

GREEN IS FREE

Achieving *Environmental Excellence*
Through Green Lean

Dr. Dean M. Schroeder

Is it really possible to make a green effort pay financial dividends?

Is doing so really more than hype – or good PR?

How does an vehicle manufacturer making almost 1000 cars each day throw less into landfills in a year than the average family does in a day?

We can learn a lot from the experience of Subaru and other leaders in environmental performance?

We learn the answer is *not* found in:

*“100 Quick and Easy Green Tips
to Make a Fortune While Saving
the Planet.”*

The answer is found in:

**Systematic, proven, incremental
approaches that involve
everyone in your organization.**

Levels of Green Management

- Level One – Compliance
- Level Two – Opportunism
- Level Three – Analytical and Systematic
- Level Four – Integrated into Daily Work
- Level Five – Pioneering

Level One – Compliance

The focus is on compliance with rules and regulations – green is considered a cost of doing business that is to be minimized.

The company is doing only what it must do to avoid fines.

Level Two – Opportunism

“Quick-hit” environmental activities are taking place in an ad hoc manner. These projects have rapid and obvious pay-backs. (Recycling, turning lights off, better energy use, etc.)

Level Three – Analytical and Systematic

The company's environmental impact is systematically measured as part of an EMS – such as ISO 14001. This information is used to select green improvement projects with the most leverage or that are the most critical.

Level Four – Integrated into Daily Work

Everyone is expected to be involved in improving the company's green performance as a regular part of their work. Green is part of every decision.

It is at this level that green is integrated into lean – front-line ideas become vital.

Level Five - Pioneering

The organization is developing approaches on the leading edge of current environmental practice and thinking.

Lesson 1: Special Leadership is Required

- **Vision** with Long-term Commitment
- **Communicates** the vision in inspiring ways (BHAGs)
- Instills **vertical alignment** through accountability and goals (metrics and measures)
- Assures **horizontal alignment** with green
- Ties green performance and **rewards** (bonuses)
- **Behavior** reinforces the vision (walks the talk)

Lesson 2: A Systematic Approach

A certified **ISO 14001** program (**Environmental Management Systems or EMS**) provides help with the environmental measures and ongoing accountability needed to monitor and focus process.

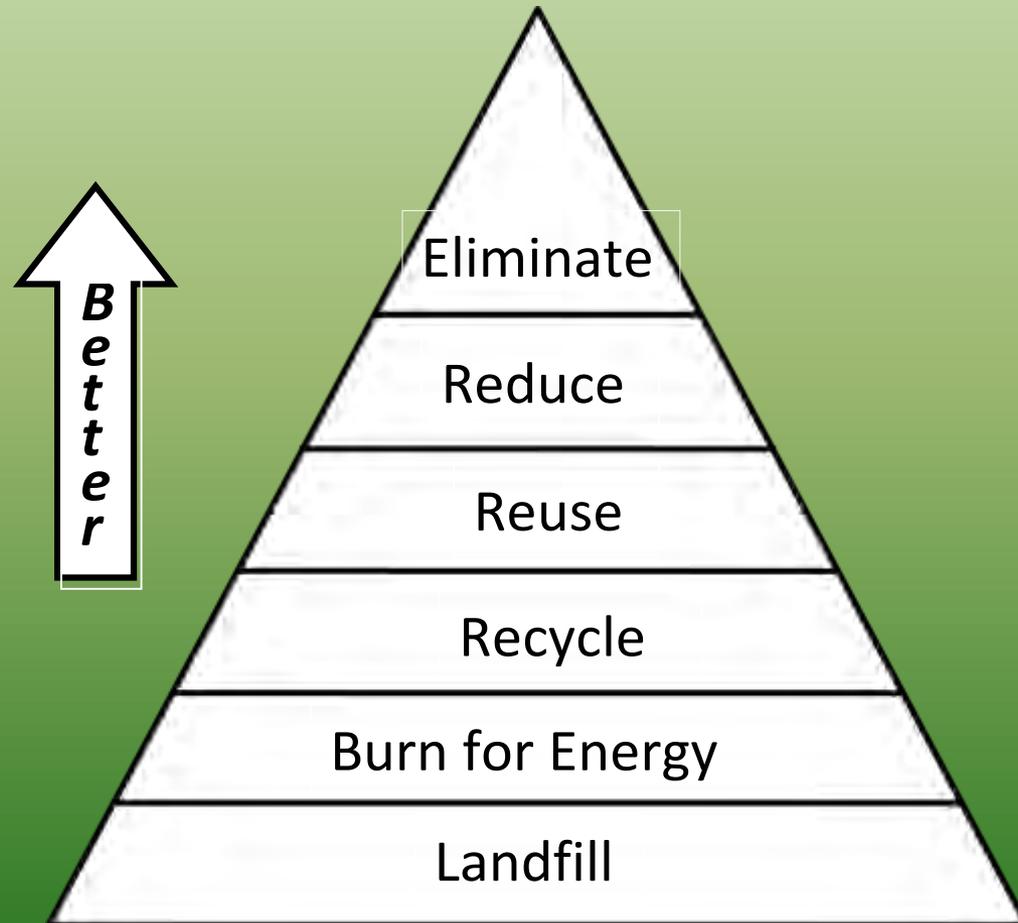
Lesson 3: The Front-line People are **Vital!**

- **They handle** the waste when it becomes waste,
- **They see** a lot of things management misses,
- Their **job design** is the secret to making green pay,
- Their **ideas** are vital to success, and
- Their **behavior** is what makes it work, or fail.

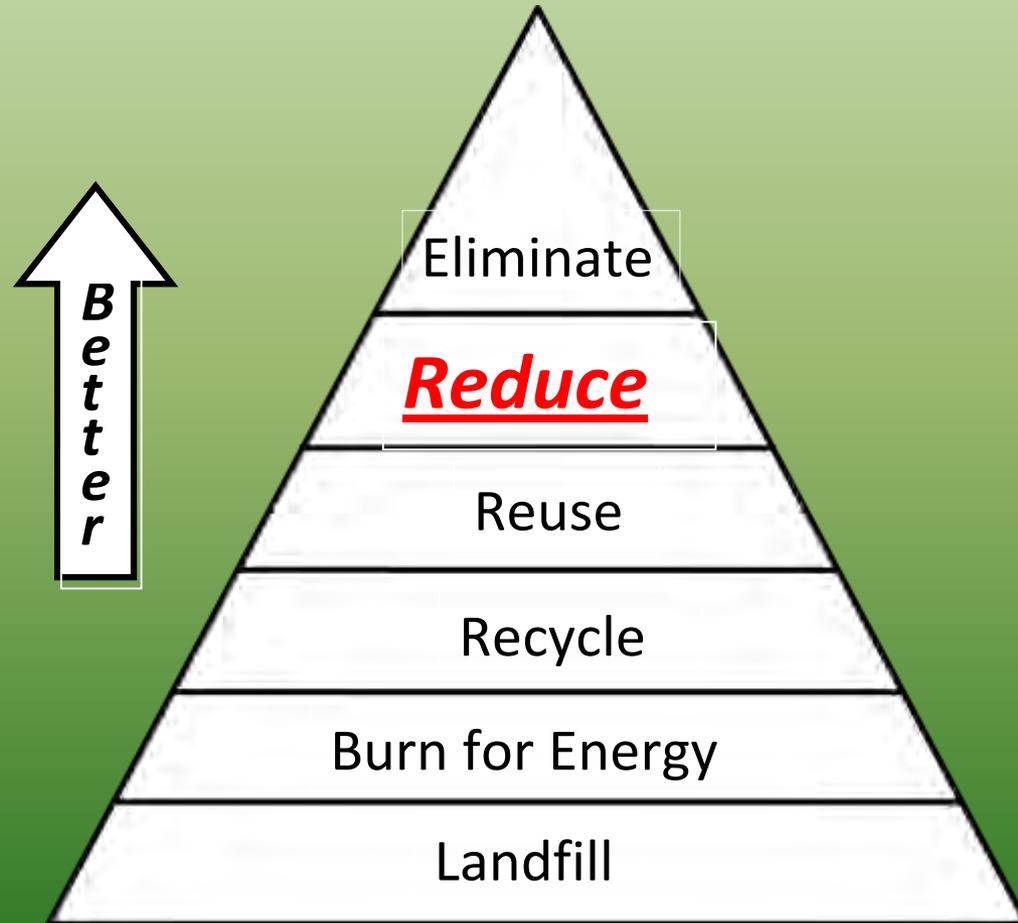
Lesson 4: Create a Shared Vision, Systems, and Training

- A green vision gets relatively easy front-line “buy-in”, but needs to be backed up with actions from the leadership.
- Metrics and Measures – Green goals and accountability on the Front-lines.
- Systems that allow people to make a difference.
- Training

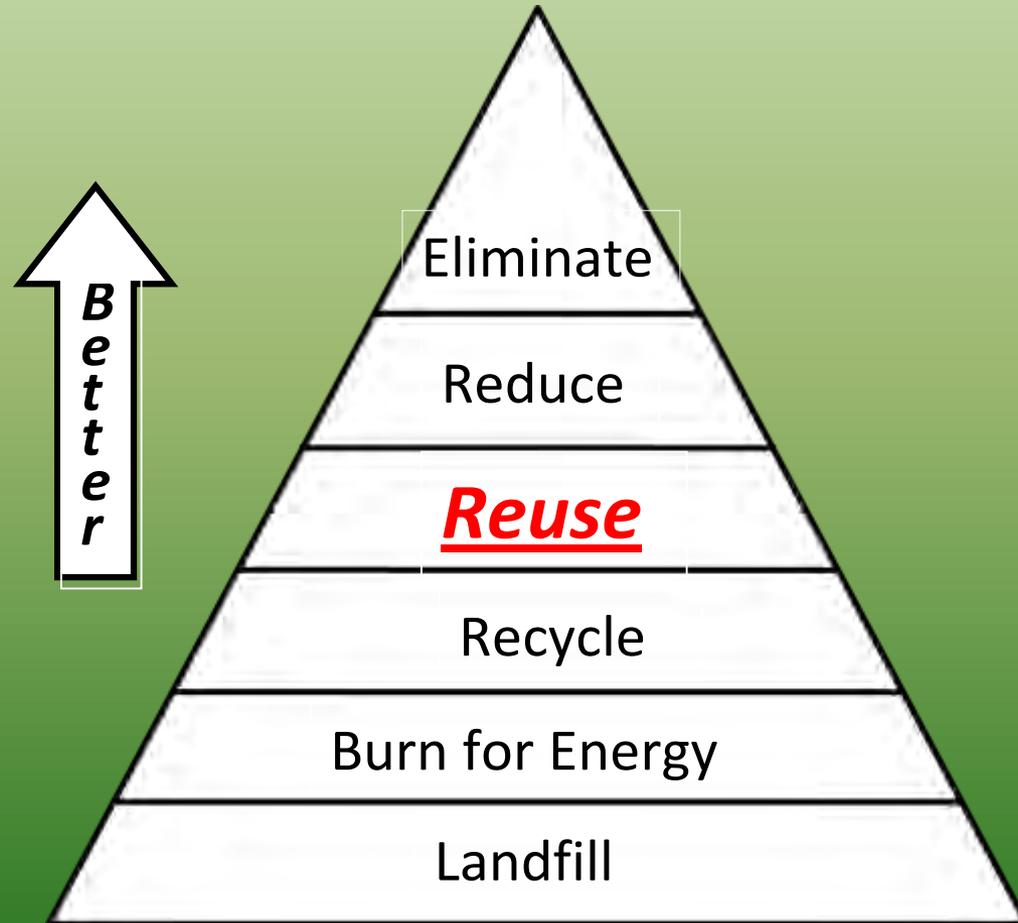
The Waste Management Hierarchy



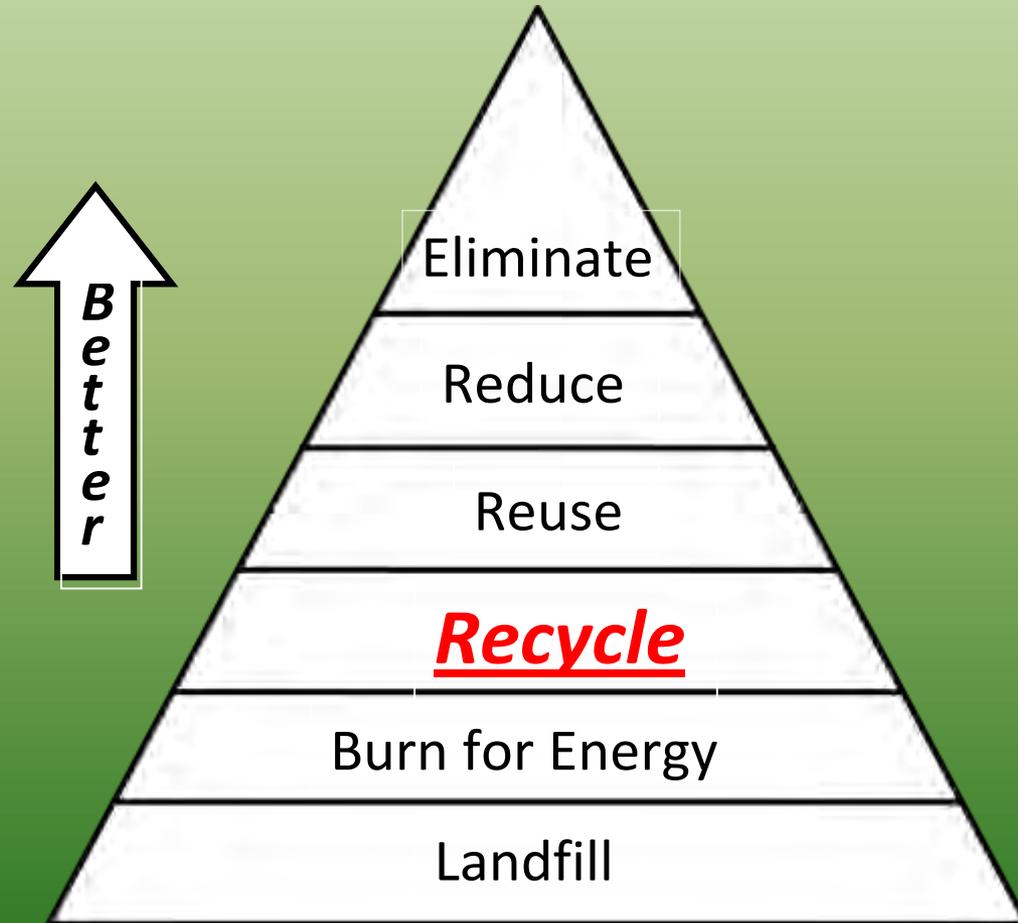
The Waste Management Hierarchy



The Waste Management Hierarchy



The Waste Management Hierarchy



Not all Recycling is Equal!

- **Recycling**
- **Downcycling**
- **Upcycling**

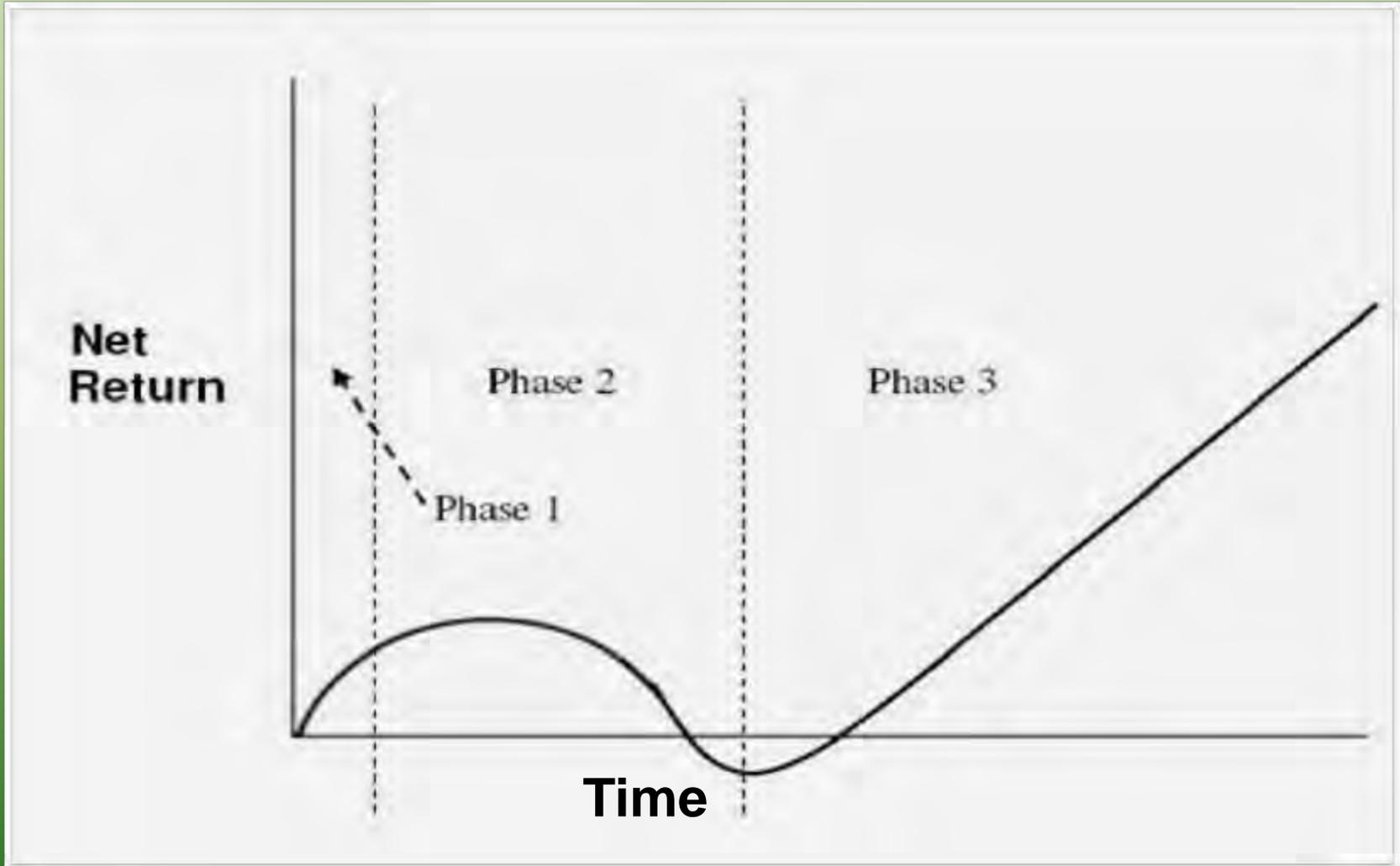
Lesson 5: A Company Can't “Go it Alone” – Supply Chain Partners are needed

- Upstream Suppliers may need to make changes.
 - Changes in packaging
 - Changes in materials used
 - Changes in nature of transport and communication
- Help is needed with downstream management.
 - Finding sources to take the waste - global market.
 - Create sources for taking waste.

Lesson 6: Green is Free (and can be profitable) ...

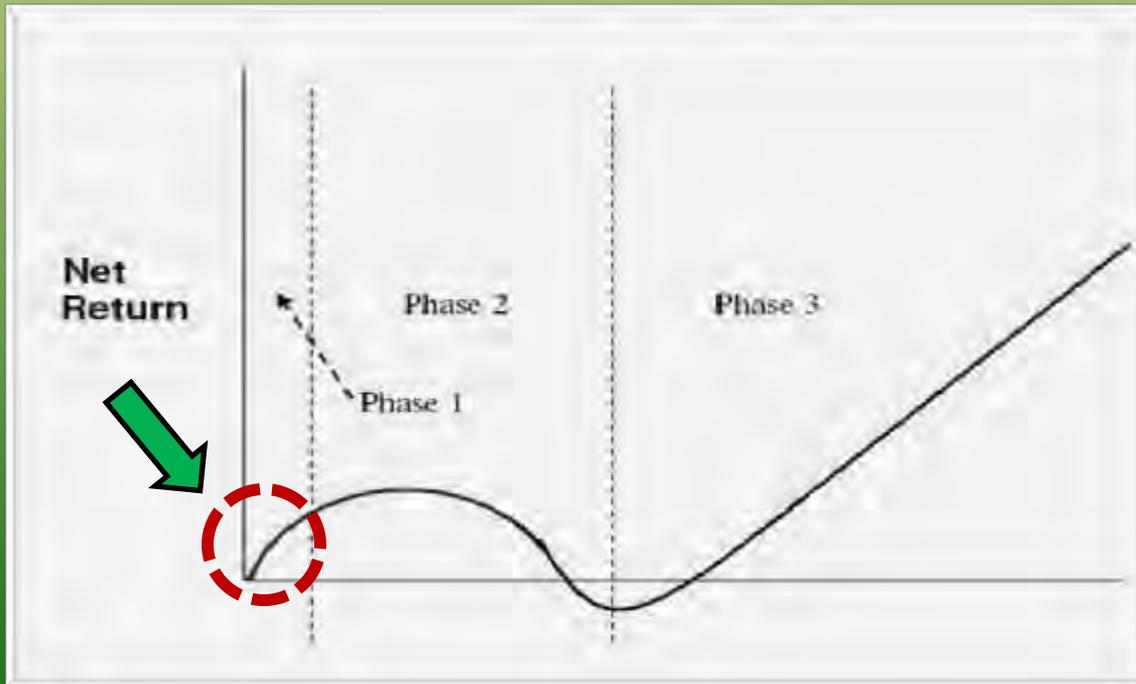
...but you must understand the financial investment that may be required to make green really pay.

Green Cumulative Payback Curve



Phase 1: Quick Hits

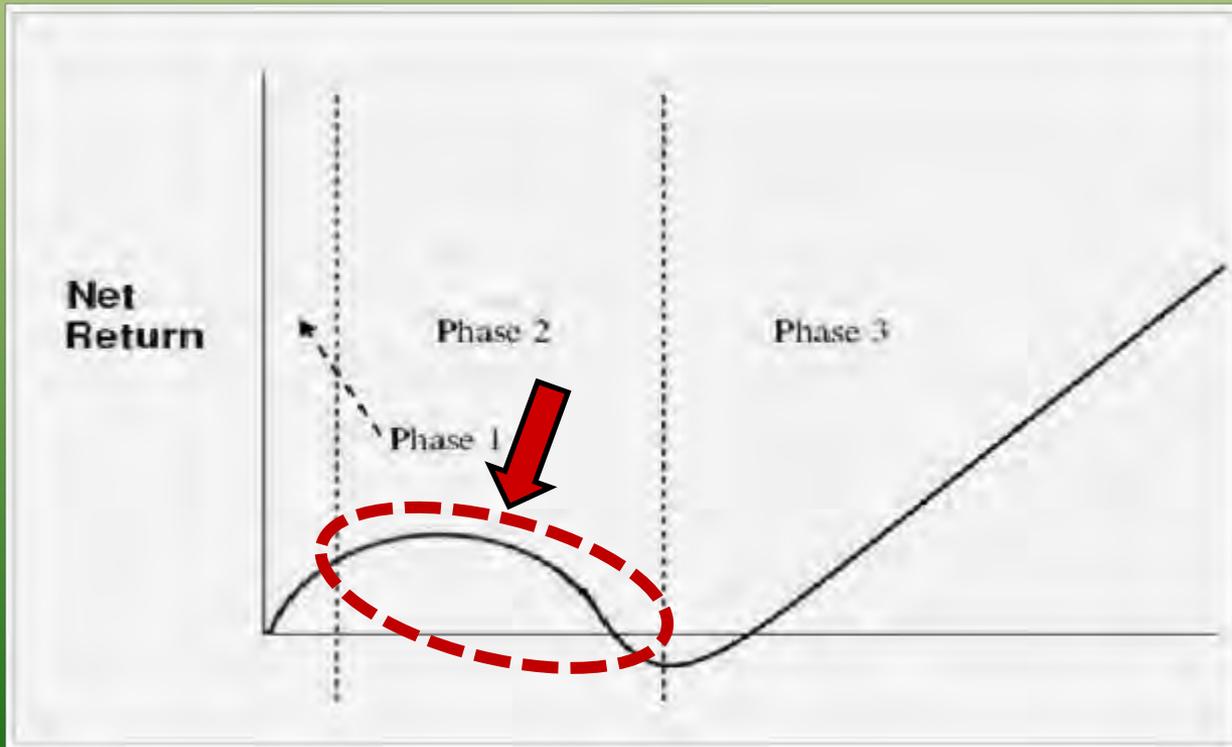
Quick opportunistic green actions with rapid payback. This include such actions as basic recycling, power reducing initiatives (turn off the lights/computers/etc.)



Phase 1 activities require few real operating changes and little investment.

Phase 2: Developing the Green Infrastructure

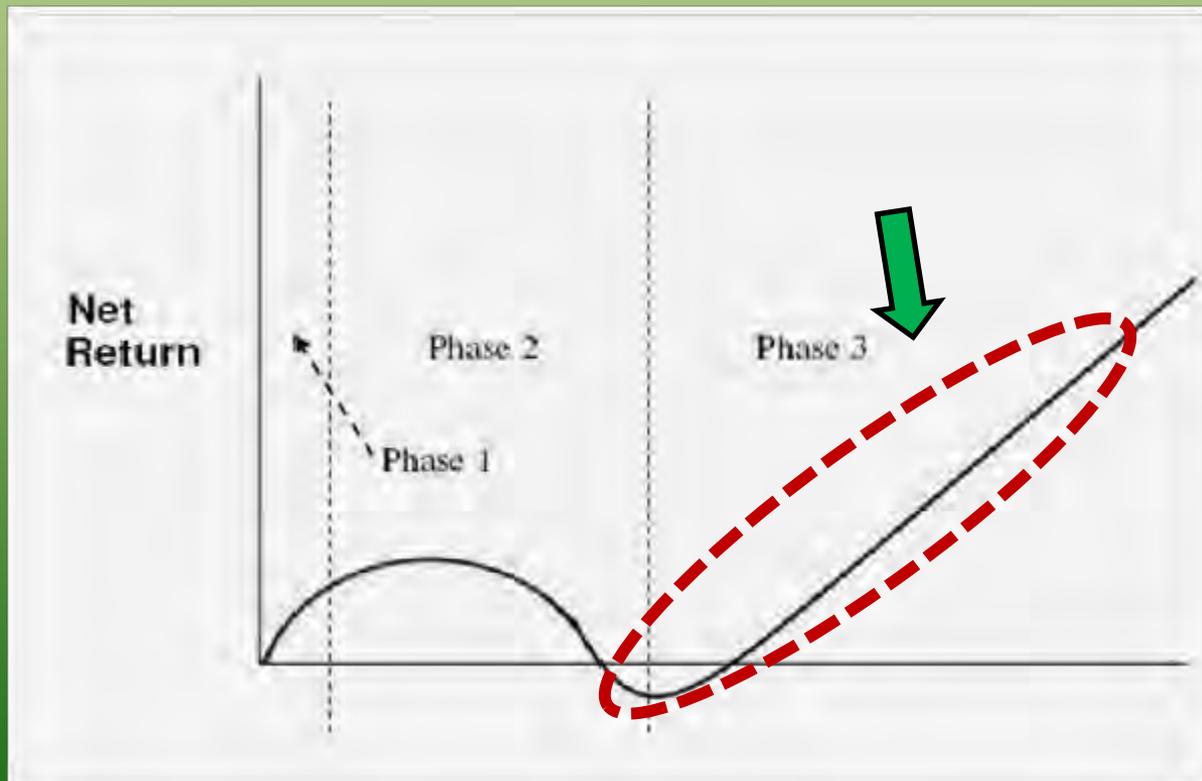
Investments in major projects, often with long or limited payback, may turn the total payback negative. This is an investment in “learning”.



Phase 2 activities require a deliberate effort to build the foundation for a different way of operating.

Phase 3: Greening Profits

Profitable green actions build upon the green infrastructure build during phase 2.



Green actions are completely integrated into daily work, lean improvements, and planning.

Lesson 7 (The bottom line) : Green has Big Hidden Payoff

- Increased *customers* respect/loyalty.
- *Employees* have more pride in their work.
- Gaining *profound knowledge* that benefits the company in other areas.
- *Strategic leadership* advantages are gained.
- *It's the right thing to do!*

Thank You