

# **Scalable “Organization Level” Sustainability Indicators**

**Gil Friend**

**President & CEO - Natural Logic, Inc.**

**International Sustainability Indicators Network**

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# Natural Logic, Inc.

- **Strategy, software and design services to embed sustainability and regeneration into strategy & daily business decisions**
- **Our lens: 3.85 billion years of R&D**
- **Our commitment: Build economic advantage and quality of life through exceptional environmental performance**
- **Business Metabolics™ performance indicator systems**



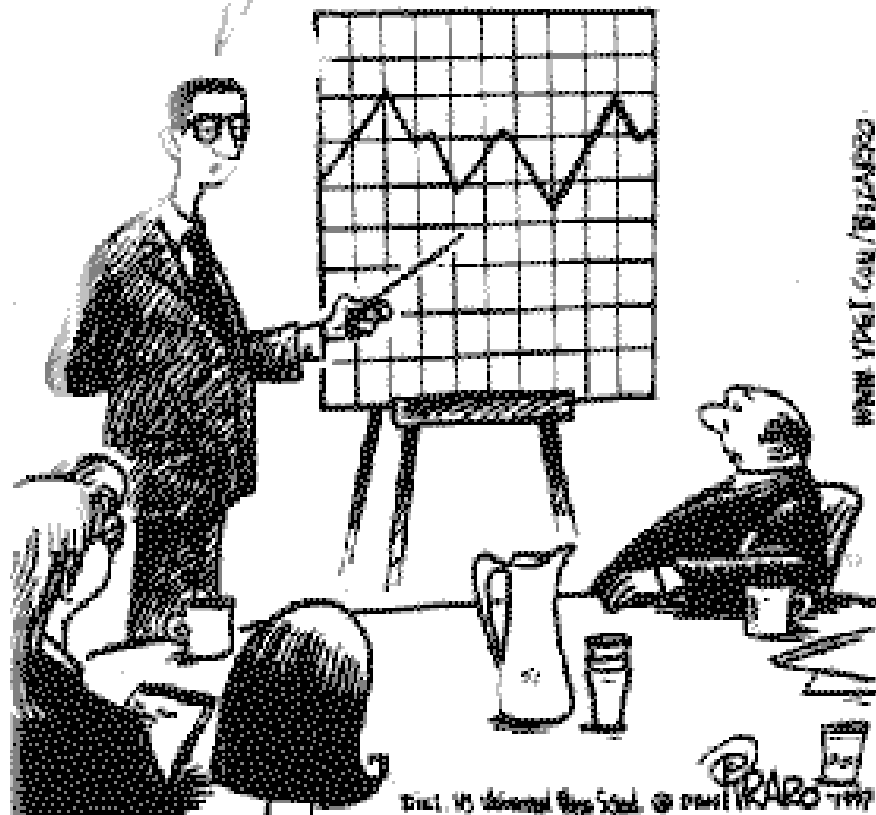
# Why sustainability indicators?

- **To be in a state of self-control, a person must know:**
  - what he [or she] is supposed to do
  - what he [or she] is actually doing
  - what choices [or she] has to improve results wherever necessary
- **“If any of these three conditions are not met, a person cannot be held responsible.”**
  - **JM Juran, 1948**



**BIZARRO** By Dan Piraro

...and here's a chart that shows what you might see if you looked at a mountain range through a tennis racket.



# Metrics for their own sake?

- **“Business is tough enough. Why fly blind?”**
  - From “environmental reporting” to better decision-making
  - Goal: Functional impact on trajectory of global industrial society
- **Infinite potential**
  - Especially social metrics
  - Christmas tree effect
- **Metrics vs. Indicators**
  - Radar vs. rear-view mirror



# Precision vs. Decision

- **Need to make decisions TODAY**
- **Decision support vs. causal analysis**
- **Proof vs. presumption**
  - Innocent until proven guilty?
- **Conceptual vs. testable measures**
- **Elegance of upstream, principle-based, class-based approach**



# Reality-based Accounting

- **Abstraction of money → no “satiation”**
- **Key:**
  - The physics that underlies the chemistry
  - that underlies the biology
  - that underlies the ecology
  - that underlies the economy
- **Throughput and Balance of Flows**
- **More value. Less stuff.<sup>TM</sup>**



# What gets measured gets done, but...

- **What should you measure?**
  - What makes a difference — for more effective decisions?
- **Every company, facility, process, community, region**
  - Takes in two things:  
Energy & Matter
  - Creates two things:  
Product (intended results) & Non-Product (unintended results)



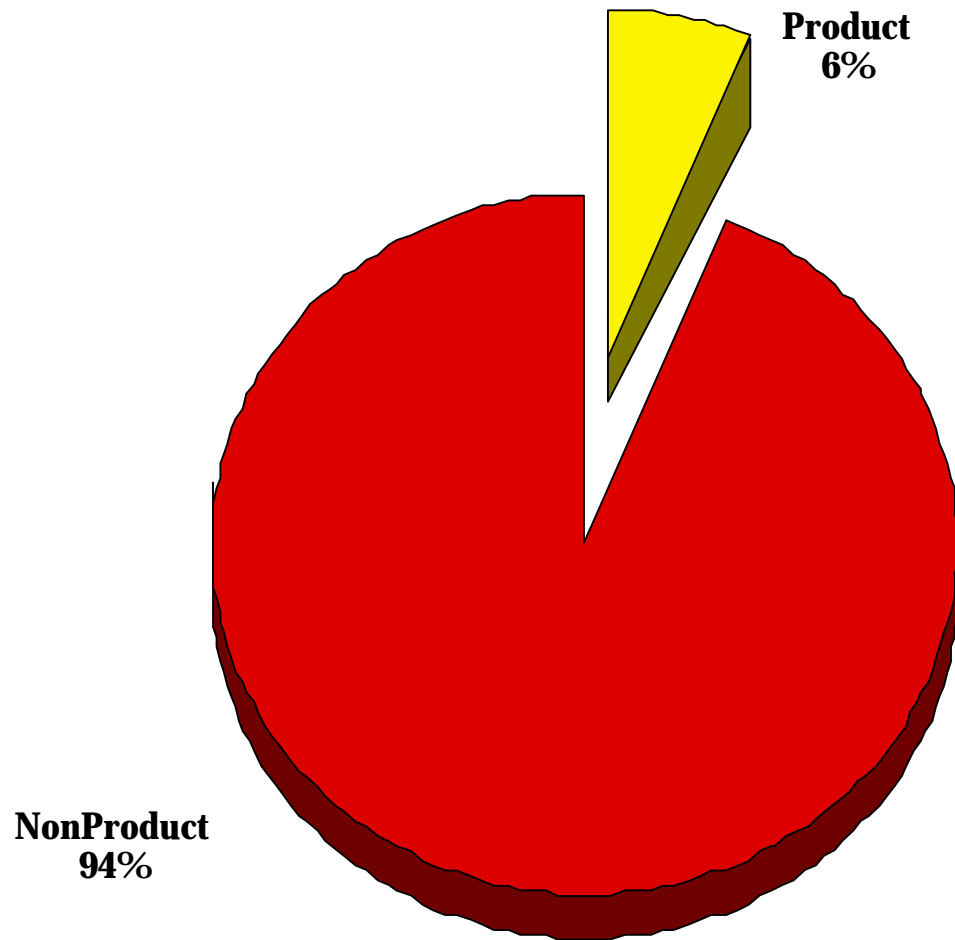


# **It makes no sense...**

- **To purchase more energy than needed**
- **To invest resources, plant, equipment, labor, etc, in output that adds no value**
  
- **Therefore:**
  - Reduce inputs
  - Improve throughput efficiency
  - Turn NPO to product
  - Eliminate NPO



# The US Economy: Material Flow



# Data → Information → Insight

- **Turn data overload into effective decisions**
- **To do this, use**
  - Pattern
  - Trend
  - Context
- **To generate**
  - *Actionable* insights
- **By knowing**
  - What business are we *really* in?
  - Are we moving the the right direction?



# Design & selection criteria

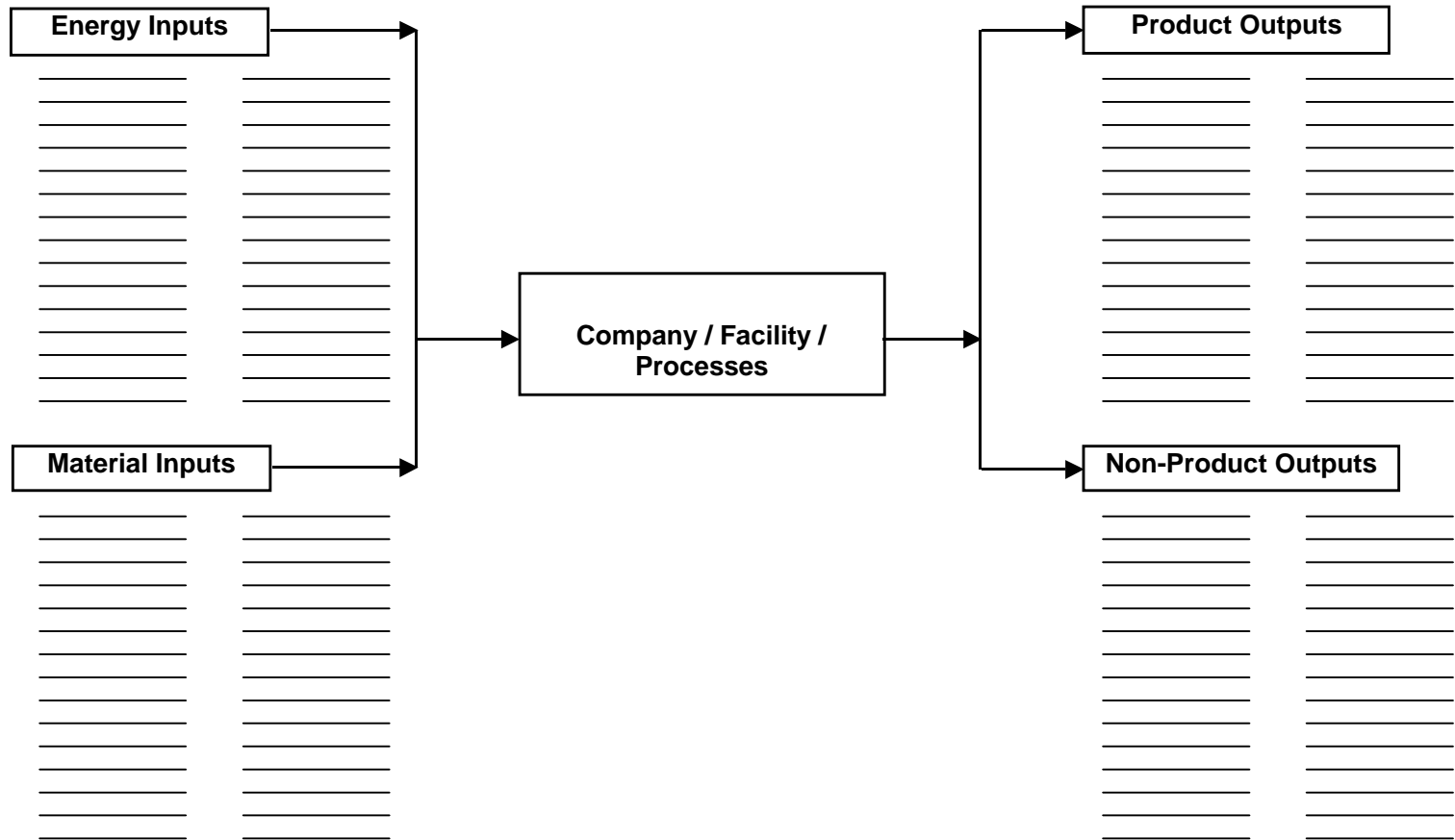
- **Accurate**
- **Timely**
- **Relevant**
- **Adds insight**
- **Better decisions**
- **Leverage**



# What's important?

"Company X" Metabolism (Energy and Material Flows)

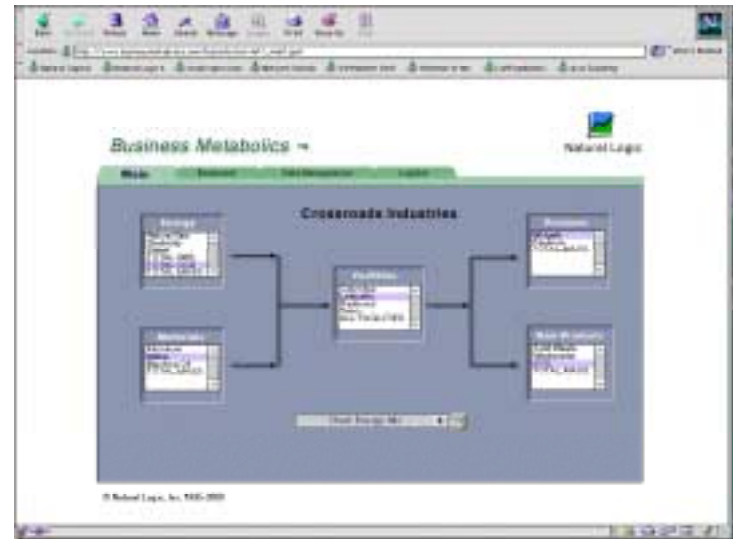
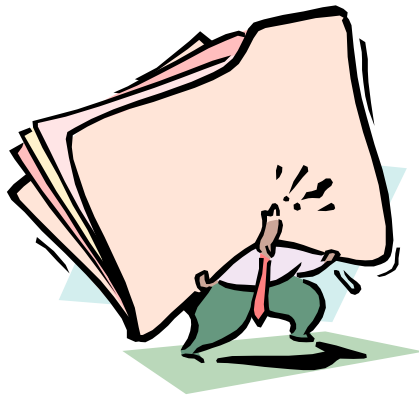
Ecolindicators Workshop





# Ease the pain of data management

Replace binders and spreadsheets with a useful Web-based tool



- **Manual data collection/formatting**
- **Ad hoc/incomplete analyses**
- **Difficulty deters proactive management**
- **Slow and expensive**

- **Automated data collection and re-fresh**
- **Intuitive interface and analytical tools**
- **Flexibility drives “Aha!”**
- **Ease of use inspires active use**



# **Business Metabolics™**

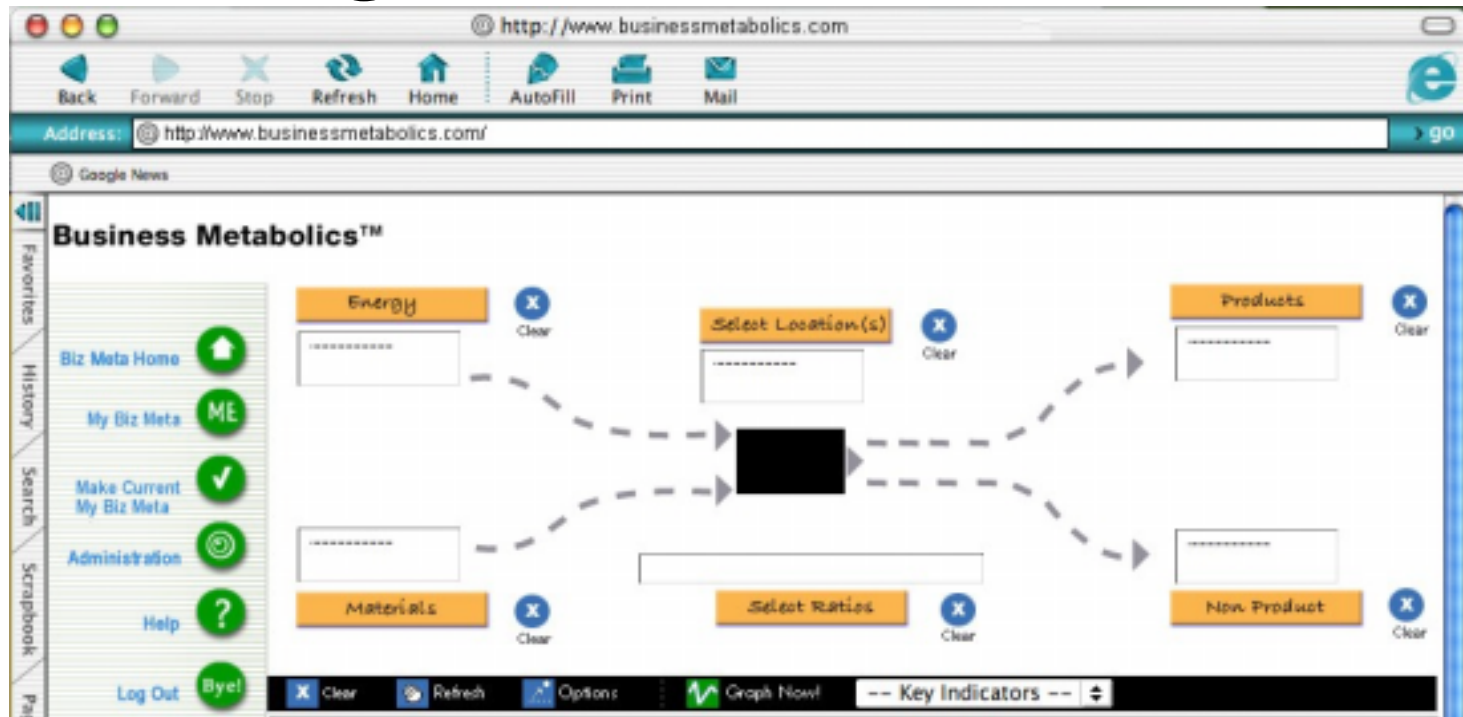
- **Web-based Key Performance Indicator (KPI) software**
- **Makes resource efficiency and productivity a visible part of daily business decisions.**
- **Helps your company, organization or community meet the central sustainability challenge:**

**More Value. Less Stuff.™**





# *Making the invisible visible*



- **Resource productivity trends**
- **Key ratios**
- **Throughput Pie™**
- **Internal+External Benchmarks**
- **Link “environmental” & business factors**



Explorer File Edit View Go Favorites Tools Window Help

http://63.206.72.92/BizMeta-NL3/jsp/BMHome.jsp

Address: http://63.206.72.92/BizMeta-NL3/jsp/BMHome.jsp

Back Forward Stop Refresh Home AutoFill Print Mail

Apple Apple Support Mac OS X Microsoft MacTopic Office for Macintosh Windows Qt Front Business Metabolics

**Business Metabolics™**

Biz Meta Home Admin Help Logout

Energy Select Location(s) Products

Flow Picker

Pick Energy Flow:

Metric:  Line  Bar  \$

Mass  Quantity  GHG

ENERGY->Electricity (purchas->Central->Electricity)

Run Done

Select the flows to include in your graph:-

Flows

- ENERGY
  - Heat as Steam or Oth
  - Electricity (purchas
    - Central
      - Electricity

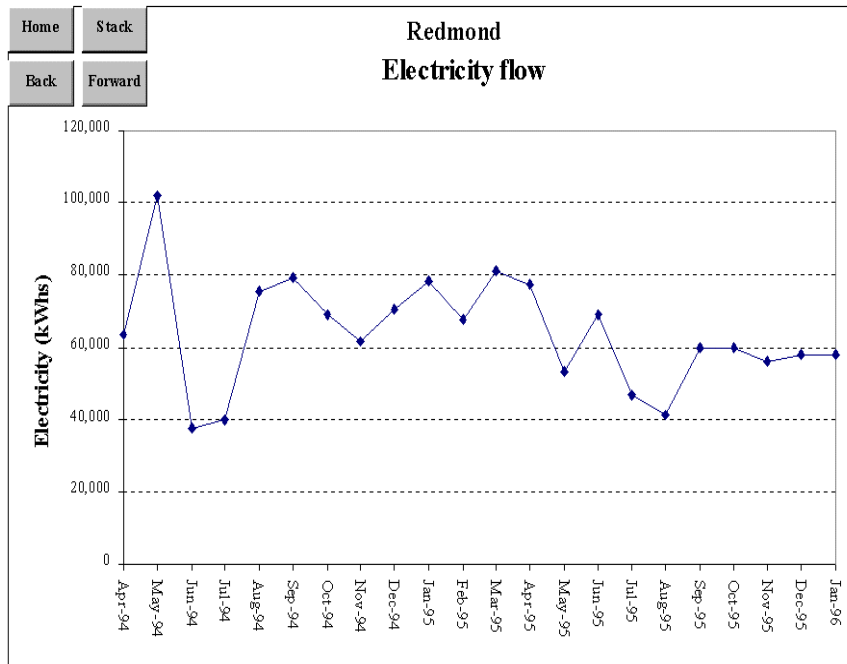
Products Non-Product

Key Indicators

Internet zone



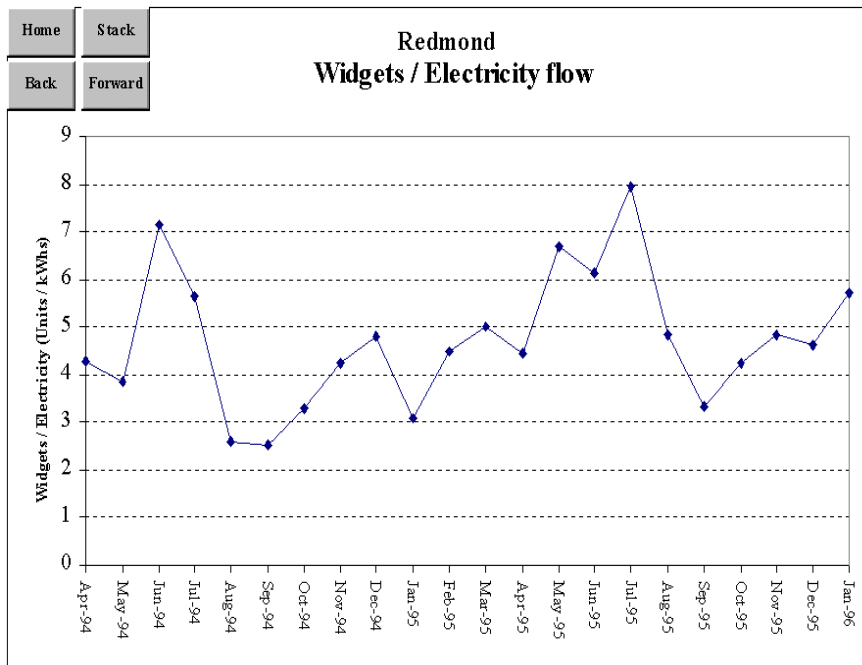
# Resource Flows



- **Energy**
- **Matter**
- **Product**
- **NPO**
- **Financial**
  
- ***Any time series data***



# Productivity Trends (Key ratios)



- **Product: Resource**
- **Product: NPO**
  
- **Construct *any* pair of ratios at *any* scale or level of aggregation**



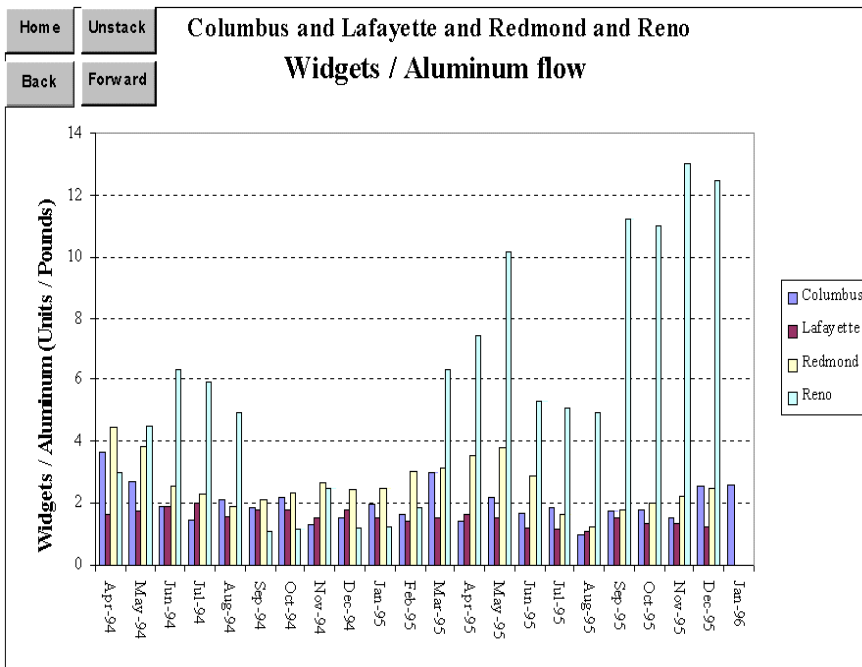
The screenshot shows a web browser window displaying the BizMeta-NL3 application. The browser's address bar shows the URL `http://63.206.72.92/BizMeta-NL3/jsp/BMHome.jsp`. The application interface includes a sidebar with navigation links: **Business Metabolics™**, **Biz Meta Home**, **Admin**, **Help**, and **Logout**. The main content area features several orange buttons: **Energy**, **Materials**, **Products**, and **New Product**. A **Flow Picker** dialog box is open in the center, showing a tree view of organizational units under **Demo Data**. The tree structure is as follows:

- Demo Data
  - Acme
    - Composites
    - Consumables
      - Columbus
      - Lafayette
      - Redmond
      - Reno
    - Durables

The dialog box also includes a path selection field with the text `Demo Data->Acme->Consumables->Columbus` and `Demo Data->Acme->Consumables->Lafayette`, a **Done** button, and a section titled "Select the Org Units to include in your graph:-".



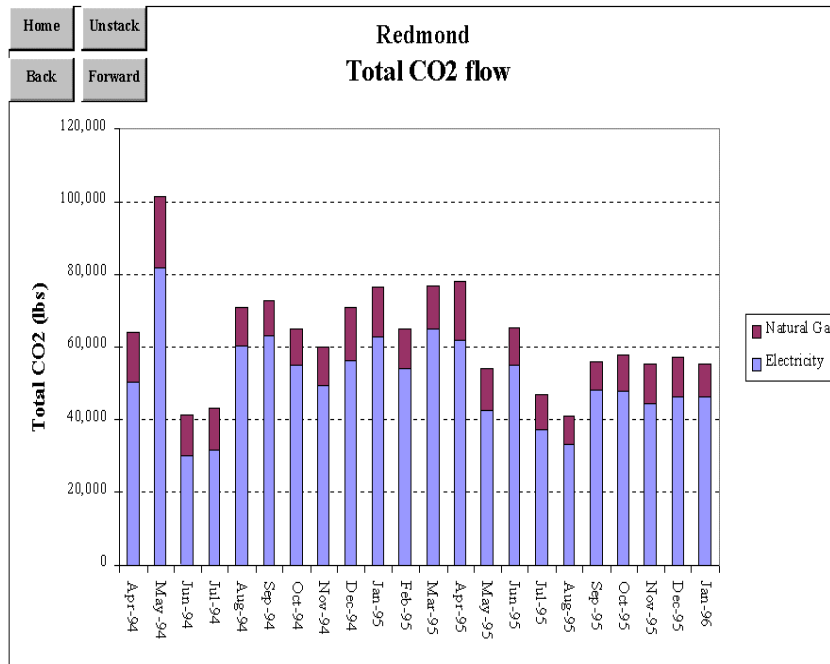
# Benchmarks



- **Compare facilities**
- **Compare companies**
- **Drive continuous improvement**



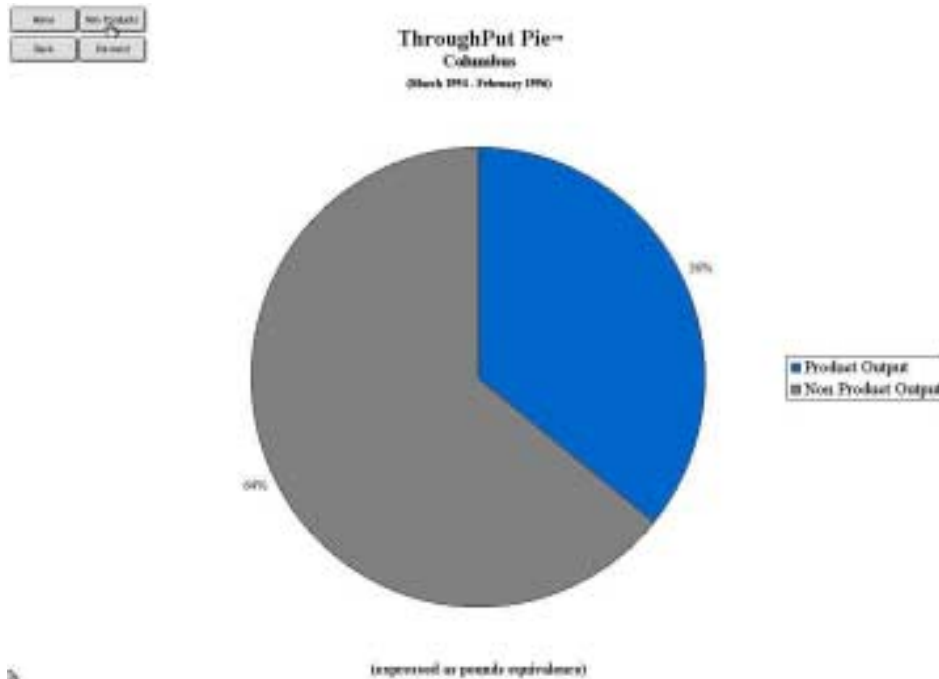
# Greenhouse Gases



- **Chart progress**
- **Identify culprits**
- **Prioritize action plans**



# Throughput Pie™



- **Product / (Product+NPO)**
- **The inescapable logic of “zero emissions”**



# Custom Graphs

- **Assemble**
  - *any* combination of resource + product flow
  - at *any* scale or level of aggregation
- **Assess trends**
- **Replicate successes, avoid pitfalls**
- **Benchmark for continuous improvement**

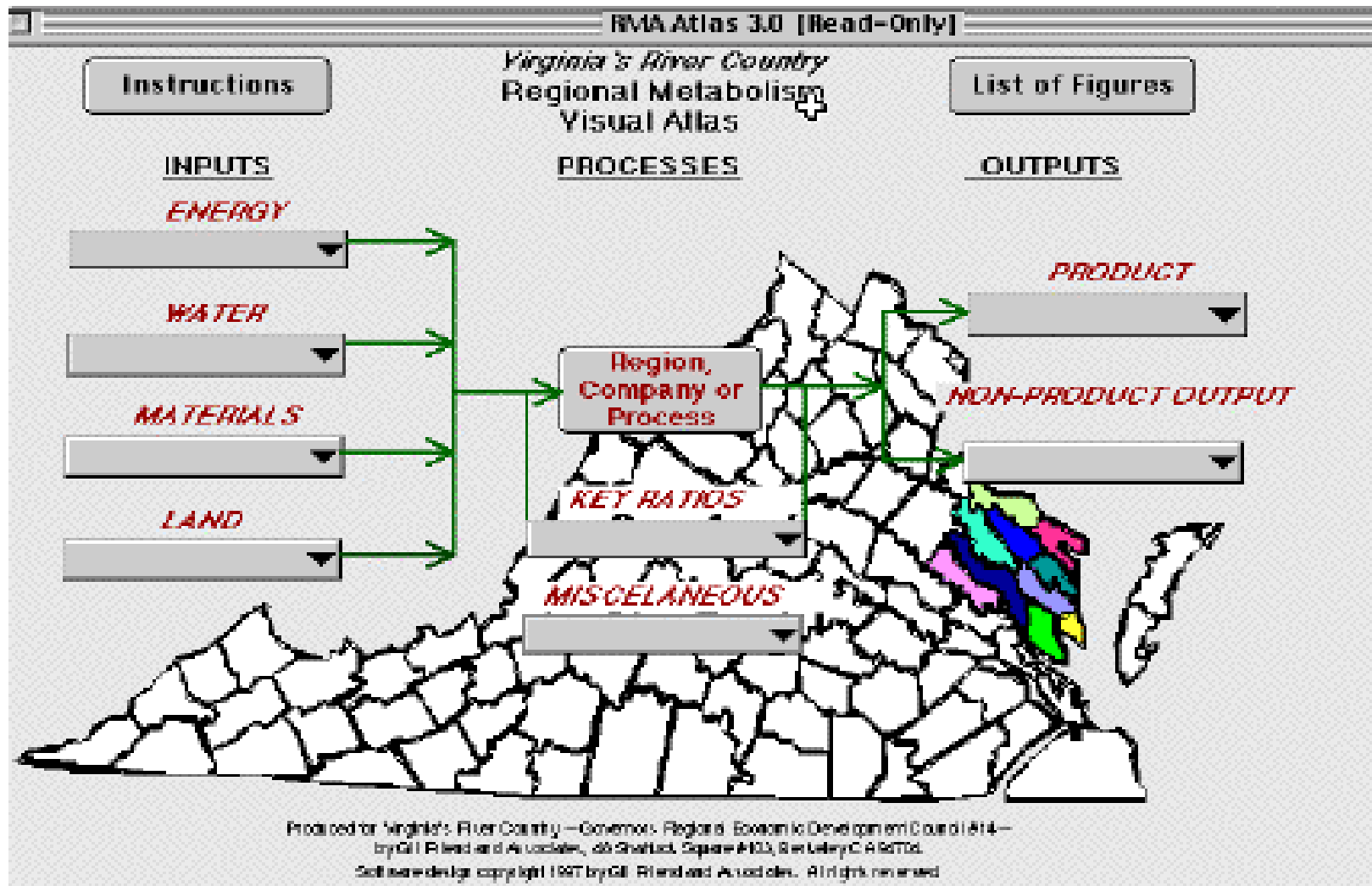


# **An *Insight* Engine**

- **Scalable data visualization & decision support**
- **Delivers new insight into *business* opportunities**
- **Drives:**  
**“Aha! I never thought of that before”**
- **Supports incentive systems more calibrated to physical reality**



# Community & Regional Metabolism



# Business Metabolics

- **Streamlines data gathering & analysis**
  - “Write once, deploy many”
  - “Automagic” data acquisition & normalization
  - Saves time and money
- **Simplifies environmental reporting**
  - Multiple formats for variety of stakeholders
  - Supports ISO 14000, GRI, etc, protocols
- **Adds insight for reporting, management & decision making**
- **Turns environmental reporting into a strategic *business* tool**



# Software Structure

- **Classic three tier architecture**
- **Pure Java, J2EE compliant**
- **Platform & browser independent**
- **Robust data taxonomy provides extensive aggregation/disaggregation flexibility**
- **Robust permissions and security systems**
- **Runs on your servers or ours**



# **Natural Logic, Inc.**

**Helping companies and communities prosper  
by embedding the laws of nature at  
the heart of enterprise.**

**[www.natlogic.com](http://www.natlogic.com)**

**1-877-natlogic**

