

# Current Trends in Industrial Decision Making

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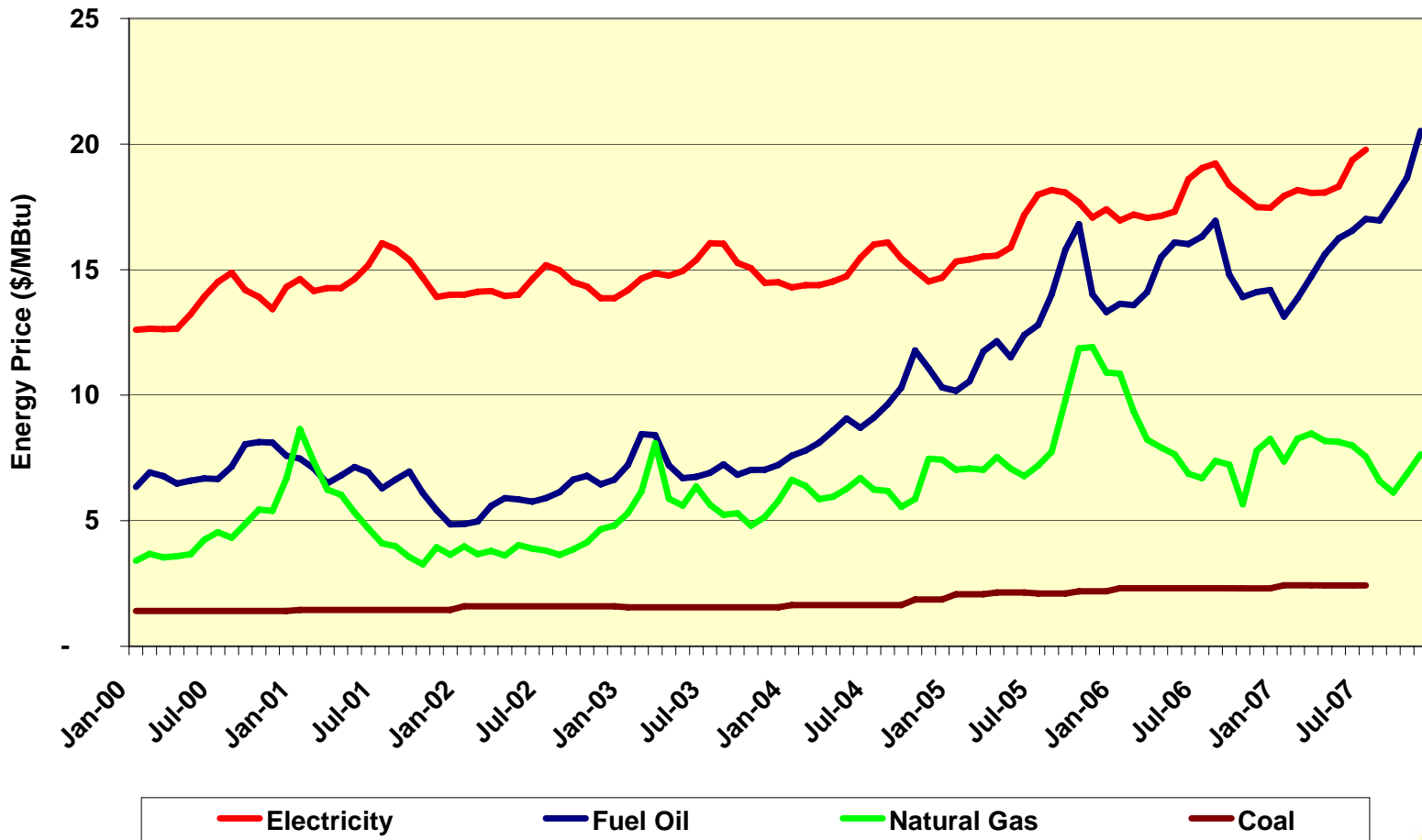
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# Rising Industrial Energy Prices Should Encourage Investment



# Opportunities for Energy Efficiency in Industry

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- Operational improvements:
  - Addressing leaks in compressed air or steam
  - Attention to equipment maintenance
- Process improvements:
  - Largest opportunities
  - Usually require equipment change-outs
  - Done as part of overall plant investment cycle
- Retrofits outside of plant-cycle very limited



# Capital Investment Cycles

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Plants go through an life cycle:

- *New/Refitted Plant*: no investment needed
- *Operating Plant*: focus on operating & maintenance
- *Old Plant*: Process equipment outdated – minimal maintenance
- *End of Life*: plant either refitted or closed

Lifecycle typically varies from 4-10 years.

Investments occur with new plants or major refits



# Industrial Investment Decision Making

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- Decision based on total benefits from investment—energy cost only part of process
- All energy resources viewed the same—single-fuel programs confusing
- Decisions made within the overall plant cycle—3-7 year planning process
- Cycle affected by external market considerations:
  - Economic outlook
  - Utilization of manufacturing capacity
  - Position of plant within a company
- Uncertainty discourages investments



# Current Market

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- Global economic outlook uncertain
- Cost of capital high—reduced access to financing
- Foreign markets growing faster than domestic
- Energy and Commodity prices highly volatile
- Lack of U.S. climate policy increases uncertainty



# Emerging Market Factors

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- Energy price differentials between US and other regions decreasing—energy increasingly global
- Price of marine freight increased—encourages domestic manufacturing for domestic markets
- U.S. approaching full utilization of existing manufacturing capacity—manufacturers able to pass along costs, including energy
- Favorable exchange rate encourages manufacturing for export
- Indicators point to new period of investment



# Implications for Industrial Energy Efficiency Programs

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- Need to plan for a multi-year project cycle— incentives need to be there when investment occurs
- Cost reduction may be less compelling today because of ability to pass on costs
- Many industries poised to enter a period of major capital investment—likely start over next 3-7years
- Programs need to be engaging industrial customers today to be positioned for start of the cycle



# Summary and Conclusions

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- Major efficiency opportunities are related to plant-level investments
- Investment process multi-year—related to plant cycle
- EE programs need to plan for multi-year commitments
- Industry poised to enter period of investment—programs need to engage today to be ready when investment decisions are made



# Contact Information

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