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[www.deq.idaho.gov/pollution-prevention](http://www.deq.idaho.gov/pollution-prevention)

**For More Information**

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**E3: Economy,  
Energy, and  
Environment**



Courtesy of Idaho Tourism

*Supporting manufacturing  
leadership through sustainability*



**Idaho Department of  
Environmental Quality**  
[www.deq.idaho.gov](http://www.deq.idaho.gov)



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## **What is E3?**

E3 is a multiagency, interdisciplinary technical assistance program aimed at increasing the economic, energy, and environmental efficiency and sustainability of Idaho's manufacturers. It began as a pilot project in 2009.

E3 seeks to bring together the talents and resources of diverse federal and state agencies to improve manufacturing efficiency and lower manufacturing costs by reducing pollution and energy intensity.

Companies that participate in Idaho's E3 program will partner with the Idaho Department of Environmental Quality (DEQ), TechHelp (Idaho's manufacturing extension partnership), and other state agencies to develop a thorough audit of energy use, waste and other pollution generation, and opportunities for increasing production efficiency.

## **Economy**

E3 seeks to increase the efficiency and competitiveness of the manufacturing industry through lean manufacturing.

Lean manufacturing is a systematic approach to identifying and eliminating waste (non-value added activities or activities a customer would not be willing to pay for) through continuous improvement (an ongoing effort to improve products, services, or processes) by producing the product at the pull of the customer (to reduce large inventories) in pursuit of perfection (or minimizing defects).

In the United States, lean implementation is rapidly expanding throughout diverse manufacturing and service sectors—such as aerospace, automotive, electronics, furniture production, and health care—as a core business strategy to create a competitive advantage.

Lean focuses on reducing eight types of waste represented by the word DOWNTIME.

**Defects**

**Overproduction**

**Waiting**

**Non-value added processing**

**Transportation**

**Inventory (excess)**

**Motion (excess)**

**Employee knowledge, skills, and abilities (not used)**

Transforming to a lean operation leads to new ways of thinking and doing, from the shop floor to the executive office.

## **Energy**

E3 seeks to increase the energy efficiency of the manufacturing industry through a comprehensive energy audit designed to reduce energy consumption without removing value added in the production process.

The energy audit portion of E3 will look to where energy intensity might be decreased, either through behavioral changes or capital improvements.

Among other things, the energy audit will identify challenges or inefficiencies in the following areas:

- Building lighting
- Compressed air systems
- Heating systems/waste heat recapture
- Mechanical systems
- Behavioral processes
- Building envelope
- Space conditioning and ventilation

Reduced energy consumption will have the secondary effect of reducing pollution and manufacturing costs through reduced fuel or electricity consumption. All energy audits will be specifically tailored to the needs and challenges facing individual manufacturing companies.



## **Environment**

E3 seeks to reduce the manufacturing industry's impact on the environment through pollution prevention. Pollution prevention (P2) involves a systematic approach to eliminating waste at the source by optimizing use and selection of resources and technologies while lessening the impact on the environment.

P2 strives for NOWASTE:

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