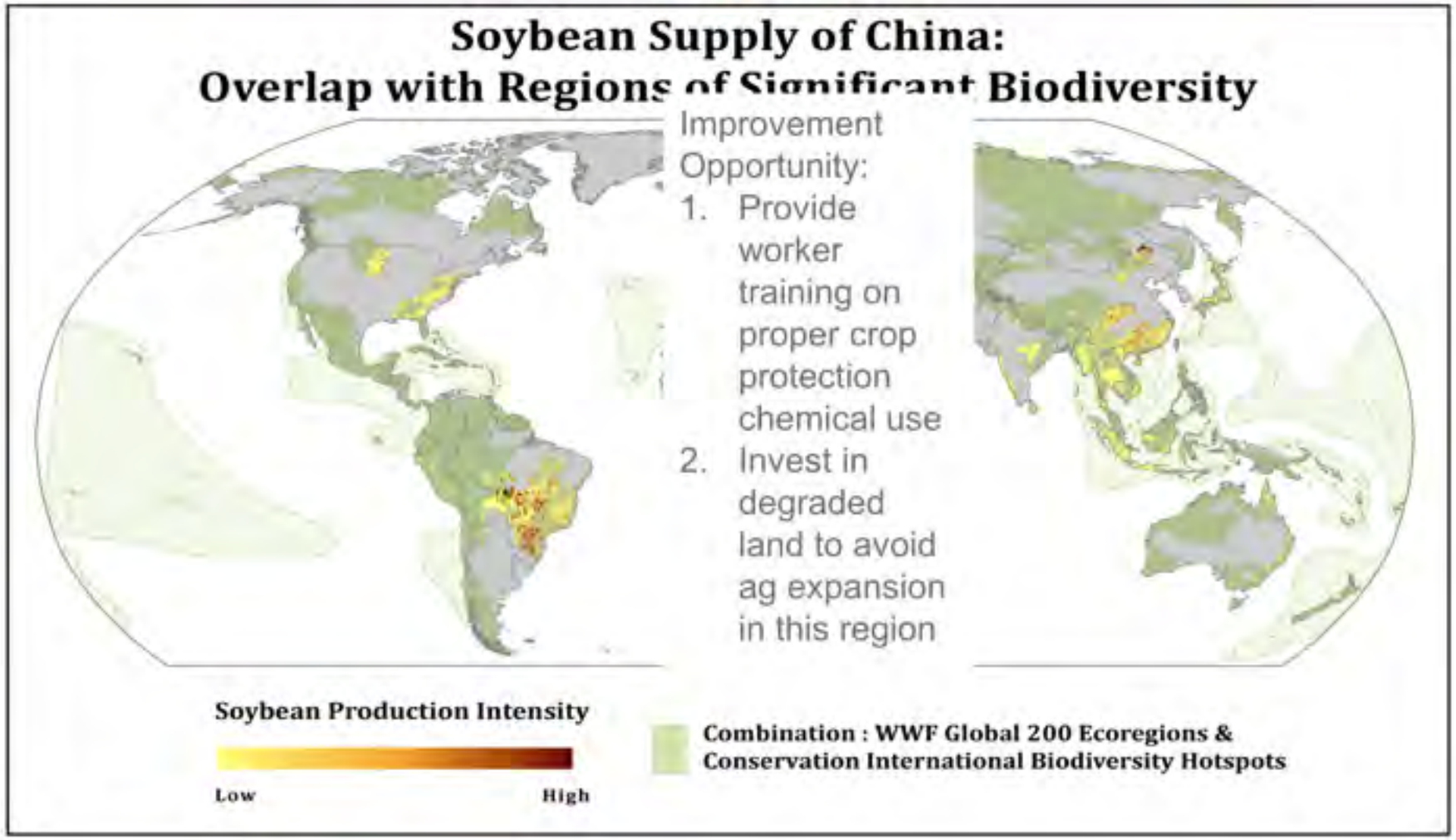

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Col. Mark 'Pu apt. Wayne Porter

A New U.S. Grand Strategy

The alignment of:

our economic engine,

our governing institutions, and

our foreign policy

to meet the global challenge of the era.

A New U.S. Grand Strategy

Walkable Communities

Regenerative Agriculture

Resource Productivity

A New U.S. Grand Strategy

- U.S. economic house in order (prosperity, tax revenue)
- U.S. interests aligned with major economies and partners
- Positive narrative of America's role; restored global credibility
- Greater citizen participation and trust in government
- Price signals reshaping global markets toward sustainability
- Reduced tensions over resources
- Ecological depletion slowed
- Reduced vulnerability to geopolitical disruption

A New U.S. Grand Strategy

Walkable Communities

- Store location and design
- Transportation and logistics
- Product selection
- Local sourcing

A New U.S. Grand Strategy

Regenerative Agriculture

- **Supply chain**
- **Transparency**
- **Local procurement**
- **Customer expectations**

A New U.S. Grand Strategy

Resource Productivity

- **Material selection**
- **Innovation**
- **Life-cycle thinking**
- **Closing the loop**

CONVERGENCE

SUSTAINABLE BUSINESS

New Strategies Policies Practices

CLEAN TECHNOLOGY

New Technologies Companies Markets

INNOVATION

ENERGY

Smart grid • Distri ed generation • Distributed b ry storage • Zero-carbon ene • Smart meters • Demand res • Intelligent appliances • DIY olar and wind sytems • Dynami pricing • Vehicle charging stations

INFORMATION

Broadband for buildings and vehicles • GPS • eal-time pricing Smar phone ap s • Rem te sensing Distrib ted com puting power • W eless m sh net works Clou comp t ng • Broadband over power lines

BUILDINGS

Networked p ver management • Zero- y buildings • DC appli es • Ons energy gener on and sto ge • Building tems • "Resp ive struct s" • Real-time gement

TRANSPORTATION

Perso al electric minic rs • Collisio avoidance • Micro rentals • M • Netw orked cle-to- rid ba n avo Charging • Battery swapping • Telematics

VERGE®
where tech meets sustainability

BOSTON
RENAISSANCE WATERFRONT
MAY 13-14, 2013

CONVERGENCE
in partnership with SUSTAINABLE ENERGY WEEK 24-28 JUNE 2013
a VERGE® Event

PARIS
MICROSOFT FRANCE CONFERENCE CENTER
JUNE 26-27, 2013

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SÃO PAULO
NOV 12-13, 2013

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SAN FRANCISCO
PALACE HOTEL
OCT 14-17, 2013

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Tracks | Program | Special Programs | Registration | Speakers | FAQ | Travel

VERGE San Francisco

October 14, 2013 - October 17, 2013

VERGE San Francisco brings together innovators, entrepreneurs, and leading public officials to explore the opportunities for radical efficiencies created through technology advancements in energy, buildings and transportation.

"VERGE is right where sustainability needs to go"
Cindy Ortega | MGM Resorts

Early-Bird Rate expires Aug 30th
Save over 20%!

> Register Now!

Smart Grid

Cloud

Big Data

Resilient Cities

M2M

Internet of Things

Connected Vehicles

Intelligent Buildings

Sharing Economy

- 145 structures – 15mm SF
- 100 megawatt peak demand
- $70mm annual utility spend
- 30,000 pieces of mechanical equipment
- Spot-checked once/5 years

- Pilot: 13 bldgs., 2.6mm SF
- 2mm connection points
- 500mm records/day

- Reduced energy cost >$2mm
- Investment <10% of annual spend
- Existing technology, personnel

- Lighting/energy/HVAC
- Fire/safety
- Security/access
- Elevators
- Communications
- Weather service
- Transit service
- Traffic data
- Utility data

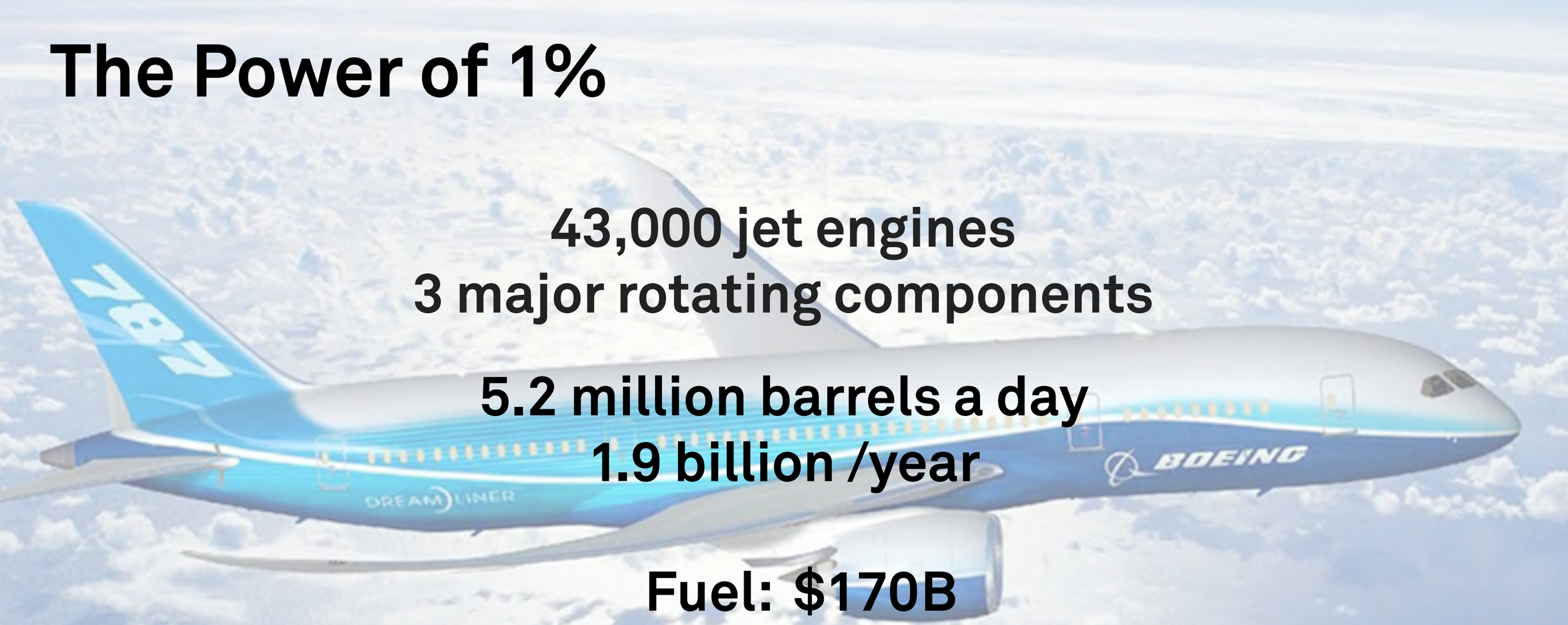
= PREDICTIVE BUILDINGS

“Things That Spin”

Alternators
Ball Mills
Blowers
Centrifuges
Compressors
Crystalizers
CT Scanners
Dryer Fans
Evaporators
Generators
Jet Engines
Locomotives
Power Turbines
Propulsion Drives
Reboilers
Reciprocating Engines
Rotary Vacuums
Turbofans

more than 3 million major things that spin in global industrial asset base

The Power of 1%



43,000 jet engines
3 major rotating components

5.2 million barrels a day
1.9 billion /year

Fuel: $170B
1% improvement = $1.7B

Capital expenditures: $135B
1% reduction = $1.3B

Engine maintenance: $25B
1% reduction = $250M

The Power of 1%

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$3.25B

Total global airline profits for 2012: $4.1B

Carbon Savings from M2M by 2020

Energy: 2.0 Gt of CO_2e – smart meters and demand-response systems; improving efficiency of energy production and tra

Tra ns, tru oved as

Bu g, co ces, an

Agriculture: 1.6 Gt – reducing deforestation, managing livestock, and increasing the efficiency of planting, seeding, harvesting, fertilizer application and water use.

> **"ICT could save over 9.1 Gt CO2e by 2020 as a result of efficiency gains in the world's key economic sectors."**
>
> — Carbon War Room and AT&T: *Machine to Machine Technologies: Unlocking the potential of a $1 trillion Industry*, 2013

- ☑ Systems thinking
- ☑ Radical efficiency
- ☑ Innovation
- ☑ Busting silos
- ☑ Improving lives
- ☑ Moving the needle

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FOUR WORDS

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WHAT WOULD IT TAKE?

What would it take...

... to harness sustainability for innovation?

... to think in systems, not components?

... to create innovative partnerships?

... to achieve radical efficiency, profitably?

... to align with customers' & communites' values?

... for sustainability to create business value?

What's your

'WHAT WOULD IT TAKE'

Question?

What's the Story You Get to Tell If You Get Things Right?

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