

Energy Efficiency and the Bottom Line

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2009 Legislation

- Building Energy Code
- Green Building Requirements/Green Schools



Building Energy Code

HB 1348

- Requires State of Indiana to upgrade energy conservation code for commercial buildings to latest version of International Energy Conservation Code (IECC)
- Indiana's current energy conservation code based on 1992 model code.

Green Buildings

HB 1620

- Requires new and renovated state and local government buildings to conform to recognized “green building” standards such as LEED or Green Globes
- These standards rate buildings on numerous criteria, including energy efficiency, water efficiency, materials, and site selection.

Green Schools

HB 1669

- Establishes loan program for schools to install geothermal heating and air conditioning systems

HB 1348

- Has passed both chambers, awaiting further action

HB 1620

- Has passed House, not acted on in Senate

HB 1669

- Has passed both chambers, awaiting further action

Energy and Buildings

- Buildings
 - consume 70% of electricity used in U.S.
 - produce 40% of carbon emissions
- Building energy efficiency can be improved by up to 50% using existing technology
- Capital cost premium for green buildings averages 0 to 2%

"Assessing the Electric Productivity Gap and the U.S. Efficiency Opportunity,"

- If the rest of the country achieved the normalized electric productivity of the top performing states, with 100 percent adoption the country would save a total of ~1.2 million gigawatt-hours annually.
 - 1.2 million gigawatt-hours amounts to about 30 percent of the country's electricity use, or 62 percent of the nation's coal fired electrical power.

Rocky Mountain Institute 2009

CASE STUDIES: Industrial Efficiency

Metso Mineral Case Study

- High pressure rotary pumps replaced with more energy efficient technology
- Reduced kW required by 40% with improved pump efficiency and system reliability



Greening the Building and the Bottom Line

US DOE and RMI

Boeing

Green Lights program

- Reduced lighting electricity use by 90%
- 2 year payback
- 53 % ROI
- Reduced defects

Lockheed

Engineering development and design facility

- Saved \$500,000/year on energy bills
- 15 % gain in productivity

Arkansas steel tube manufacturer

- that replaced a key electric motor and drive with a new, high-efficiency system.
- 34 percent energy savings would have paid for the new system in five years, but the new setup also reduced the steps in the production process.
- The resulting improvement in productivity and reduction in scrap paid for the system in five months.

Massachusetts cutting blade manufacturer

- upgraded its lighting from old fluorescents to new high-pressure sodium-vapor and metal-halide fixtures. The
- new lighting cost \$98,000, which was partly covered by the local utility.
- annual energy savings came to \$48,000 - a payback of about one year. But the surprise came in productivity gains: the new system made it possible for workers to spot small particles that cause costly production defects. The improved product quality from the efficient lighting yielded the equivalent of \$250,000 in increased sales.

Energy Efficiency Policy Considerations for Indiana

Indiana is ranked 38th out of the 50 states in energy efficiency policies by the American Council for an Energy-Efficient Economy.

(ACEEE 2008)

- Financial incentives
- Technical assistance
- Utility programs
- Independent EE
Program Administrator



Thank you

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