Valuing Nature For Business

Johnathan DiMuro – Sustainability Manager
The Dow Chemical Company
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About Dow

A science and technology leader with annual sales of $60 billion

Founded in 1897 by Herbert H. Dow in Midland, Michigan

Supplies plastics and chemical products to customers in 160 countries

From 197 manufacturing sites in 36 countries

Employs more than 50,000 people globally

“If you can’t do it better, why do it?”

-- Herbert H. Dow
The Chemical Industry
Turning Feedstocks into Essential Products

Energy

- Building & Construction
- Electronics
- Agriculture
- Wire & Cable
- Coatings
- Automotive

Salt  Gas  Oil  Coal  Biomass  Recycle
Integrating Sustainability into our Corporate Strategy

MISSION
To passionately innovate what is essential to human progress by providing sustainable solutions to our customers

VISION
To be the most profitable and respected science-driven chemical company in the world

VALUES
Integrity
Respect for People
Protecting Our Planet

CORPORATE STRATEGY
Preferentially invest in a portfolio of technology-integrated, market-driven performance businesses that create value for our shareholders and growth for our customers

Strategic Themes:
Financial Discipline
Strategic Growth
Sustainability
Performance Culture
A Breakthrough Collaboration: The Economics of Ecosystems

• Leading NGO and leading global company cutting new ground
• Founded on the belief that business has a key role in valuing and preserving nature while growing
• Science and economics approach – developing new private sector practices
• Rooted in mutual respect
• Five years to deliver breakthrough results – transparent process and published findings
TNC-Dow Collaboration
Pilot Site Activities

Pilot Site 1: Freeport, TX

Three Ecosystem Services Analyzed and Valued:
• Air Quality Mitigation
• Freshwater Timing and Flows
• Coastal Hazard Protection

Initial analysis finished in November, 2012
Dow currently considering results strategically

Pilot Site 2: Brazil

• Agricultural focused ecosystem services
• Scoping ongoing, analysis and results in 2013
Dow-TNC Collaboration Implementation

Bottom-up, Top-Down, Leverage Out

- *Pilot Sites* – On the ground analysis of ecosystem services

- *Focal Point Network* – ID gaps in work processes for closure, shape future pilot site analyses to develop methods to fill

- *Leverage Out* – Publish Science-based results and methods, affect policy
Ecosystem Service Related Activities

Dow activities in addition to the TNC-Dow Collaboration:

1. Ecosystem service valuation prioritization process
2. Annual conservation activity reporting and data collection
3. Project with University of Michigan master’s students to explore ways of using the cost/value of water in decision making
4. Green Infrastructure exploration
5. Sustainable Remediation
Green Infrastructure at Dow:

Remediation:

- Dow driving science of phytoremediation forward
- Replaces / augments traditional solutions
- Positive impact on environmental footprint, utilizing and providing valuable ecosystem services

Seadrift Constructed Wetlands Case Study:

- $1.5MM Wetlands constructed in lieu of traditional $40MM wastewater treatment plant
- Maintenance and operational savings
Phytoremediation

Engineered planting of trees to:
- Control groundwater
- Promote biodegradation in root zone

Reward:
- No wastewater generated
- No waste activated carbon
- No electricity required

 TreeMapWell®
patented planting system with “Straw” enables tree to contain deep groundwater

*Registered trademark of T.E.A., Inc.
Seadrift Wetland Valuation

Professor of Economics at Delta College working with Dow engineers and financial experts to understand financial advantage of a past decision

Initial financial estimates:
• $1.5 million vs. $40 million capital
• Expected maintenance reduction

More complete analysis shows:
• Considerably more value than capital alone
• Opportunity to ‘manage’ natural asset, rather than ‘operate’ a traditional one
• Longer lifespan than expected
• Plus: zero waste, Negative: land footprint
Valuing Nature

Value of … ?

1. External nature to Dow
2. Nature on Dow’s property to others
3. Nature on Dow’s property to Dow

Engineers and managers experts in replacement valuation

Public value an important consideration
Developing a Framework for Prioritizing and Valuing Nature

Ecosystem Services originating on:

- Owned Property
- Private Value
- Others Property
- Public Value

Flow value:

- Net Present Value of Flows

Helps identify key ecosystem services, resulting in better decisions.

Value Estimate

- Replacement Cost Valuation

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A Conservationist’s Perspective on Dow’s Role

“The next 50 years are possibly the most important in the history of the planet. This could be the biggest business opportunity in the history of the world. Fortunes are going to be made, and companies are going to rise and fall based on their ability to solve these problems. This is what you do.”

Bill Ginn, speaking to Dow employees on Earth Day, 2011

Chief Conservation Officer, The Nature Conservancy
“There is no longer a choice between economic growth and ecological conservation – they are interdependent.”

“Protecting nature can be a profitable corporate priority and a smart global business strategy.”

-Andrew Liveris, January 2011
Thank You.