

A Sustainable Enterprise Delivering a Sustainable Future

Jan van Dokkum
President

UTC Power
A United Technologies Company

The Estates Gazette Summit 2006

12 October 2006

United Technologies Corporation



UTC Power



UTC Fire & Security



Hamilton Sundstrand



Pratt & Whitney



Carrier



Otis



Sikorsky

$42.7 B annual revenue

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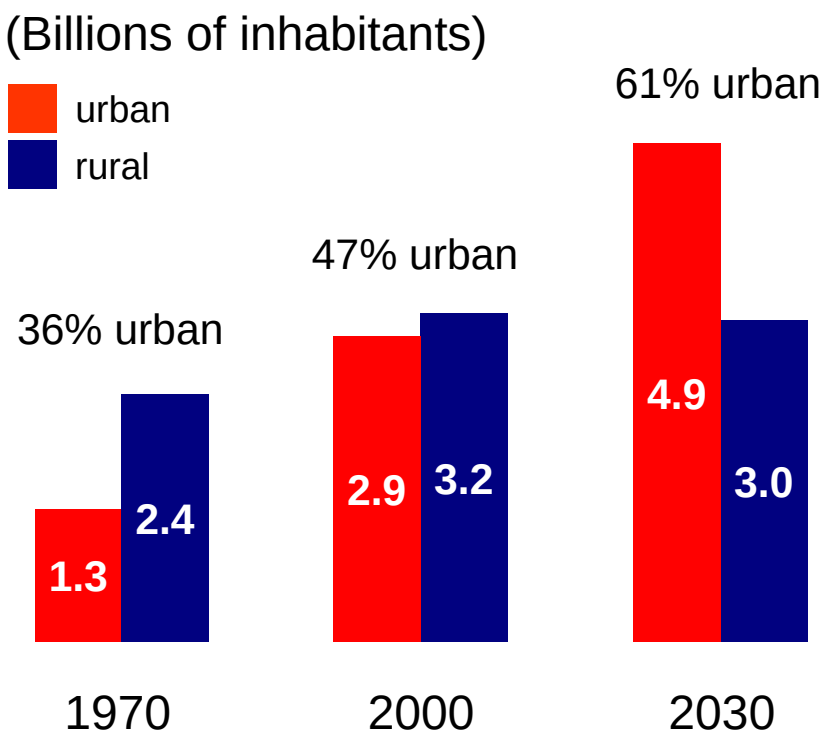
World Urbanization Trends







Source: United Nations, 2004, World Urbanization Prospects, The 2003 Revision

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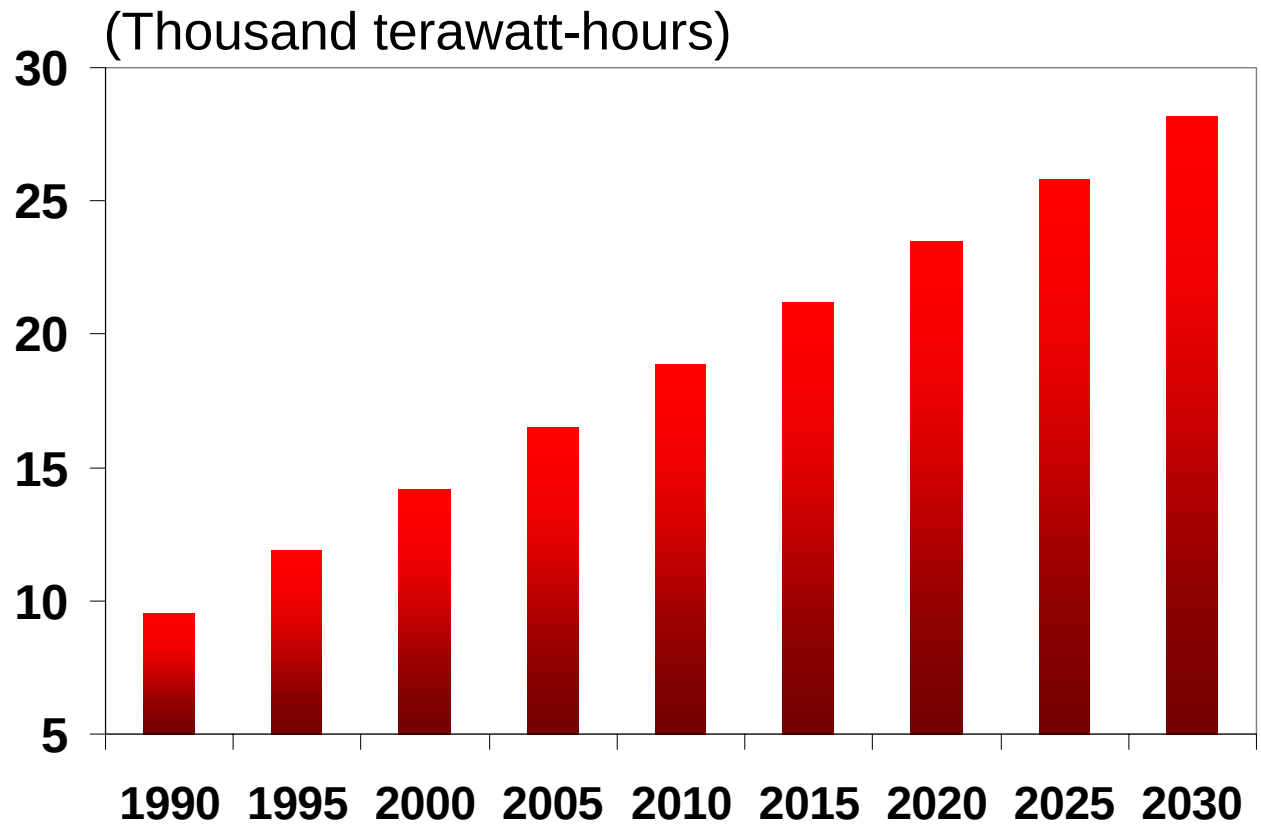
Expanding Energy Consumption

World energy demand growth



Urban population (billions)	*2.3*	*2.6*	*2.9*	*3.2*	*3.5*	*3.9*	*4.2*	*4.6*	*4.9*

Sources: World Bank, Electric Power Research Institute

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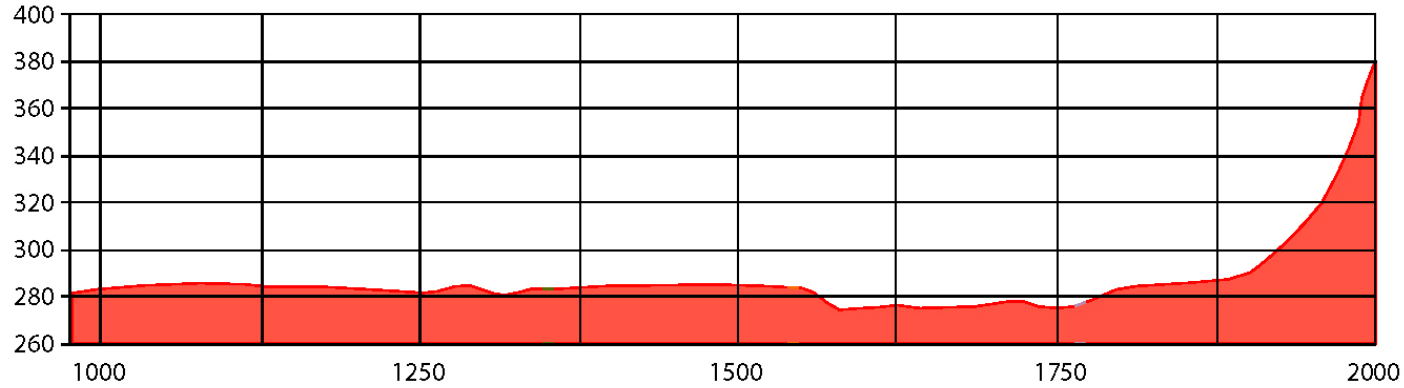
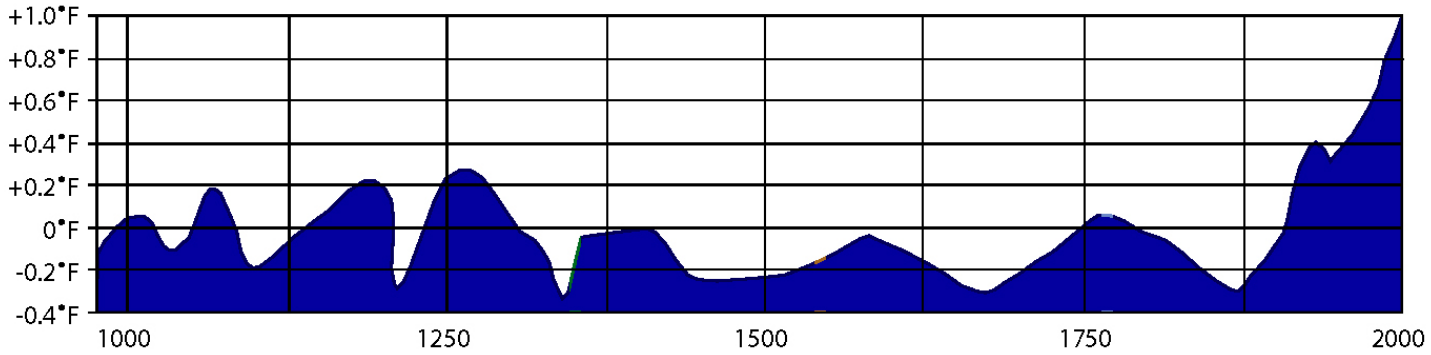
Global Warming

Sustainable solutions are essential …

CO_2 Concentration, ppmv



Temperature Change from Present, °F



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UTC Global Environmental Footprint

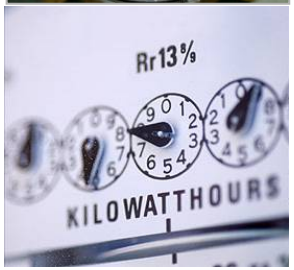
Progress (normalized to total revenue)



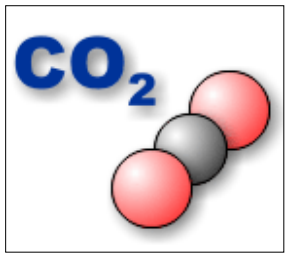
Air emissions -58% since 1999



Water use -53% since 1997



Energy use -53% since 1997



CLIMATE LEADERS
U.S. Environmental Protection Agency

Greenhouse gases -16% since 2001

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UTC Financial Performance



Dow Jones Sustainability Indexes
Member 2006/07

Global 100
Most Sustainable Corporations in the World

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UTC Employees and Communities

UTC Employee Scholar Program

Investing in the world's best educated work force



UTC Sustainable Cities program

Supporting "green" thinking in affordable housing, historic preservation, and open space conservation

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UTC Green Building Technologies

Carrier – efficiency and environmental advances

Residential



13 SEER products

Industry leadership

SEER = seasonal energy efficiency ratio

Puron
the environmentally sound refrigerant.

CFC elimination

Commercial



Evergreen 23XRV

Energy-saving variable speed chiller

0.1% leak-proof warranty

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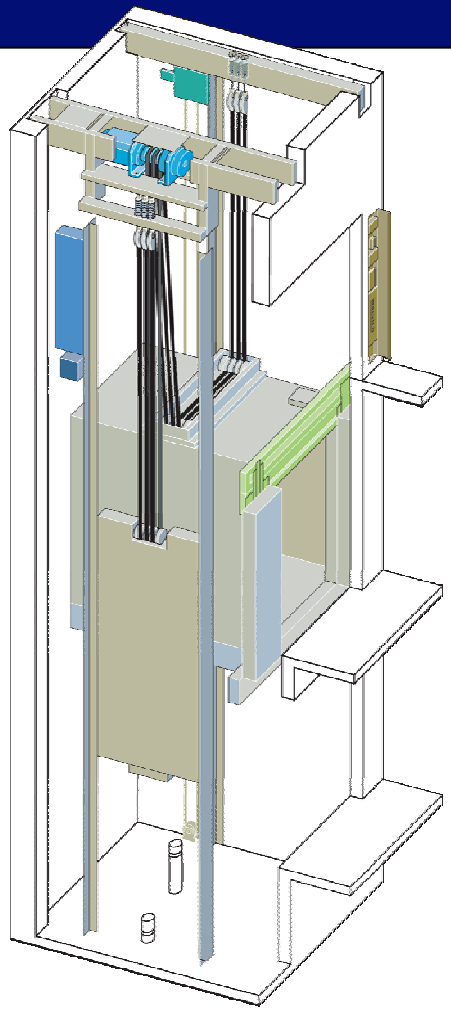
UTC Green Building Technologies

Otis – Gen2 Elevator

Beijing Silvertie Center





Double the energy efficiency of traditional elevators

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UTC Green Building Technologies

UTC Fire & Security – clean agent fire suppression



Critical asset fire suppression system



Low global warming potential

Zero ozone depletion potential

Short atmospheric lifetime

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UTC Sustainable Solutions Advocacy

Energy Efficiency in Buildings Project

Pearl River Tower, Guangzhou, China



Mission

World Business Council for Sustainable Development

Map out transition to a 2050 world in which buildings:

- use **zero net energy** from external power supplies,
- produce **zero net carbon dioxide emissions**,
- are aesthetically pleasing, and
- meet sustainability criteria for air quality, water use and economic viability.

This will require transforming the way buildings are conceived, constructed, operated and dismantled.



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UTC Sustainable Solutions Advocacy

Energy Efficiency in Buildings Project

World Business Council for Sustainable Development

FINANCIAL & UPSTREAM

Sonae Sierra

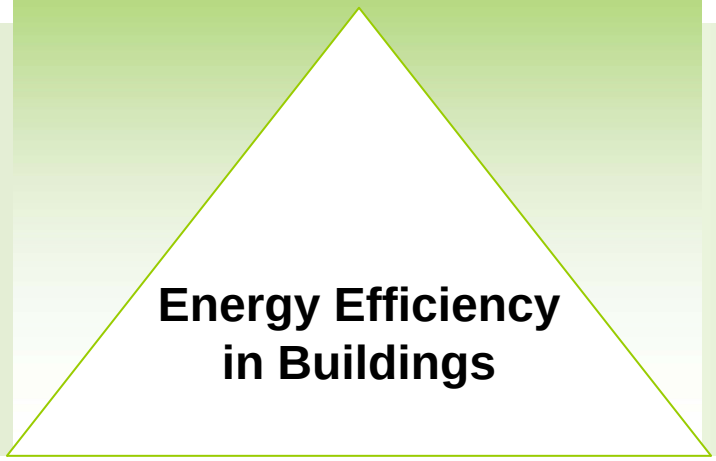
ENERGY

Electricité de France

Gaz de France

Kansai Electric

Tokyo Electric Power



MATERIALS & EQUIPMENT

Lafarge

United Technologies Corp.

Cemex

DuPont

ITT

Philips

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Future Hydrogen Economy

A universal energy carrier







Energy

H_20

Electrolyzer

H_2

O_2

H_2 storage

O_2 (air)

H_2

Fuel cell

Energy

H_20

Biomass

Fuel processor

H_2

Conventional fuels
- natural gas
- coal

CO_2
(*future sequestration*)







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UTC Power On-Site Power Solutions

Fuel cell power solutions



Combined cooling, heat & power systems



Energy savings, power reliability, clean emissions

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UTC Power Transit Bus Fuel Cells



Zero emissions

Quiet operation

2-3x diesel bus efficiency

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UTC Power Automotive Fuel Cells



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