

# Sustainability For The Bottom Line

**2009 SWST International Annual Convention**

**June 24, 2009**

**Rick Fisch, Managing Director  
Innovation Productivity Center**



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# Northwest Food Processors Association (NWFPA)

- ❖ Established 1914
- ❖ 450+ Members
- ❖ 75 Food Processors Member Companies
- ❖ Representing the 3<sup>rd</sup> Largest NW Manufacturing Industry
- ❖ 180 NW Member Processing Plants
- ❖ 20 Staff, 150+ yrs experience



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# NW Food Processors Innovation Productivity Center (IPC)

- ❖ **Mission** to position the Northwest food processing industry to compete globally through increased innovation and productivity.
- ❖ **Facilitate solutions** designed for plant and cluster level productivity
- ❖ **Encourage technology** awareness/transfer for increased innovation
- ❖ **Re-engineer leadership development** efforts with an emphasis on innovation and productivity



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# Sustainability Topics

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- ❖ What is sustainability?
- ❖ How are companies responding?
- ❖ What steps you can take?



# Sustainability Defined

## Two Views:

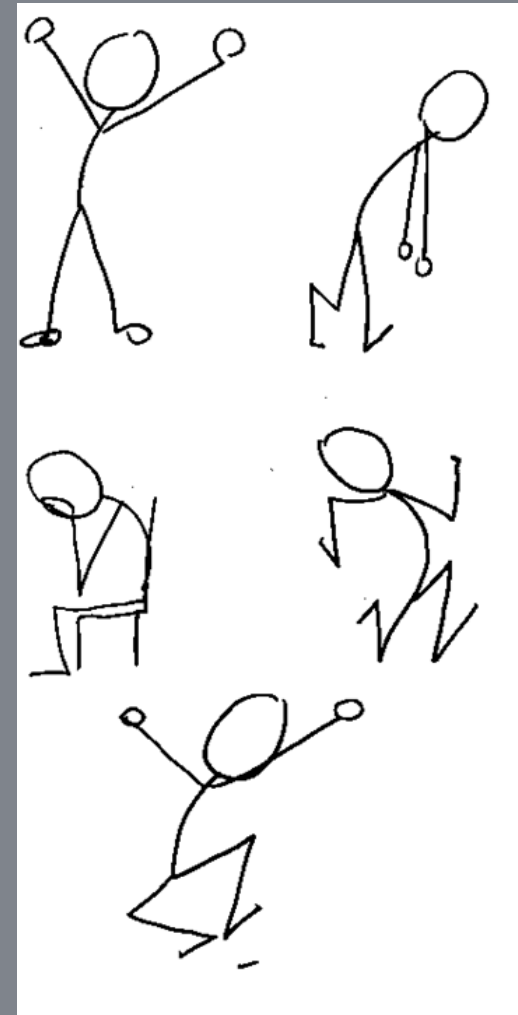
- The production of goods and services via processes that are non-polluting, conserve energy and natural resources, are economically sound, and safe.
  - US Department of Commerce
- Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.
  - Brundtland Commission



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# Peter Drucker's Simple Approach

- ◎ Who are your customers?
- ◎ What do they value?



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# Implications for Business

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## Why companies might take action:

- **Regulatory** (compliance)
  - Satisfy cap and trade reqmnts
  - Reduce needed allocations
- **Marketing advantage**
  - Brand recognition
  - Market niche
  - Enhance product placement
- **Stakeholder demand**
  - Triple bottom line improvement
  - Greening image for shareholder value
  - Sell credits on voluntary exchange

## Why now?

- **Regulatory** (wait and see)
  - WCI recommendations Aug '08
  - Baseline date is 2005?
- **Marketing driver**
  - Depends on industry & products
  - “First in time, first in mind” principle
- **Stakeholder driver**
  - It's always good to save money
  - And increase share price
  - Sell voluntary credits if possible



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# Key Messages

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Sustainability policy is coming, with winners and losers

You can influence the degree to which you win or lose

Don't be lulled by win-win rhetoric

Internally, take control of your risks and opportunities

Externally, engage to influence process and policy



# How Companies Respond



# Why Are These Companies Responding?

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- ◉ **Engaging the public policy debate and regulation process**
- ◉ **Customer demands**
- ◉ **Employee concerns**
- ◉ **Corporate social responsibility**
- ◉ **Business dependency on carbon fuels**
- ◉ **Bottom line results**
- ◉ **Right thing to do**



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# Premise:

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**An efficient manufacturing operation is the essence of sustainability.**



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# Stay on the Road

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## And out of the ditch

- Just right
- Balanced

Ditch A

Ditch B



- Too frozen, conservative
- Too process oriented
- Too risk averse

- Too radical
- Too unconstrained
- Leaves behind good, usable foundations



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# Standard Approach

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- ◎ Hire a consultant
- ◎ Extract a management mandate
- ◎ Appoint a “champion”
- ◎ Set ridiculous goals
- ◎ Appoint a team
- ◎ Set accountabilities
- ◎ Develop processes, programs and projects
- ◎ Watch the effort die a slow death



# Standard Approach

---

- Hire a consultant
- Extract a management mandate
- Appoint a "champion"
- Set ridiculous goals
- Appoint a team
- Set accountabilities
- Develop processes, programs and projects
- Watch the effort die a slow death



# An Alternative Approach

Expand your  
continuous  
improvement  
effort





# Effectiveness, Efficiency, Productivity

**Effectiveness**

**Doing the right things:**

✓ **The Quality dimension**

**Efficiency**

**Doing the right things with the least resources**

**Productivity +**

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$



$$\text{Productivity} = \frac{\text{Quality Products} + \text{Quality Services}}{\text{Labor} + \text{Capital} + \text{Utilities} + \text{Materials} + \text{Transportation}}$$



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# Good Performance Metrics are...

## 1. Prioritized,

Safety

Quality

Delivery

Cost

Environment

## 2. Evolving,

Regularly  
analyzed

Well  
communicated

Relentlessly  
challenged

Reviewed  
for  
relevance

## 3. Focused.

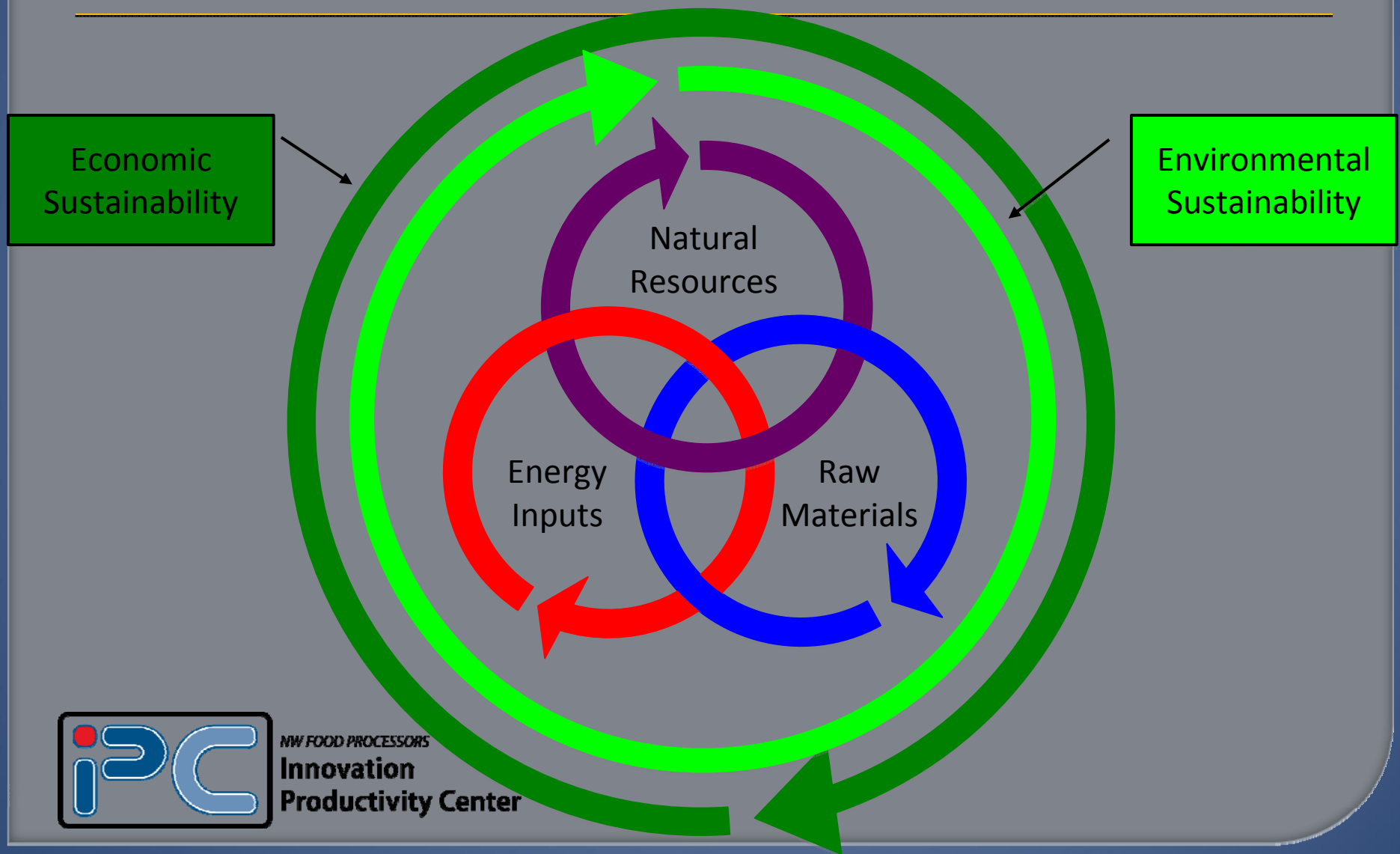
Artfully  
crafted



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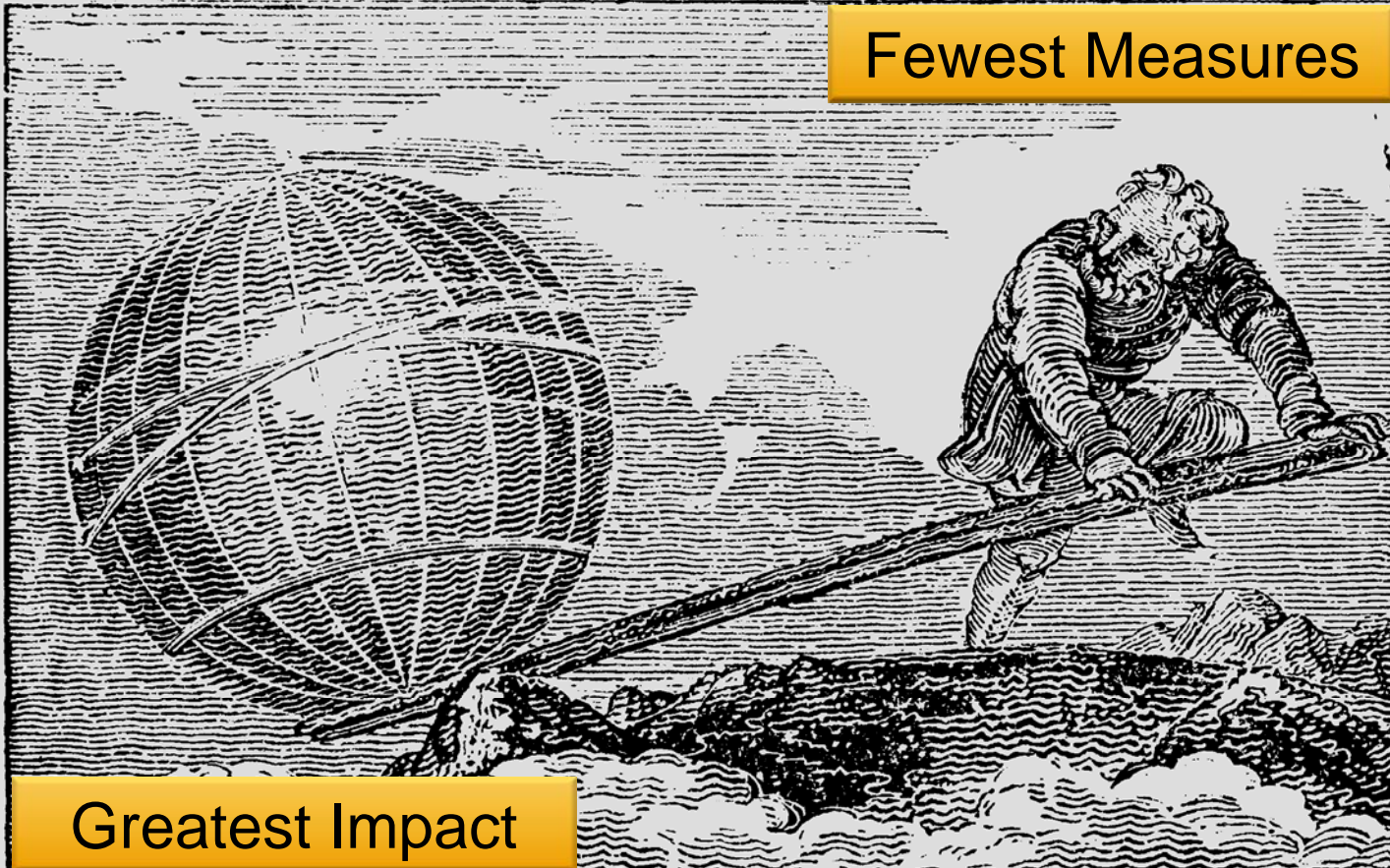
# Industry Led Sustainability Model



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# Focus on the Critical Few Factors

Fewest Measures



Greatest Impact

Archimedes' Lever: "Give me a place to stand and I shall move the earth."



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# The Critical Few

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- ◎ **Electricity**
- ◎ **Natural Gas or other Fossil Fuel**
- ◎ **Water (in and out)**
- ◎ **Air Emissions**
- ◎ **Solid Waste**
- ◎ **Major Input Conversion Waste**
- ◎ **Preferable Toxic Substitutes (more green)**



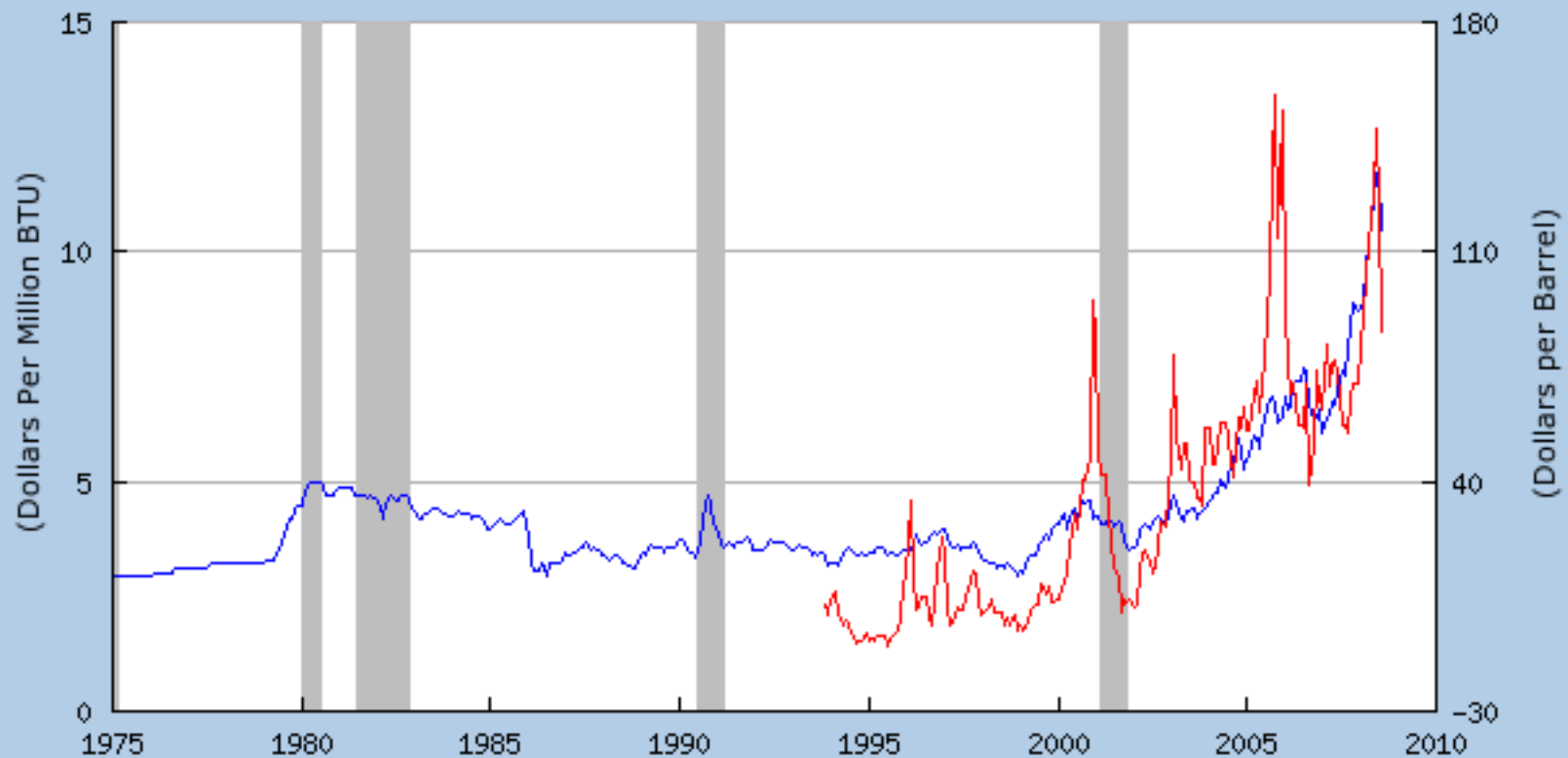


U.S. Department of Energy  
**Energy Efficiency and Renewable Energy**

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

# Oil and Gas Prices Are Volatile

Spot Oil Price: West Texas Intermediate (OILPRICE)  
vs. Natural Gas Price: Henry Hub, LA (GASPRICE)



Shaded areas indicate US recessions as determined by the NBER.  
2008 Federal Reserve Bank of St. Louis: [research.stlouisfed.org](http://research.stlouisfed.org)

— GASPRICE (Left)  
— OILPRICE (Right)

# What is your Energy Intensity for Electricity?

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Generally  
defined as =

$$\frac{\text{KWHR}}{\text{Production Unit}}$$

..... or the inverse.



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# What is your Natural Gas or Fossil Fuel Energy Intensity?

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**Generally  
defined as =**

**MM BTU**

---

**Production Unit**

**..... or the inverse.**



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# Fresh Water Utilization?

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**Production Units**  
**1000 Gallons**



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# Waste Water Loading?

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**Production Units**  
**Pound COD**

**..... or whatever loading factor is most  
severe or costly.**



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# Major Air Discharge Pollutants?

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**Production Units**  
**Pound Emissions**



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# Solid Waste Capture?

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**Production Units**  
**Lb or Ton Solid Waste**



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# Waste or Yield on Major Input Conversions?

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**Units Utilized**  

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**Units Purchased**



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# Toxic Replacements

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- ◎ **Material Substitutes**
- ◎ **Check MSDS Sheets**
- ◎ **Employ Cross Referencing Software**



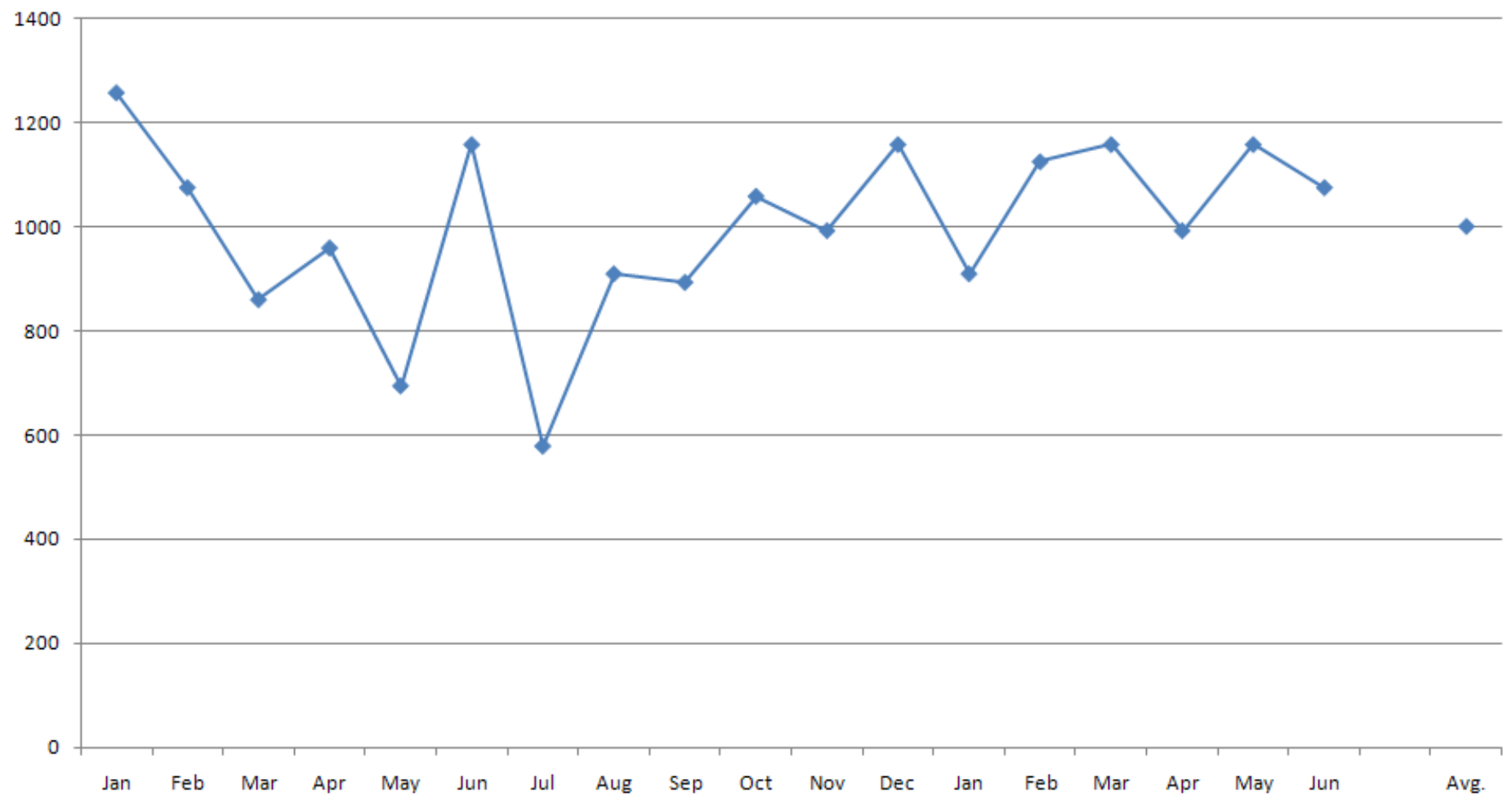
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9/29/2008

# The Performance Range

Key Performance Measures	Pounds Produced Per 1000 Gallons Water
Results	
Target	10 9 8 7 6 5 4 3 2 1
Baseline	0 1000 ←----- Where We Are -1 -2 -3 -4 -5
Scores Weights Values	

# Saleable Lbs/ 1000 Gallons





# The Performance Range

**Key Performance Measures**

<b>Pounds Produced Per 1000 Gallons Water</b>
---

**Results**

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**Target**

10	1200
9	1180
8	1160
7	1140
6	1120
5	1100
4	1080
3	1060
2	1040
1	1020

<----- Where We Are Going

**Baseline**

0	1000
-1	
-2	
-3	
-4	
-5	

<----- Where We Are

**Scores Weights Values**

--

# Baseline Matrix ABC Processing

## June 2007

Key Performance Measures	Saleable Lbs per KWHR	Saleable Lbs per MM BTU	Saleable Lbs per 1000 Gal	Saleable Lbs per Lb COD	Saleable Lbs per Product LB CO2	Saleable Lbs per Ton Solid Waste	Lbs Utilized per Lb Purchased	
	Results							
Target	10	8	900	1200	75	5.4	300	0.995
	9	7.9	890	1180	73.5	5.35	295	0.9915
	8	7.8	880	1160	72	5.3	290	0.988
	7	7.7	870	1140	70.5	5.25	285	0.9845
	6	7.6	860	1120	69	5.2	280	0.981
	5	7.5	850	1100	67.5	5.15	275	0.9775
	4	7.4	840	1080	66	5.1	270	0.974
	3	7.3	830	1060	64.5	5.05	265	0.9705
	2	7.2	820	1040	63	5	260	0.967
	1	7.1	810	1020	61.5	4.95	255	0.9635
Baseline	0	7	800	1000	60	4.9	250	0.96
	-1	6.9	790	980	58.5	4.85	245	0.9565
	-2	6.8	780	960	57	4.8	240	0.953
	-3	6.7	770	940	55.5	4.75	235	0.9495
	-4	6.6	760	920	54	4.7	230	0.946
	-5	6.5	750	900	52.5	4.65	225	0.9425
Scores								
Weights								
Values		20	20	10	10	5	10	25

Performance Index

0

# Performance Month One ABC Processing June 2007

Key Performance Measures	Saleable Lbs per KWHR	Saleable Lbs per MM BTU	Saleable Lbs per 1000 Gal	Saleable Lbs per Lb COD	Saleable Lbs per Product LB CO2	Saleable Lbs per Ton Solid Waste	Lbs Utilized per Lb Purchased	
	Results	7.05	810	1065	58.5	5.1	252	0.97
Target	10	8	900	1200	75	5.4	300	0.995
	9	7.9	890	1180	73.5	5.35	295	0.9915
	8	7.8	880	1160	72	5.3	290	0.988
	7	7.7	870	1140	70.5	5.25	285	0.9845
	6	7.6	860	1120	69	5.2	280	0.981
	5	7.5	850	1100	67.5	5.15	275	0.9775
	4	7.4	840	1080	66	5.1	270	0.974
	3	7.3	830	1060	64.5	5.05	265	0.9705
	2	7.2	820	1040	63	5	260	0.967
	1	7.1	810	1020	61.5	4.95	255	0.9635
Baseline	0	7	800	1000	60	4.9	250	0.96
	-1	6.9	790	980	58.5	4.85	245	0.9565
	-2	6.8	780	960	57	4.8	240	0.953
	-3	6.7	770	940	55.5	4.75	235	0.9495
	-4	6.6	760	920	54	4.7	230	0.946
	-5	6.5	750	900	52.5	4.65	225	0.9425
Scores	0	1	3	-1	4	0	2	
Weights	20	20	10	10	5	10	25	
Values	0	20	30	-10	20	0	50	

# Performance Month Three ABC Processing August 2007

Key Performance Measures	Saleable Lbs per KWHR	Saleable Lbs per MM BTU	Saleable Lbs per 1000 Gal	Saleable Lbs per Lb COD	Saleable Lbs per Product LB CO2	Saleable Lbs per Ton Solid Waste	Lbs Utilized per Lb Purchased	
Results	6.95	825	1065	61.7	4.98	256	0.9708	
Target	10	8	900	1200	75	5.4	300	0.995
	9	7.9	890	1180	73.5	5.35	295	0.9915
	8	7.8	880	1160	72	5.3	290	0.988
	7	7.7	870	1140	70.5	5.25	285	0.9845
	6	7.6	860	1120	69	5.2	280	0.981
	5	7.5	850	1100	67.5	5.15	275	0.9775
	4	7.4	840	1080	66	5.1	270	0.974
	3	7.3	830	1060	64.5	5.05	265	0.9705
	2	7.2	820	1040	63	5	260	0.967
	1	7.1	810	1020	61.5	4.95	255	0.9635
Baseline	0	7	800	1000	60	4.9	250	0.96
	-1	6.9	790	980	58.5	4.85	245	0.9565
	-2	6.8	780	960	57	4.8	240	0.953
	-3	6.7	770	940	55.5	4.75	235	0.9495
	-4	6.6	760	920	54	4.7	230	0.946
	-5	6.5	750	900	52.5	4.65	225	0.9425
Scores	-1	2	3	1	1	1	3	
Weights	20	20	10	10	5	10	25	
Values	-20	40	30	10	5	10	75	

Performance Index

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# Create a Value Proposition

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- ◎ Senior Management
- ◎ Employees
- ◎ Communicate to both



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# Improving a Specific Metric

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- ◎ **Create a team**
- ◎ **Provide training and access to information**
- ◎ **Pull, don't push**
- ◎ **Recognize and reward achievement**



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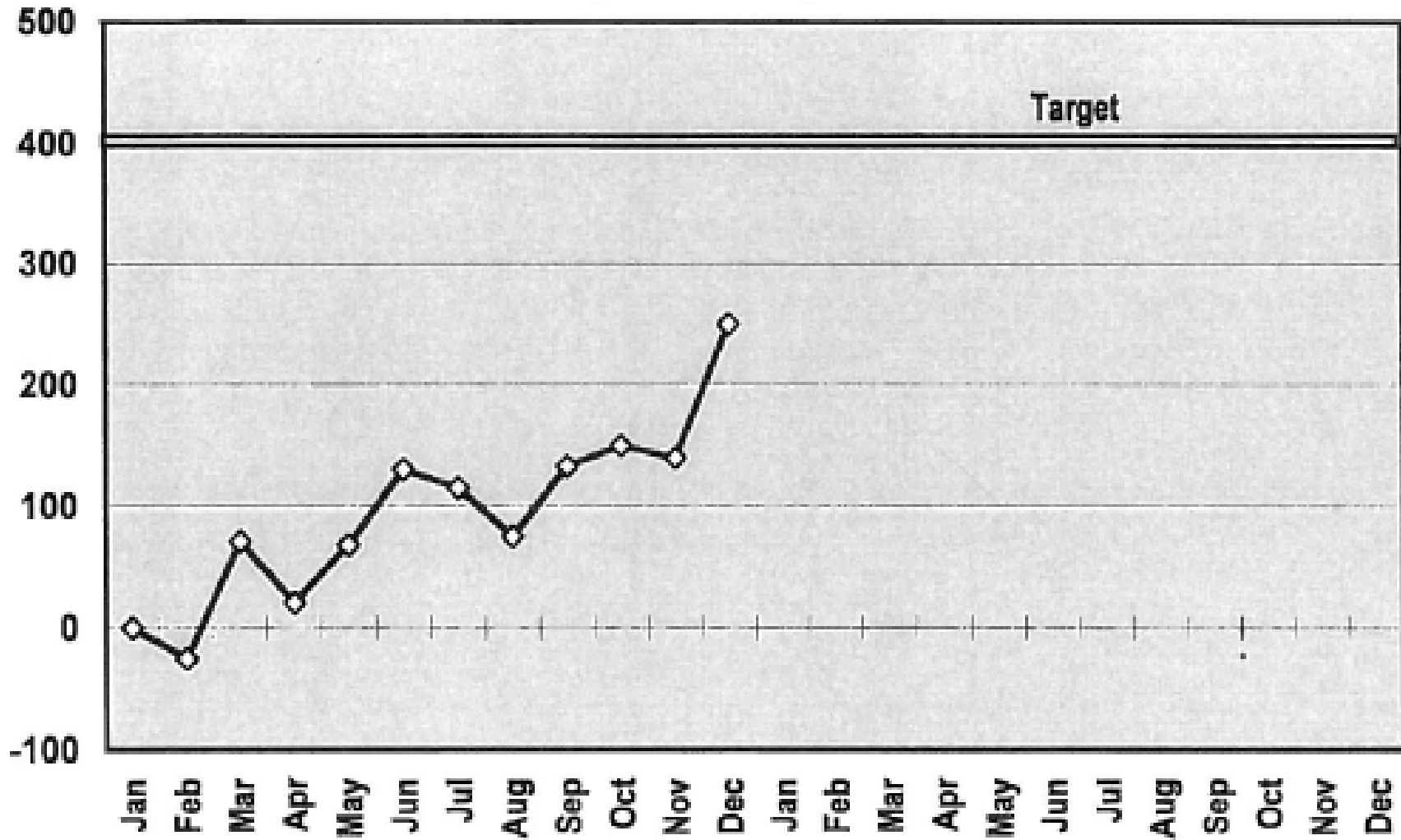
# Benefits of the Objectives Matrix Platform

<b>Simple</b>	<b>Quickly learned...easily maintained</b>
Graphic	Progress and opportunities are visually obvious
Non-Threatening	Focus is on group rather than individual efforts
Comprehensive	Consolidates many measures into a common format – with no loss in simplicity
Challenging	Superb forum for discussing performance needs and inviting questions
Translational	Greatly simplifies communications within and between units – and facilitates training efforts
Succinct	One number accounts for tradeoffs between measures and summarizes overall progress



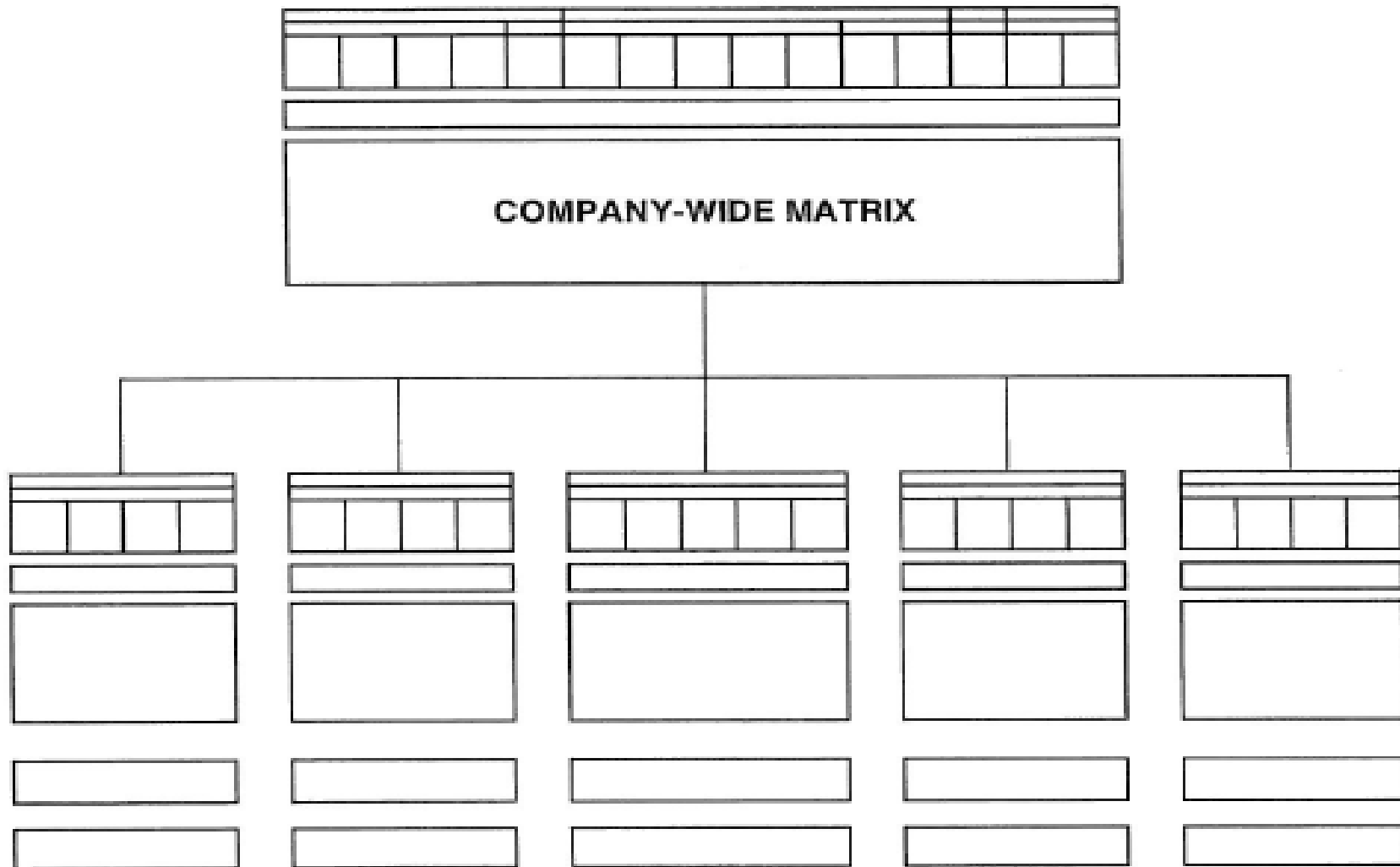
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# ABC Manufacturing Monthly Productivity Index





# Hierarchy of Matrixes



# Questions

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- ◉ **Rick Fisch, IPC Managing Director [rfisch@foodipc.org](mailto:rfisch@foodipc.org)  
503.421.9084**

[www.foodipc.org](http://www.foodipc.org)



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