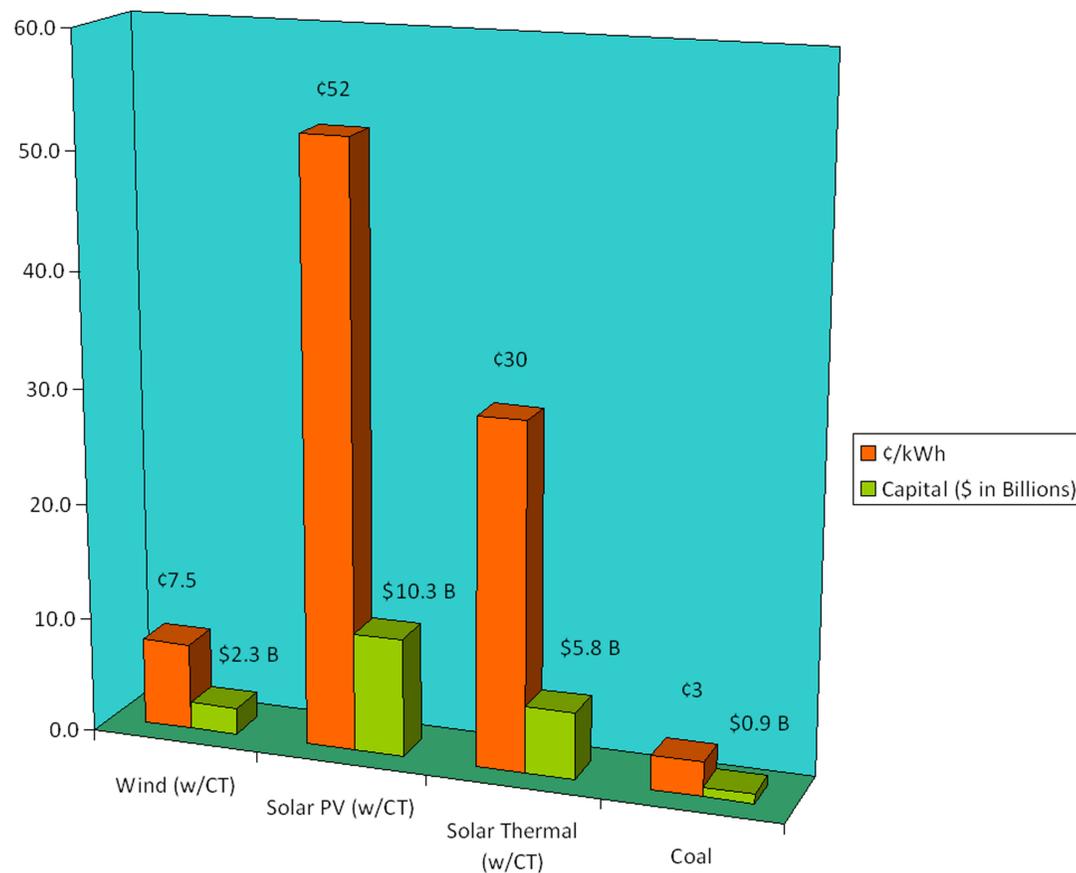




Cost-Benefit Analysis



Final Design



500, 2.5 MW Wind Turbines

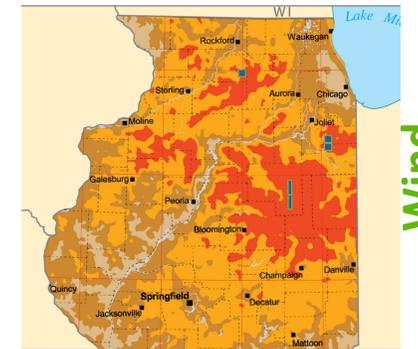
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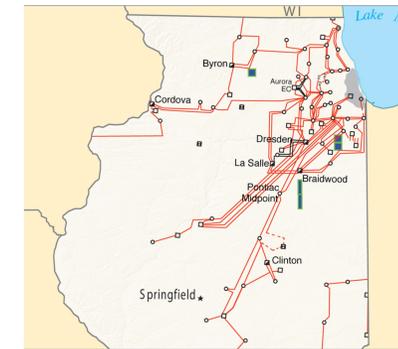
2 Combustion Turbines

= 3,143 GWhr/Year
\$2.3 Billion Capital
@ IRR 8%, 7.5 KWh

Location



Wind



Transmission

■ Proposed location

Conclusion

- Chicago may provide 3,143 GWhr/Yr by
 - 5 separate farms of 100 turbines
 - 2 natural gas turbines for back-up
- Solar energy sources are too expensive
- With an IRR of 8%, the wind energy (and back-up CT power) source cost would be \$0.075 per kilowatt hour before tax incentives, with a \$2.3 billion capital investment

Future Work

- Analyze the environmental benefits
 - Tons of CO2 saved
 - \$ per ton of CO2 removed
- Compare the cost of wind with carbon sequestration and other carbon removal processes
- Consider other back-up sources

Acknowledgments

Sargent & Lundy

