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CONSEIL MONDIAL DE L'ENERGIE

PERFORMANCE OF GENERATING PLANT

United Nations Climate Change Conference
CoP11 – CoP/MoP1
Montreal – December 6, 2005

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Performance of Generating Plant: New Realities, New Trends

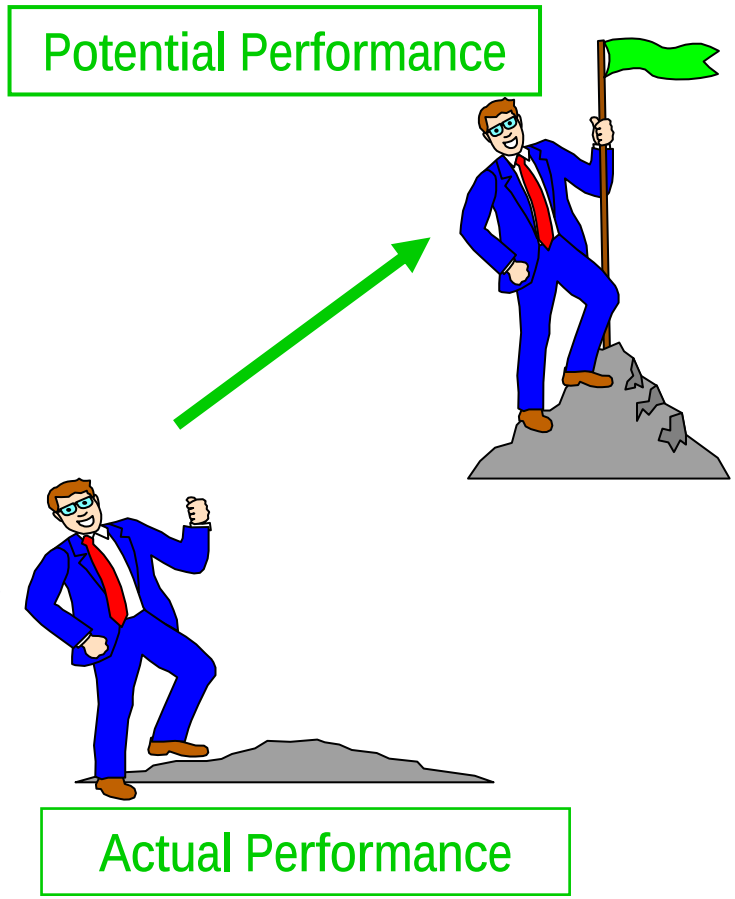
- **Established in 1974**

  Joint with International Union of Producers and Distributors of Electrical Energy (UNIPEDE)

- **Generating plant unavailability factors and availability statistics**
- **Triennial surveys and reports**
- **Presentations, workshops, "face-to-face" meetings**

Benchmarking – Bridge the Gap

- **Economic**
  - **US $80 Billion per Year**
- **Environmental**
  - **1 Billion Tonnes of CO_2 Reduction per year**
  - **Proportional Reductions of Other Emissions**



Primary Causes Of The Gap

From analytical studies & practical experiences

- **Only 20% - 25% of the gap is due to "*technology*" issues**
- **75% - 80% is due to "*management*" practices**

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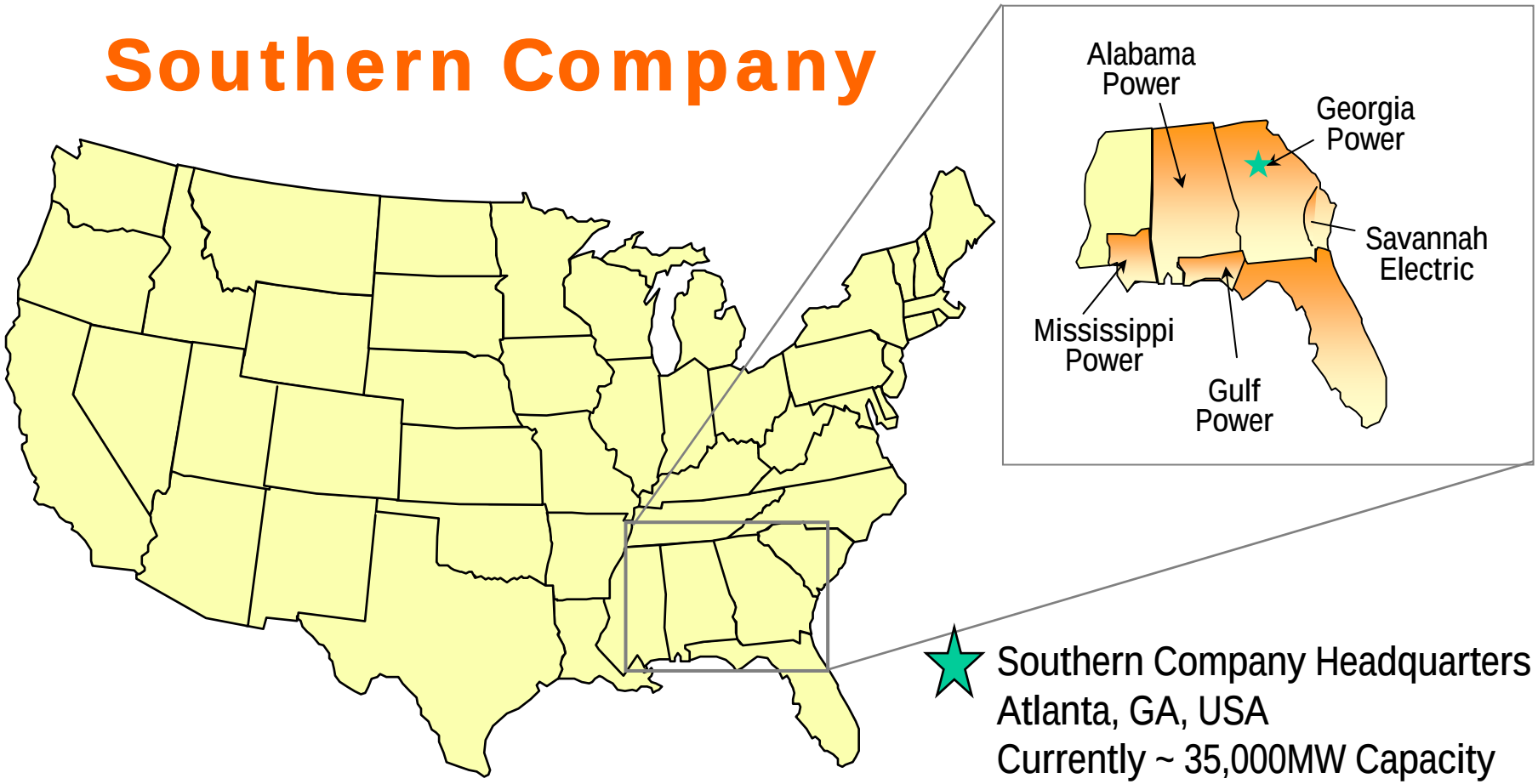
Case Study

- **Benchmarking and best practices are key to emissions reductions from existing power plants**
- **World Energy Council providing support and has many examples of success**

Southern Company



★ Southern Company Headquarters
Atlanta, GA, USA
Currently ~ 35,000MW Capacity

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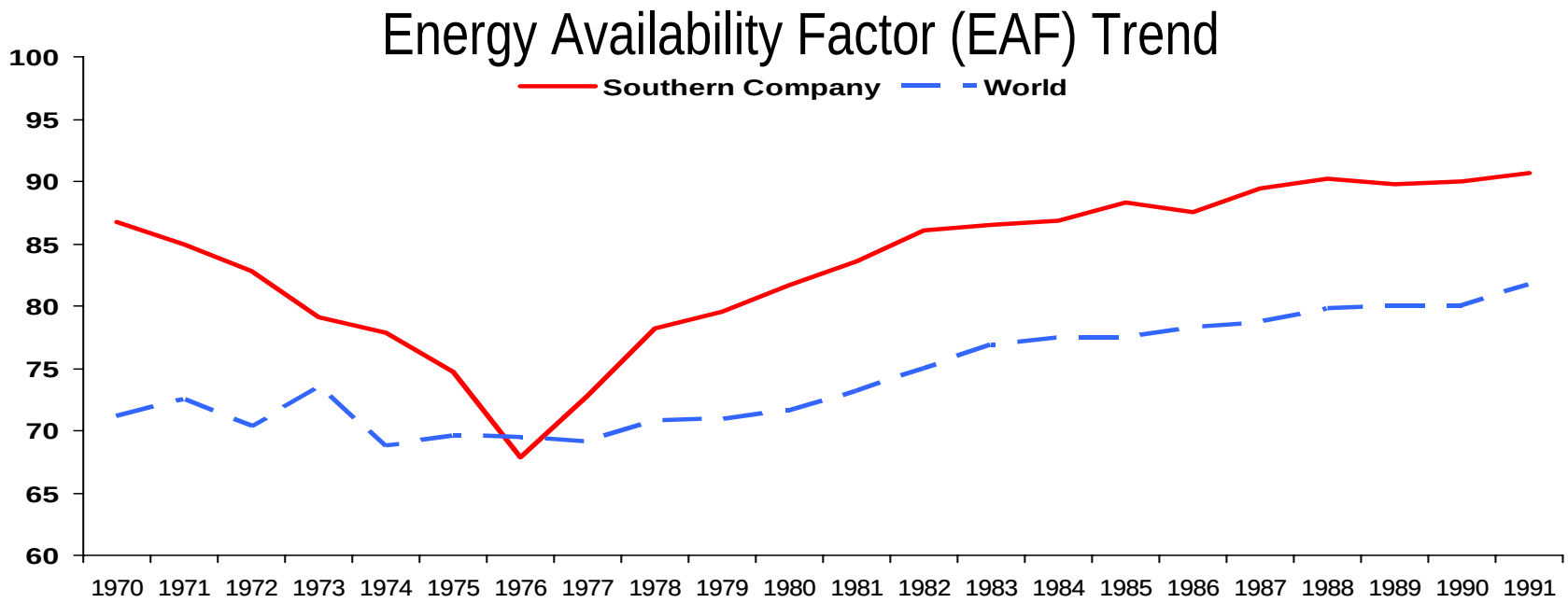
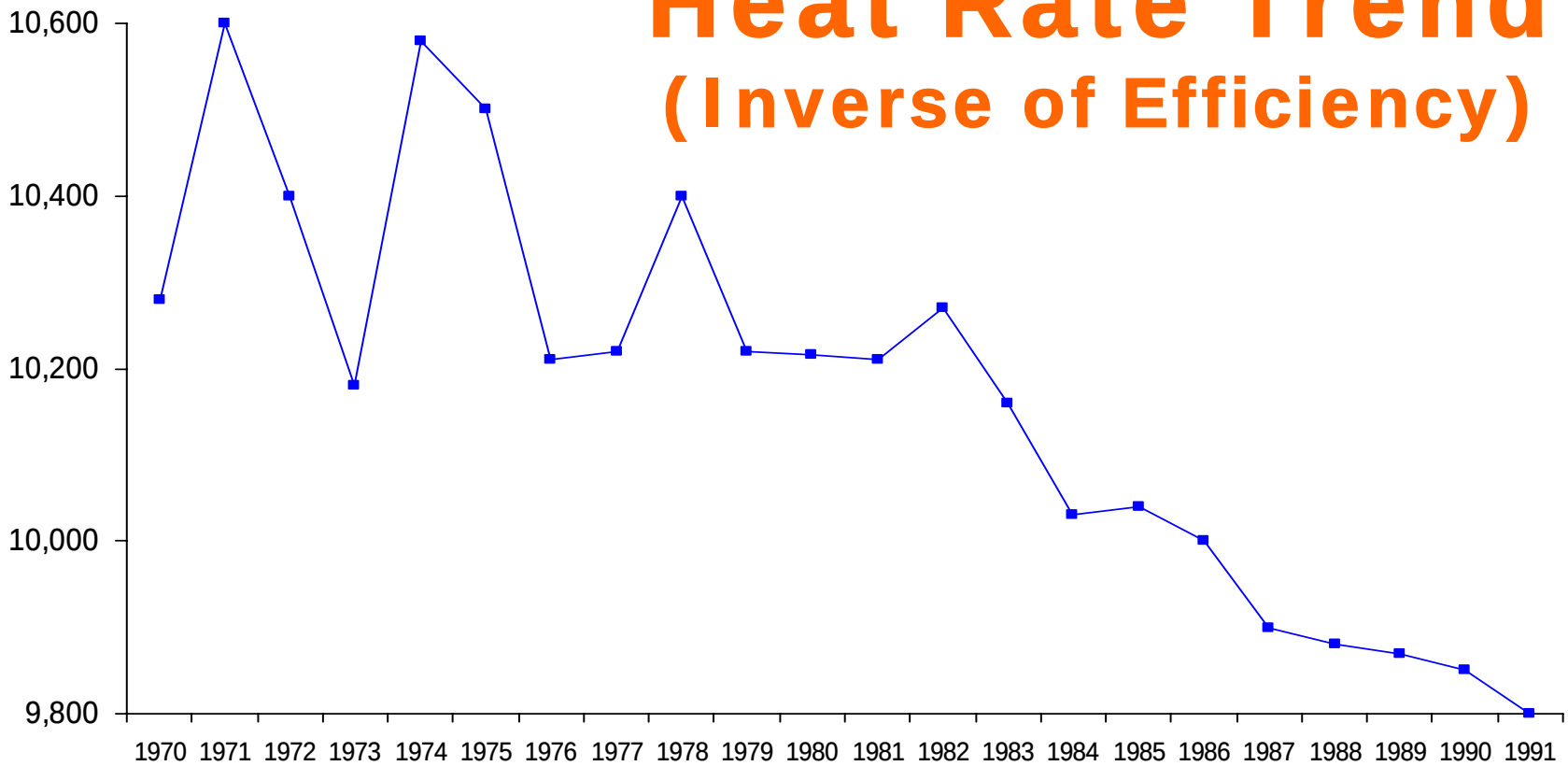
Fossil Steam Power Stations
Availability Trends 1970-1991



Heat Rate Trend
(Inverse of Efficiency)



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Environmental Benefits of Performance Improvement

Annual avoided emissions included:

Seven million tonnes of CO_2 per year

at essentially $0 cost!

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Conclusions

- Each company/country faces its own set of challenges, constraints, and opportunities
- No single program is optimal for every company/country
- There are common elements among successful programs
- Benchmarking and adopting best practices works!

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Performance of Generating Plant

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