

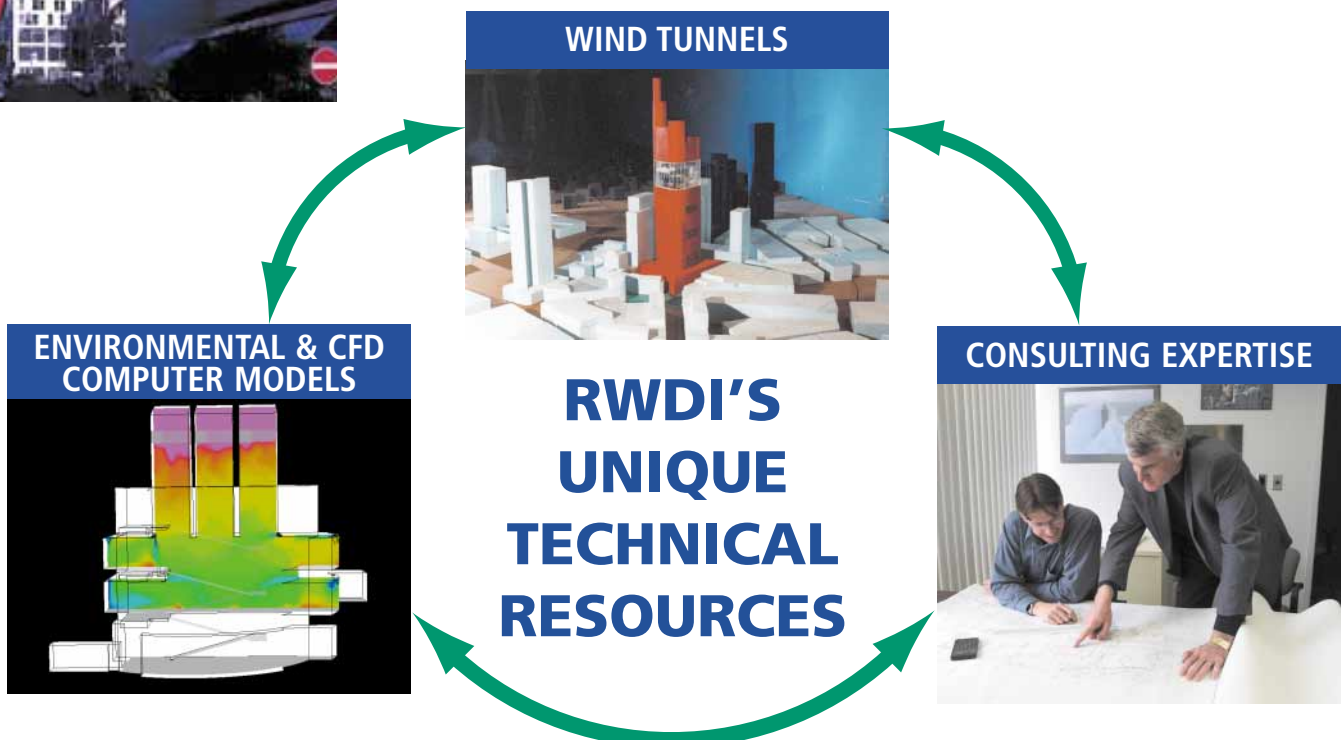
## ACHIEVE YOUR SUSTAINABLE DESIGN OBJECTIVES

- Reduce Energy Consumption
- Optimize Health, Safety and Comfort
- Minimize Life Cycle Costs
- Gain Prestigious Certification

## HOW TO SUCCEED

Green Building Design requires a higher level of design expertise than what is needed for traditional buildings.

RWDI provides unique consulting engineering expertise combined with specialized modeling tools that can assist designers and owners. These studies can maximize cost savings and are important supporting factors for gaining certification with the LEED Green Building Rating System™.



RWDI is a leading consulting engineering firm with more than 200 people and an international reputation. The company specializes in assessing and solving design problems related to building physics involving wind, solar impacts, ventilation and acoustics.

# RWDI CAN HELP WITH...



## DESIGN REVIEWS

Assessment and recommendations on building site selection, architectural features and local climate.



## SOLAR HEAT GAINS

Assessment of solar gains through windows and provision of recommendations to optimize energy efficiency and thermal comfort.



## VENTILATION EFFECTIVENESS

Wind tunnel tests and computer modeling to help determine optimum building air change rates and maximize use of natural ventilation.



## ENERGY PERFORMANCE

Analysis of hourly energy usage to identify the most cost effective energy saving strategies.



## AIR FLOW DISTRIBUTION

Computational Fluid Dynamics (CFD) computer modeling and development of recommendations for supply flows, thermal comfort, condensation and indoor air quality.



## AIR POLLUTION

Identification of exhaust re-entrainment problems and provision of solutions to health and odor concerns.



## NOISE, ACOUSTICS & VIBRATION

Determining impact of noise/vibration sources and development of solutions. Consulting on acoustical performance of sensitive spaces.



## FIRE SAFETY/SMOKE

Recommending exhaust rates, make-up air distribution, cost saving architectural and mechanical features. Designs assessed through computer modeling of smoke migration.

## RISKS & BENEFITS -- Why Carry Out Advanced Engineering Studies?

Potential Benefits	Potential Risks If Studies Not Carried Out
Lower construction and operating costs	High operating costs
Engineering studies required for LEED™ certification	Poor occupant health and satisfaction
Lower impact on ecosystem	Potential retrofit costs
Improve occupant health and satisfaction	Mold/mildew
Maximize natural ventilation	Sick building syndrome
Minimize heating, cooling and lighting costs	Contamination of adjacent sites
Minimize noise impacts and optimize acoustics	High noise levels and poor acoustics
Performance based design	Potential for loss of life from fire
Smoke management systems that perform as intended	Authority having jurisdiction may not approve
State of the art design methodology	Delays in meeting deadlines

