

Total Corporate Responsibility

**“Becoming a
Lean\$Green Enterprise”**

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 **AME** [®] *Association for
Manufacturing Excellence*
Enterprise excellence through shared learning

The Need for *Lean\$Green Enterprise* *Pressures on American Businesses*

- Global competition leading to loss of manufacturing jobs in US.
- Greater pressure on companies to minimize environmental impact
- Growing trends to market focusing on environmentally friendly products
- Business-to-business specifications, e.g., the Wal-Mart “scorecard” “measuring what matters”

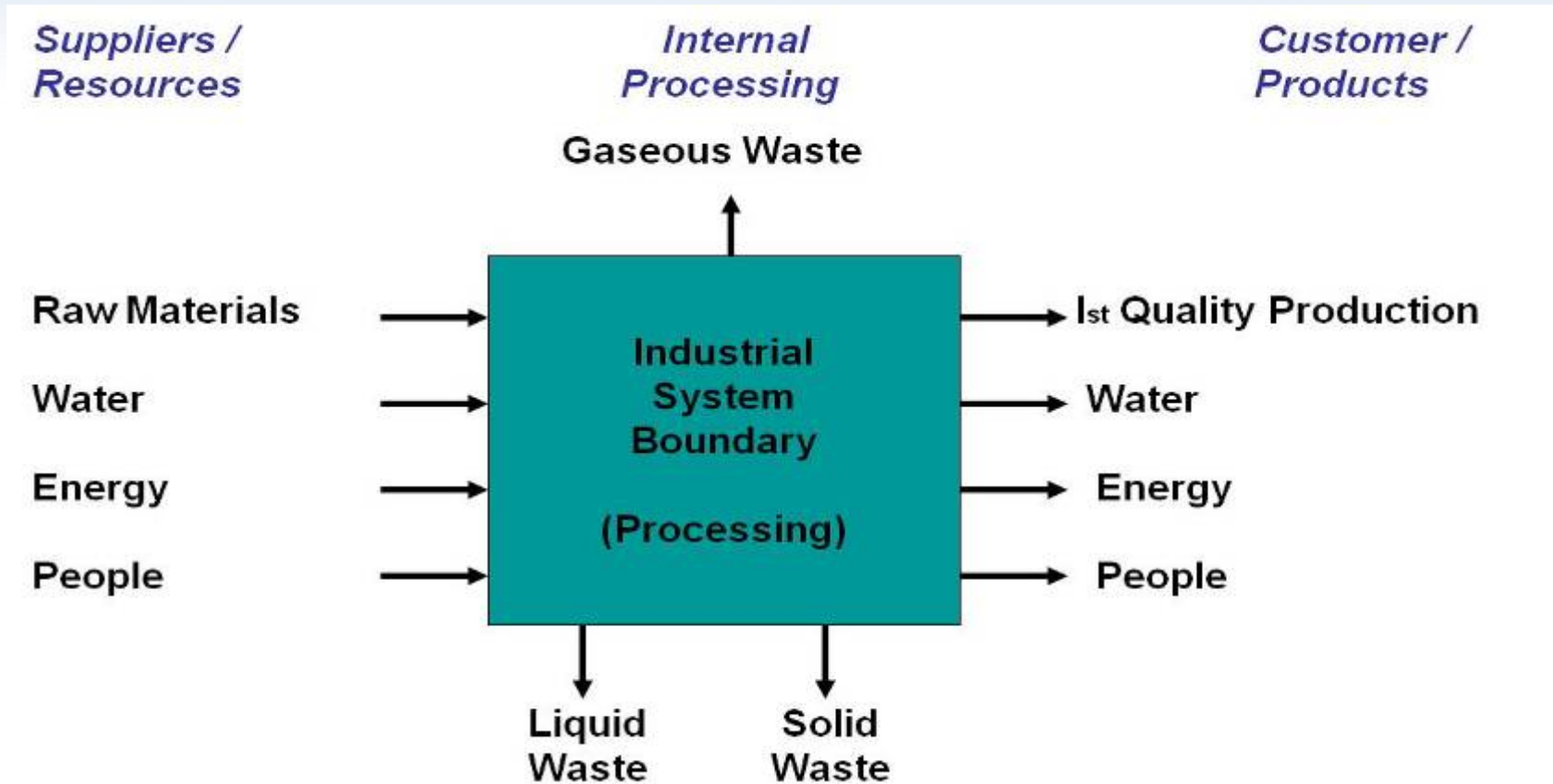
What is a Lean\$Green Enterprise

A Lean\$Green Enterprise is :

- Integrated entity focused on the elimination of waste
 - Minimizing the consumption of resources (human and natural capital)
 - Effectively maximize the creation of value for
 - Customers, stakeholders, and communities
-
- **Human capital** pertains to business practices relating to labor, the community and region in which a corporation conducts its business.
 - **Natural capital** refers to sustainable environmental practices to benefit the natural order by curtail the environmental impact.

Lean\$Green Enterprise

Economic and Environmental Model



*Doing More with Less of Everything
(Energy)*

Lean\$Green Enterprise

A Holistic Approach to Sustainability

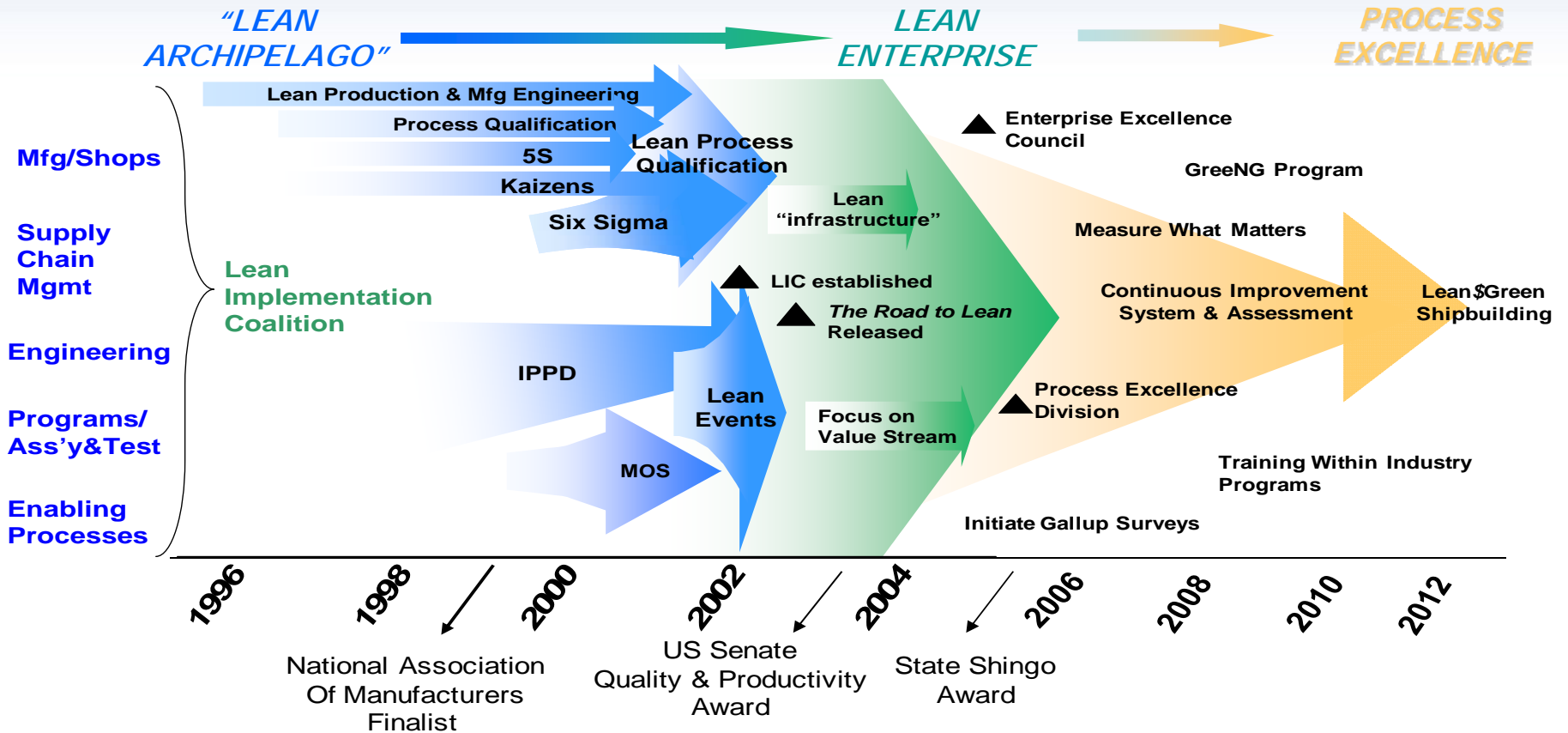
- Focus on systematic and on-going efforts to **identify and eliminate waste**
- Seek active **employee participation** in improvement activities
- Emphasize the importance of using **metrics** to make decisions
- Seek engagement with the **supply chain** to improve enterprise-wide performance

Lean\$Green Best Practices

- Optimize Material Use → Less Scrap =
Reduced Solid Waste
- Reduce Inventory → Less Chemical Spoilage =
Reduced Hazardous Waste
- Reduce Transportation → Less Fuel Consumption =
Reduce Air Emissions
- Reduce Overproduction → Less Runtime =
Reduce Resource Consumption

Energy
the big winners from a *Lean\$Green* Enterprise

Road to Lean\$Green Shipbuilding



Total Corporate Responsibility

greeNG

Be recognized by our customers, communities, shareholders and shipbuilding employees as an environmentally responsible and conscientious corporate citizen.

- *Implement green activities enhance effectiveness and maximize our competitiveness*
- *Leverage cross functional teams to deploy greeNG*
- *Leverage best practices consistently and completely across the company and at home.*

Northrop Grumman Shipbuilding sector, has established a five-year goal to reduce its greenhouse gas (GHG) intensity by 25 percent.



“Working Smarter ... Not Harder”

Total Corporate Responsibility

“Enterprise excellence through shared learning”

Question ?

***Becoming a
Lean\$Green Enterprise***

Lean\$Green Initiatives

Adopting Best Practices of

“Lean” to Eliminate

- Defects
- Overproduction
- Waiting
- Non-utilized resources
- Transportation
- Inventory
- Motion
- Extra processing

“Green” to Strive For

- Non-toxic substitutes
- Optimized raw material use
- Water use and wastewater reductions
- Air emission reductions
- Solid and hazardous waste reductions
- Transport packaging optimization
- *Energy efficiency*

Lean\$Green Enterprise

Value Stream Scorecard

Lean\$Green Enterprise - Value Stream - Scorecard

Corporate Strategic Goals & Objectives

1. Customer Perspective - Best in our Industry for Customer Performance

2. Financial Perspective - Consistently Top Quartile for our Industry for Financial Performance

3. Operational Perspective - World Class Level of Operational Excellence

4. People Perspective - World Class Level Place of Employment

5. Sustainability Perspective - World Class Level Total Corporate Responsibility

Work Teams Key Performance Indicators (KPI)	Value Streams (KPI)	Programs KPI	Sector KPI	Corporate KPI
Work Team Measures	Value Stream Measures	Program Measures	Sector Measures	Corporate Measures
Reduced Cycle Time	Reduced Lead Times	Schedule Performance Index (SPI)	Return on Net Assets	Corporate Strategic Goals & Objectives : ----- Customer Financial Operational People Sustainability
Increased Output	Increased Productivity	Cost Performance Index (CPI)		
Increased First Pass Yields	Increased Throughput	Days of Inventory / Turns		
Increased Safety / Skill Levels	Increased Improvement Project Participation	Gallup Survey		
Reduced Waste	Reduced Resource Consumption	Sustainability Index (SI)		
People	Process	Performance		

“Measure What Matters” to a Lean\$Green Enterprise