

# **Pollution Prevention Strategies for the U.S. International Corporations**

**Author: J.J. Rao**

**Key Words: pollution, prevention, environmental management, strategy, Low Cost Country (LCC)**

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## **Abstract**

**The U. S. corporations have made major strides in their manufacturing technology to meet the stringent U.S. environmental regulations to realize that Pollution Prevention is a necessity and an economically desirable policy in the competitive global market.**

**The desire of the international corporations, to enter the global market on a long-term basis, necessitates today that Pollution Prevention strategies be developed and adopted for their overseas facilities at the very outset.**

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## Abstract (continued)

**The developing and underdeveloped countries are learning much faster the financial benefits of Pollution Prevention, especially after realizing the effects of the environmental disasters in many parts of the world.**

**The strategies recommended and suggested have been developed based on observations for a variety of industries. The outline of each strategy is discussed in detail in the paper with specific guidelines and emphasis is on customizing the requirements based on the success in the U. S.**

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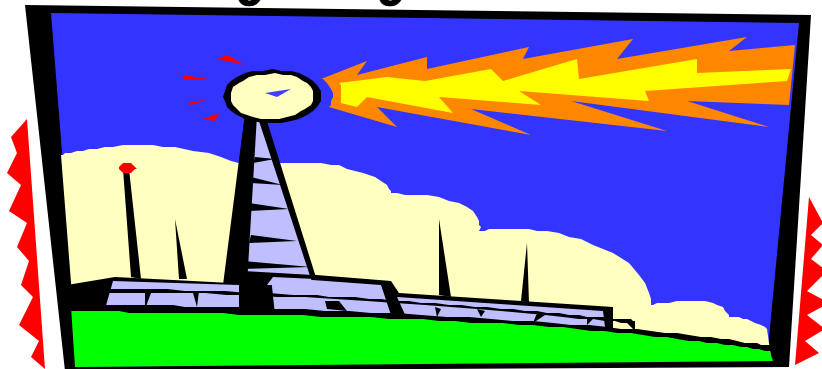
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## Global Economy



The U.S. Corporations establish manufacturing in Low Cost Countries from 1990- +2001 at a record setting pace for a variety of industrial and consumer products, *even high-tech processes*

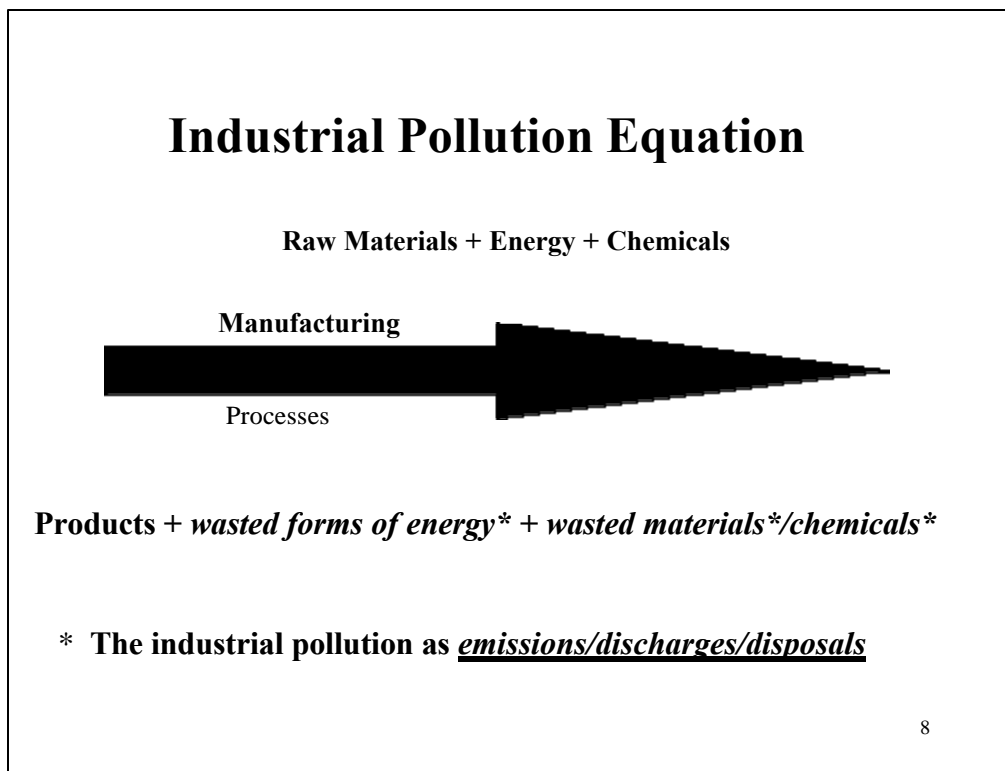
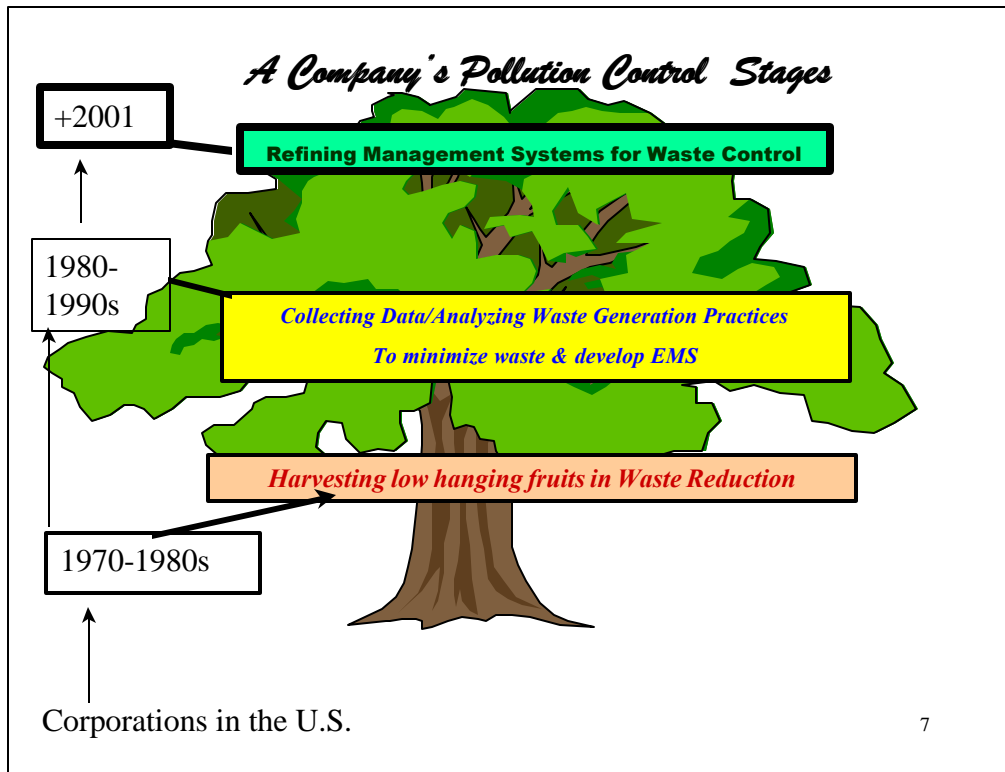
## *Fact or Fiction*



**NO STRINGENT REGULATIONS IN LCC**  
**MINIMAL REGULATORY INSPECTIONS**  
**SAMPLING & ANALYTICAL SUPPORT ?**

*Pollution Control challenges may be more from within  
rather than regulators !!!*

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# Manufacturing Efficiency

=

$$\frac{\text{Materials converted to products}}{\text{Raw materials} + \text{Energy} + \text{Waste}}$$

**POLLUTION** = Wasted Raw Materials + Wasted Energy

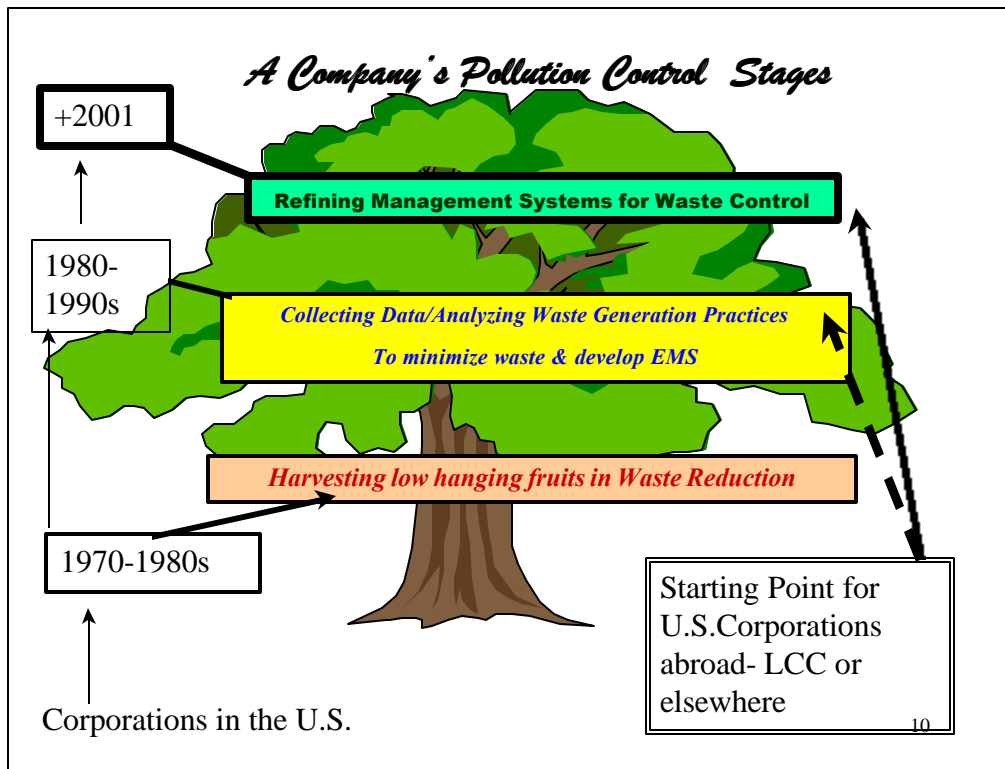
*this means*

Low Manufacturing Efficiency = Higher Pollutants from manufacturing

High Manufacturing Efficiency leads to lesser pollution

**Lesser Pollution leads to higher profits !**

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## **Pollution Prevention outside the U.S.**

*often involves transformation of culture !*

**“ Without a sensible vision a transformation effort can easily dissolve into *a list of confusing and incompatible projects* that can take the organization in the wrong direction or nowhere at all.”**

**J. Kotter,**

*author of the book ‘ Leading Change’*

**Why should the U.S. Corporations start at higher level of Environmental Pollution Control management stage than they did in the U.S. at a new facility abroad? ... *they know***

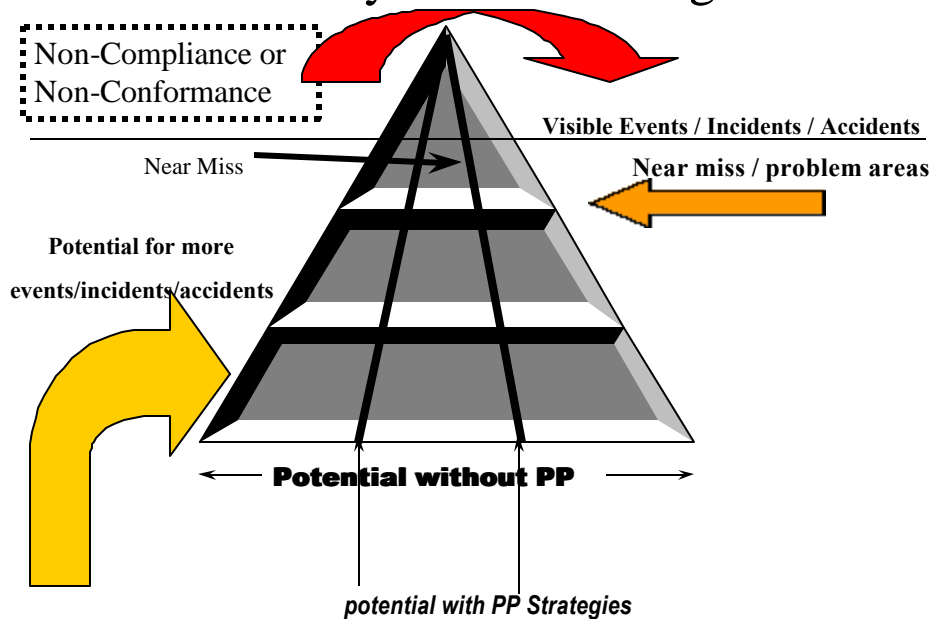
- It is smart manufacturing practice as *Pollution Prevention Pays*
- It allows more effective transfer of manufacturing technology to reduce transition time with least risk to the work force
- The work force is automatically trained in Environmental Health and Safety matters to establish a manufacturing culture conducive to cost effective manufacturing while starting the new facility
- **Smart Manufacturing = Pollution Prevention**  
= Sustainable Industrial development
- Higher productivity with efficient technology transfer and higher profitability in a competitive environment
- It is expected from the U.S. leadership and builds high morale<sup>12</sup>

### *Pollution Prevention Strategy*

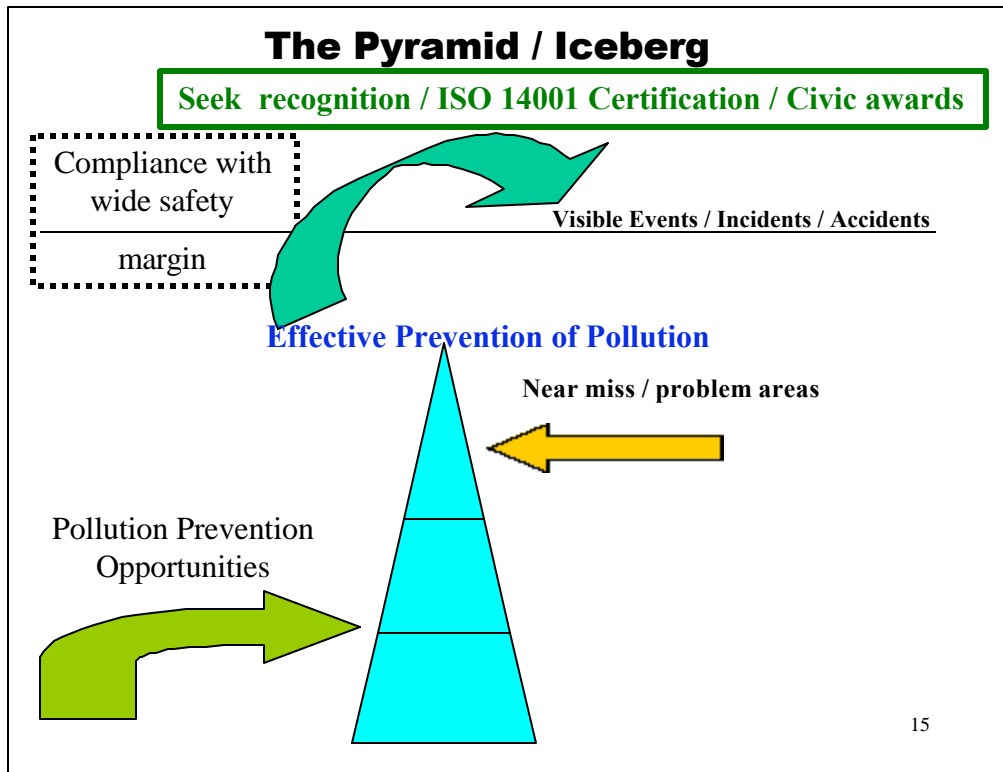
- Install EOP Treatment System
- Indoor/outdoor air pollution controls
- \* Raw material inspection /quality assurance
- \* Environmental cost accounting ( ABC)
- \* Chemicals inventory ( company and contractor purchased)
- SPCC / PP plans ( site specific documentation)
- Environmental training/personnel/management
- Assess progress/deficiencies – audits (internal & external)
- Recognition/continual improvement  
( management involvement and incentives)

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### The Pyramid / Iceberg



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- ### In plain English what can you achieve overseas ?
- Using the U.S. terminology:*
- ❖ *Each site is VSQG / SQG instead of LQG*
  - ❖ *No complaints from neighbors or law suits*
  - ❖ *Incoming chemicals controlled and supervised*
  - ❖ *Outgoing waste documented and generation points identified, published internally*
  - ❖ *Early warning system for potential failures and plans in place to control damage / liability*
  - ❖ *Reduced risks and liabilities in regions where environmental services are scarce or poor quality*
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## What are the anticipated benefits from the PP Strategies?

- \* Publicity for Greener manufacturing
- \* Better productivity with lesser risk in Environmental/Health & Safety
- \* Good employee morale attracts better quality employees
- \* Future projects go faster

**Quality assurance  
and  
efficiency  
become part of the culture**

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## THANKS

*for*

*your **attention** fellow .....*

**CHMMs** & Environmental professionals!

*Questions ?*

Answers..... Perhaps....!

*J. J. Rao*

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**Pollution Prevention outside the U.S.**  
*often involves transformation of culture !*

**“ If you cannot communicate the vision to someone in five minutes or less and get a reaction that signifies both understanding and interest , you are not yet done with the phase of the transformation process.”**

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**Earth does not belong to man,  
man belongs to the Earth;  
What man does to earth,  
he does it to himself!**

**Chief Seattle**

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**“ When you tug at a single blade of  
grass,  
you realize that it is attached to  
the whole earth!”**

*John Muir*

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