

THE NEW PARADIGM

Environmental Responsibility Driving Economic Performance

The Lean & Green™ Solution

LEAD[®]
Lean Advisors Inc.

Success Through Knowledge™

Leading organizations worldwide are now measured on a

triple bottom line

for their **contribution to society, environmental responsibility** and **financial performance**.

Our mission

To help you achieve your “triple bottom line”.

Financial Performance — You will realize substantial cost savings throughout your organization by eliminating all energy waste. In addition, you may convert the energy saved into tons of CO2 emissions that can be traded on various exchanges. Our assessment targets all environmental pollutants (with the exception of those regulated and enforced by governments) with a particular focus on energy. A reduction in energy consumption produces a rapid, sustainable ROI, making it possible /desirable for even small organizations to proceed immediately. Savings are realized within a few months and every year thereafter.

Environmental Responsibility— A measurable reduction in Greenhouse Gases not only respects our planet but also creates a competitive advantage when communicated to customers. More and more major customers such as Wal-Mart are now demanding it.

Contribution to Society—An environmentally friendly workplace leads to healthier, more engaged employees and an awareness that emanates to the surrounding community and beyond.

Becoming Lean and Green

Lean is a way of thinking about how information, products and services move through your business processes. The traditional notion of producing and moving in large batches of products or services (information, goods, or paper), is becoming obsolete. The new ‘Lean way’ of thinking is to keep those work elements moving continually within your system, while constantly adding value without stopping, from order to delivery – this is what Lean thinkers call flow.

In order to achieve flow, waste must be eliminated from the end-to-end system. There are nine types of waste:

1. Over Production
2. Inventory
3. Waiting
4. Transportation
5. Motion
6. Over Processing
7. Quality Defects
8. Reprioritization
9. People’s Skills

These nine wastes usually represent greater than 45% of the activities within a process. If we consider that most of these wastes consume some type of energy, then Energy and Environmental Waste (E/EW) is the **10th waste**.

The Lean & Green™ Solution LEAD®

E/EW– 10th Waste

Most of the nine wastes listed above are responsible for consuming energy unnecessarily and producing environmental pollutants. These environmental wastes are found both inside and outside process activity steps. The challenge is to change our way of thinking not only about how we flow goods and services through our business but how we use (or misuse) E/EW to produce the product or service.

Some examples of Energy waste and the Environmental Pollutants that result:

- Wrong sized equipment
- Equipment running excessively
- Too much equipment running
- Non-recoverable heat loss
- Inventory (heating, refrigeration, lighting)
- Stack emissions
- Waste Water
- Overproducing
- Transportation
- Over processing
- Defects
- Excess Packaging
- Excess fluids, gases, solids
- Waste By-products

A Case Study

A medium sized food processing facility recently implemented Lean and Green resulting in a substantial reduction in Energy Waste. They now save over \$150,000 (15%) per year in energy costs and over 800 (10%) tonnes per year of Greenhouse Gas emissions as a result of going Lean and Green. Savings include:

- A reduction of 8 electric forklifts, saving about \$35,000 per year
- A 90% reduction in total conveyor length, saving over \$50,000 per year
- A 75% reduction in warehouse space, saving heat and over \$5,000 per year for lighting
- A 35% reduction in production area requirements , saving heat and over \$10,000 for lighting



people planet profit



The Lean Connection

Those who practice Lean have known for years that a robust Lean transformation reduces the carbon footprint of a facility by reducing energy consumption. Reduced energy use has been viewed as simply a by-product of Lean. Until now we have not had a means with which to capture energy and environmental waste or to quantify it. The tool we use is Energy Value Stream Mapping (EnVSM™). EnVSM™ captures all energy waste within a process or Value Stream and highlights the environmental impacts associated with and /or caused by that energy waste.

Total Energy and Environmental Waste will be identified through EnVSM™ and reduced systematically through a Future State Waste Reduction Plan. As the energy waste is eliminated the environmental waste is also automatically reduced. The key to a successful implementation is to reduce or eliminate the waste without affecting the way the product is made or the service delivered. Technical solutions should be planned and implemented through structured 'kaizen' events in the same way Lean kaizen events are executed.

Lean Advisors Inc. is the leader in Energy Value Stream Mapping™, with Triple Bottom Line results, measurable and guaranteed.

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Program Agenda

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Days 1 - 3

Assessment	Senior Advisor assess the opportunities for Lean and Green implementation, identifies the Value Streams, reviews cultural and technical issues with management
Lean Current State (CS)	Senior Advisor creates a Current State Value stream Map from a Lean perspective
Analysis and Key Measurements of Current State	Senior Advisor captures key data and measurements that will form the baseline for the Current State.
Lean Future State (FS) Vision/Ideal and 3 Month	Senior Advisor creates a Future State VS Map that looks out 6 to 12 months and shows what the VS could look like with all waste removed
Lean Implementation Plan 3-6 month FS	Senior Advisor creates a three to six month Implementation Plan that details how the waste will be removed from the Value Stream, what Lean tools will be required to remove the waste, the sequence of the kaizen events and who will be involved in the Implementation

Days 3 and 4

Energy Current State (CS)	Senior Energy Advisor creates a Current State map capturing energy and associated waste in the selected Value Stream
Analysis and Key Measurements of CS	Senior Energy Advisor captures key data and measurements that will form the baseline for the Current State.
Energy Future State Vision/Ideal and 3 month FS	Senior Energy Advisor creates a Future State map that shows what the VS will look like with energy waste removed
Energy Implementation Plan – 3 - 6 month FS	Senior Energy Advisor details how energy and associated waste will be reduced both technically and as a result of the Lean Future State implementation

Days 5 thru 12

Implementation of Lean and/or Green process improvements	The implementation will consist of a combination of Lean and Green kaizens selected to deliver the most effective returns (\$\$ and service improvements) to the organization based on the organization's goals and values.
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