Pearl River
Tower
Guangzhou, China

1.964 Sustainability and the Environment
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“Building of tomorrow”

- Located in Guangzhou, China
- Owner: CNTC Guangdong Tobacco Company
- Architect: Skidmore, Owings & Merrill
- 69 stories, 309 meters tall, 2.2 million ft²
- “net” zero-energy footprint
HVAC

- No fans necessary for circulation
- Double-wall insulation
- Heat travels upward
- Cool air circulated through floors
Windows/Siding

- Double-wall insulation
- Embedded photovoltaic transistors for solar energy
- Wall surfaces angled for maximum sun exposure
- Uses wind pressures to strengthen structure
Wind Power

- Uses architecture of building to “funnel” air into designed openings of building
- 1.5 - 2.5 times the ambient wind speeds
- 15 times more energy than “freestanding” wind turbines
Emergency Energy

- Natural gas fuel cells
- Uses gas to electrochemically break down hydrogen
- 50% more efficient than obtaining electricity through outside sources
- Recycles waste gasses to power HVAC
Sources:

