

IT-related Electricity Demand in AEO 2002

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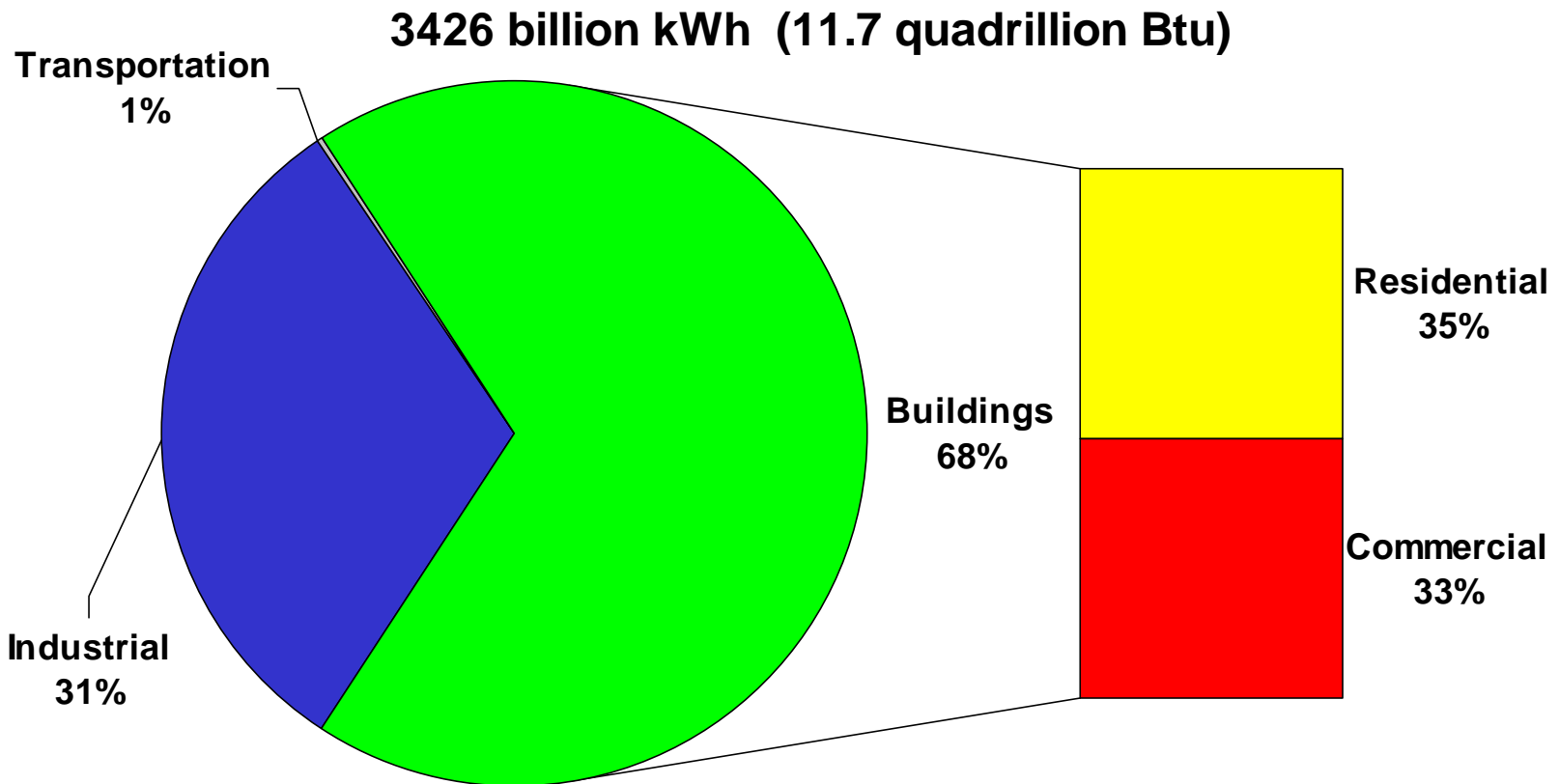
March 12, 2002

IT-related Electricity Use in Buildings

AEO 2002 Projections

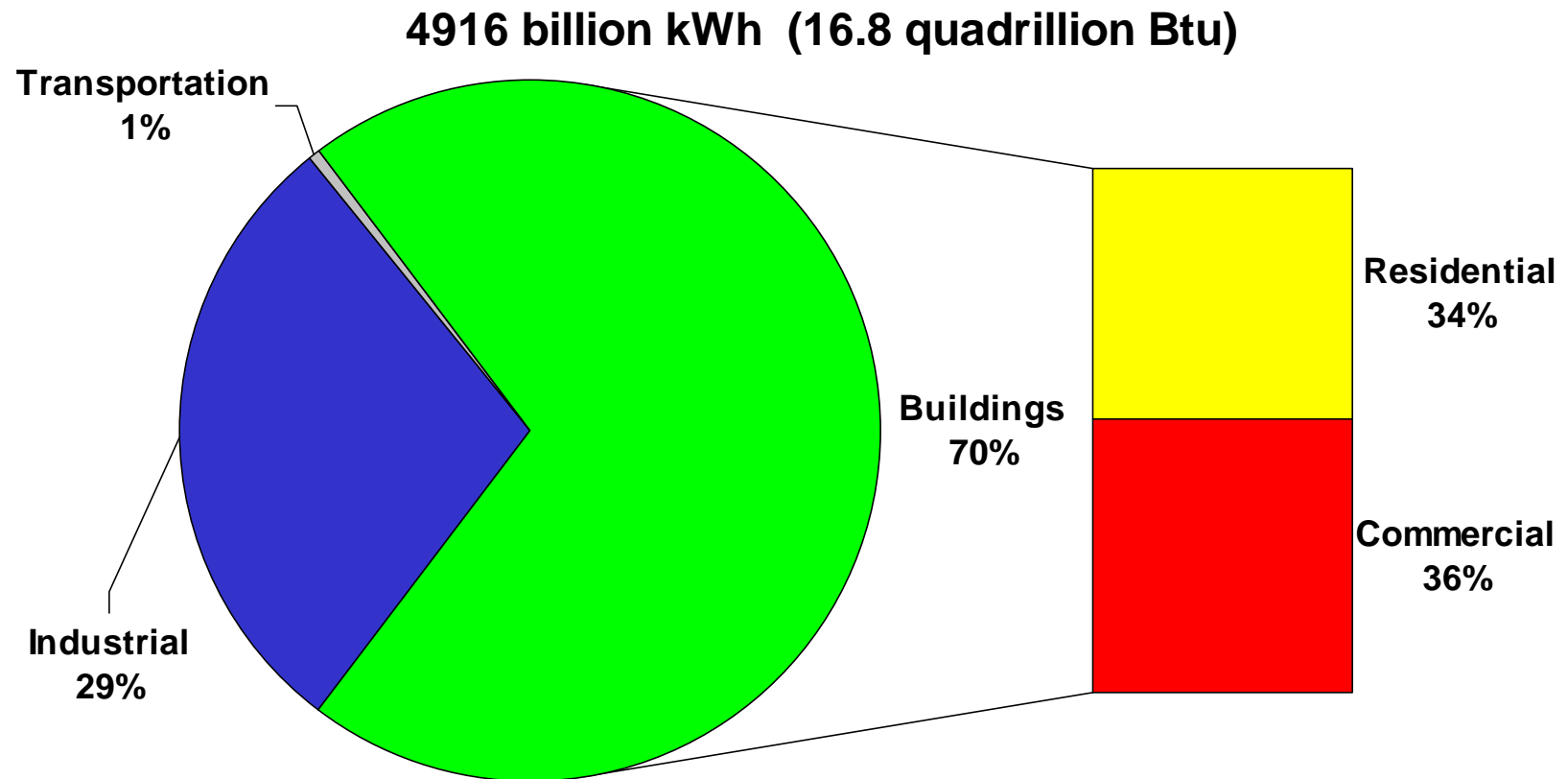
- Perspective
- Detailed Reference Case Projections
- Drivers/Assumptions
- Alternative Assumptions/Effects on Projections

Site Electricity Consumption in 2000



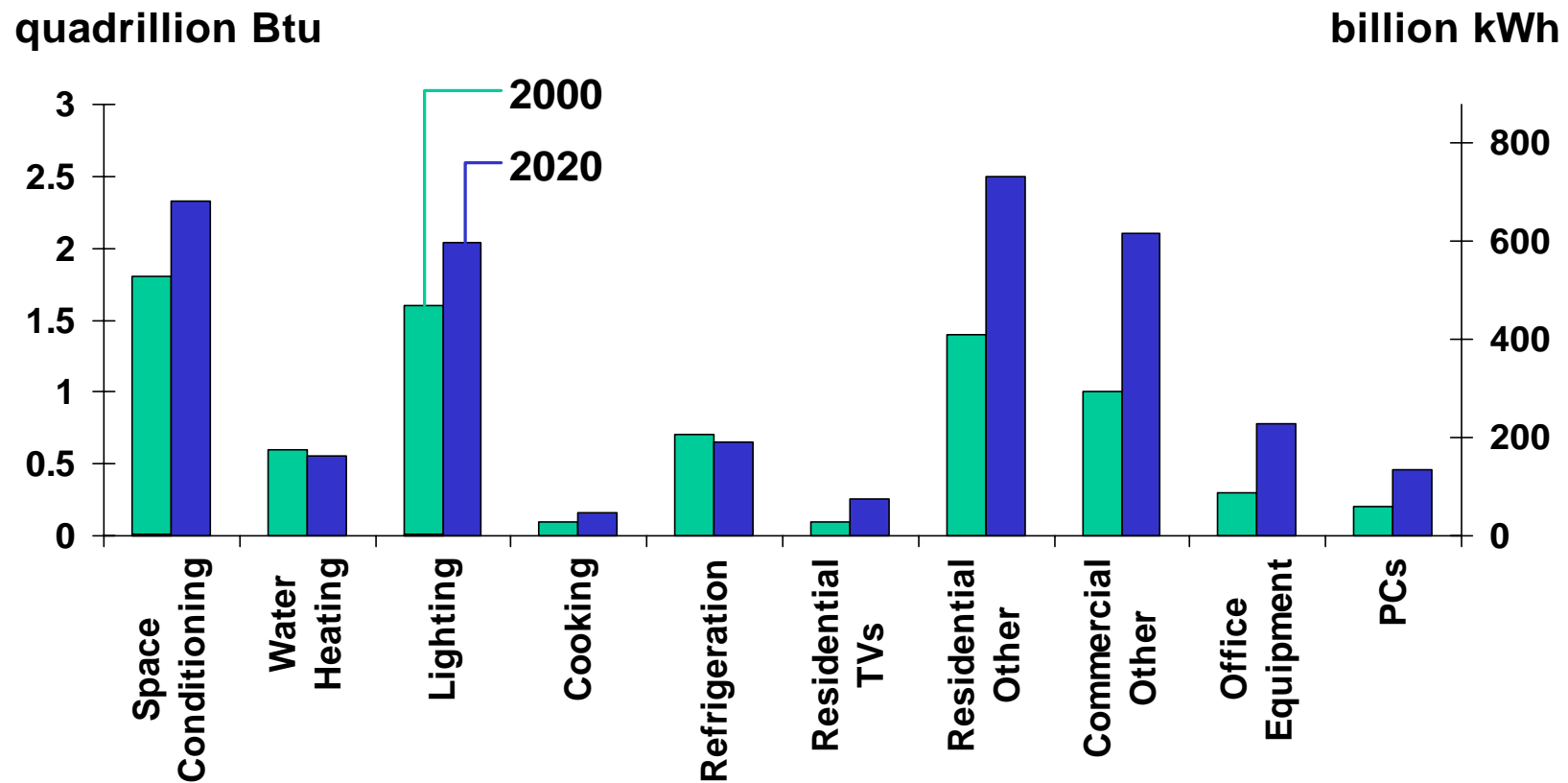
Source: Energy Information Administration, *Annual Energy Outlook 2002* reference case.

Site Electricity Consumption in 2020



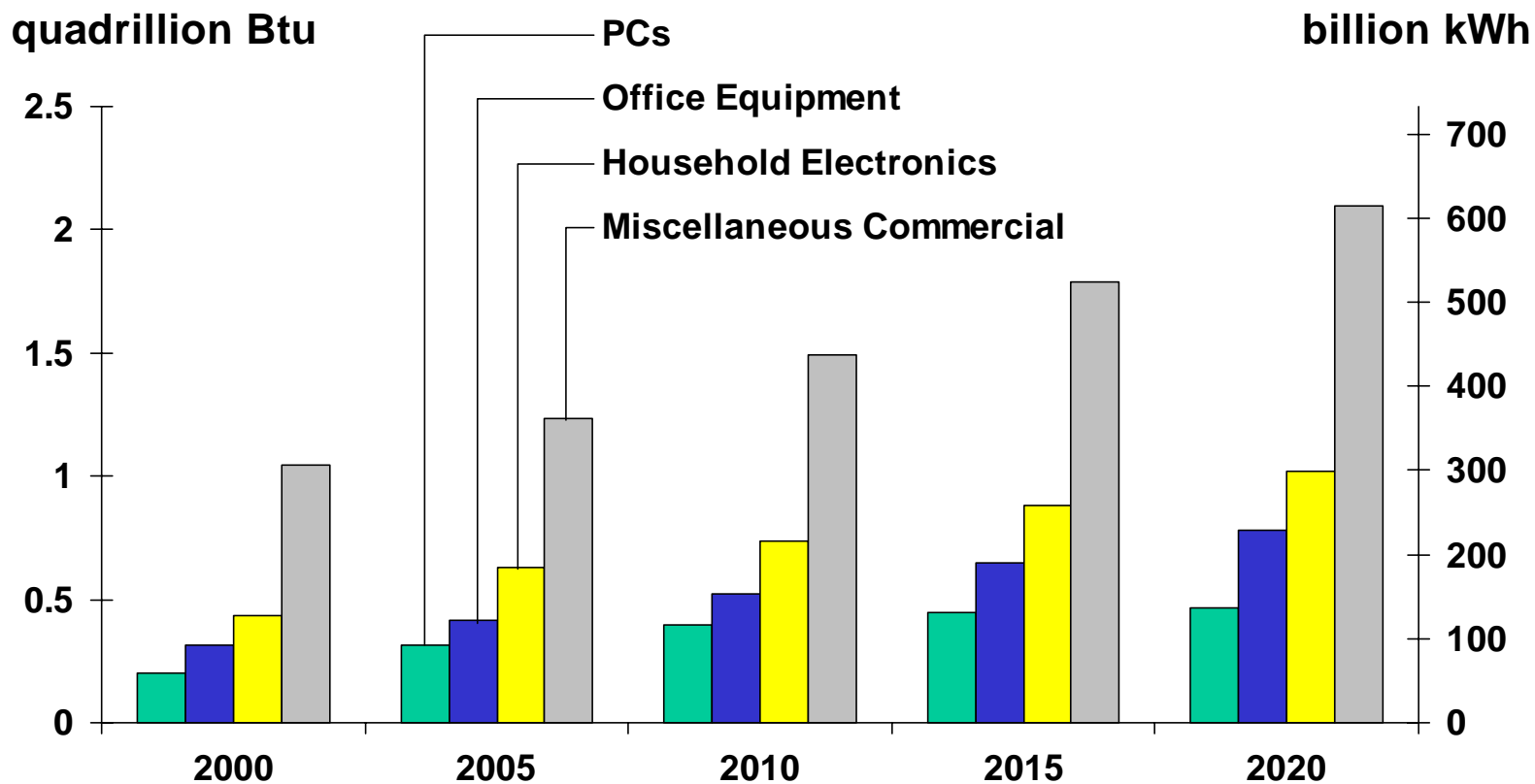
Source: Energy Information Administration, *Annual Energy Outlook 2002* reference case.

Electricity Consumption in the Buildings Sectors, 2000 and 2020



Source: Energy Information Administration, *Annual Energy Outlook 2002* reference case.

IT – Related Electricity Consumption in the Buildings Sectors, 2000-2020



Source: Energy Information Administration, *Annual Energy Outlook 2002* reference case.

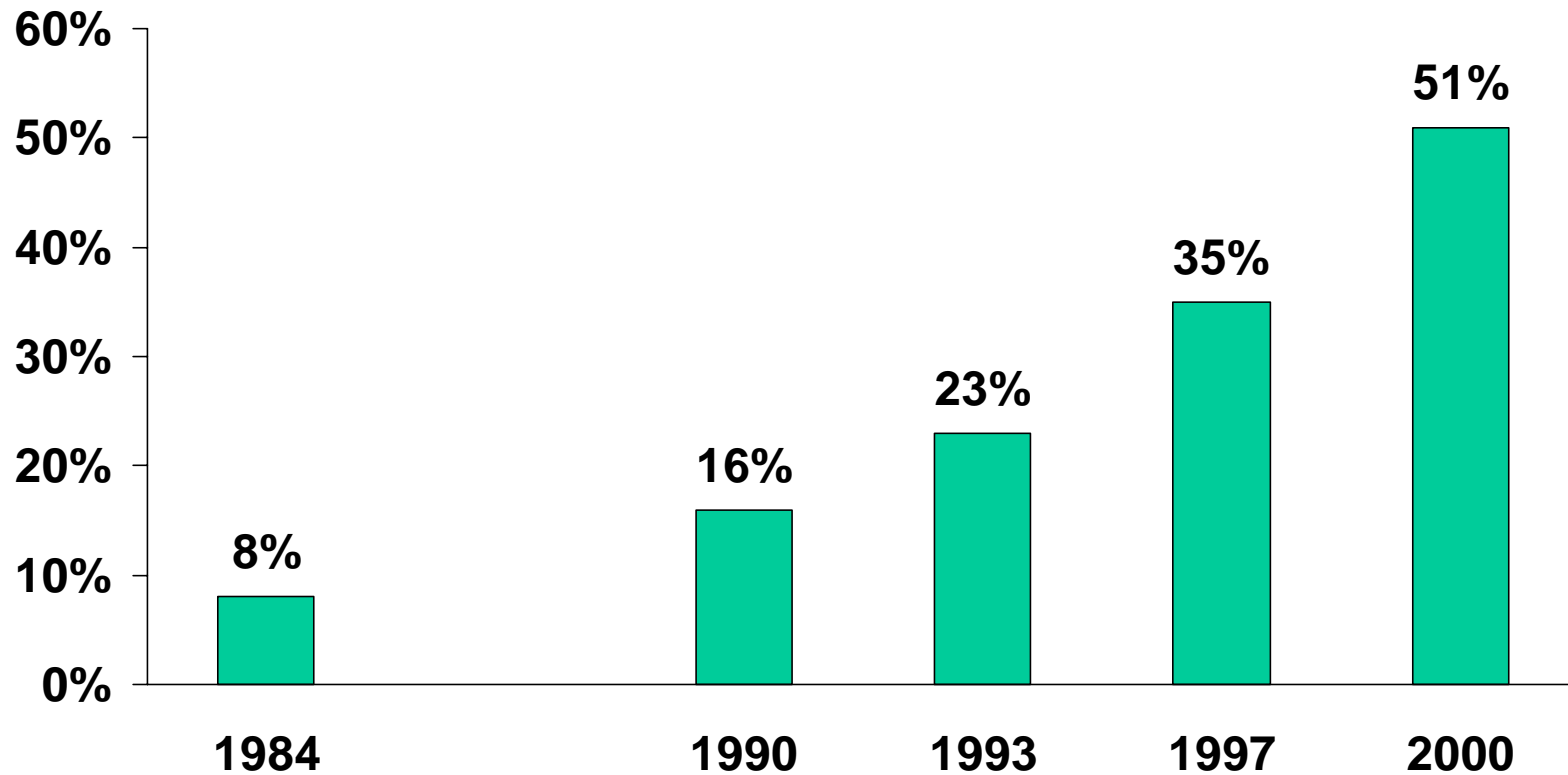
Principal Drivers and Assumptions

- Households/Floorspace Growth
 - Number of residential households projected to grow 1% annually between 2000 and 2020
 - Projected commercial floorspace growth of 1.7% per year between 2000 and 2020
- Additional Penetration
 - PCs in 51% of households in 2000, 65% of commercial buildings in 1999
 - Limits on PCs per household & per employee

Principal Drivers and Assumptions (cont.)

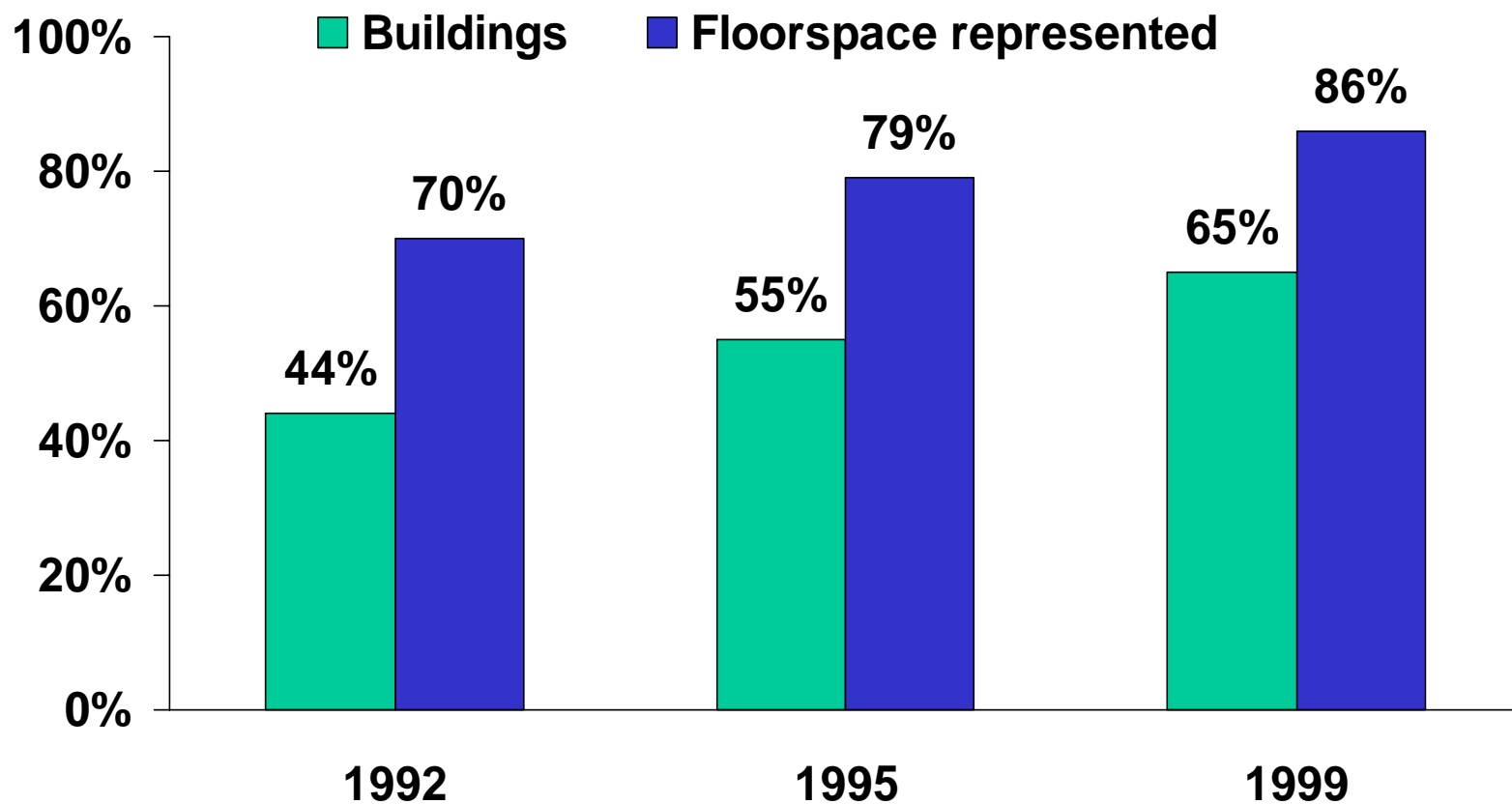
- Additional Penetration (cont.)
 - Growth in household electronics, other office equipment, and miscellaneous uses based on recent trends
- Commercial Indirect Consumption
 - Cooling, ventilation, miscellaneous uses account for assumed growth in data centers

Percent of Households with a Computer



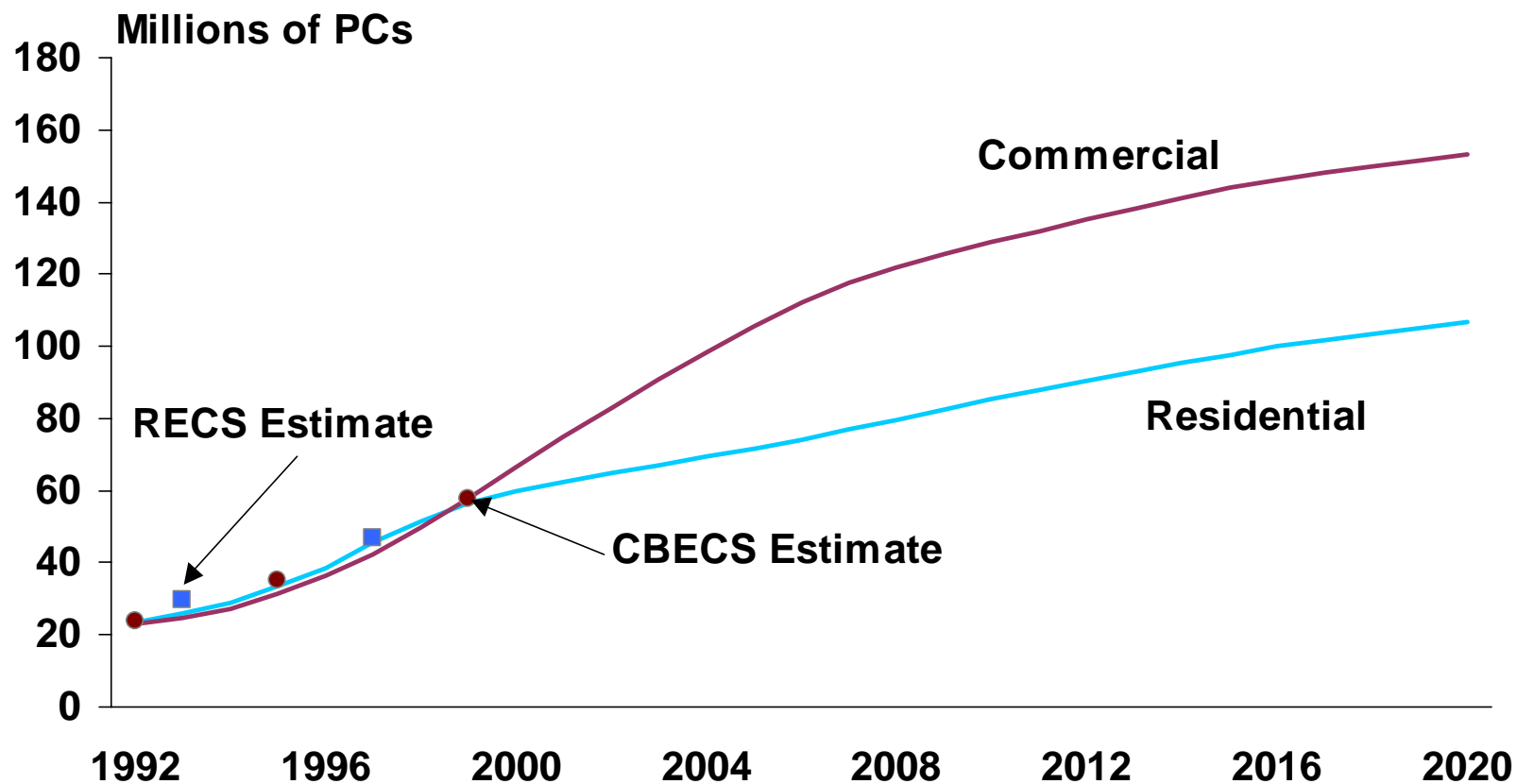
Source: 1984 and 2000 estimates: *Home Computers and Internet Use in the United States*, September 2001, U.S. Census Bureau. 1990, 1993, and 1997 estimates: Energy Information Administration, Residential Energy Consumption Surveys.

Share of Commercial Buildings with PCs



Source: Energy Information Administration, Commercial Energy Consumption Surveys.

PC Projected Stock Estimates



Source: Energy Information Administration, Residential and Commercial Energy Consumption Surveys, and *Annual Energy Outlook 2002* reference case.

PC-related Assumptions

- Consumption per Unit
 - Energy use in each mode
 - Share of year spent in each mode
- Monitors
 - Display area
 - LCD technology
- Equipment Life
- Energy Star Sales & Enabling Rates

Commercial PC Assumptions: Unit Energy Consumption

	Active	Standby	Suspend	Off
PCs	55 to 67 (9%)	N/A	15 (57%)	3 (34%)
Monitors:				
CRT	86 to 122	15	8	3
LCD	23 to 41 (9%)	9.5 (5%)	8 (61%)	0.6 (25%)
Printers	69 to 90 (6%)	46 to 64 (39%)	20 to 28 (35%)	1 (19%)

Units: watts
(% of year in mode)

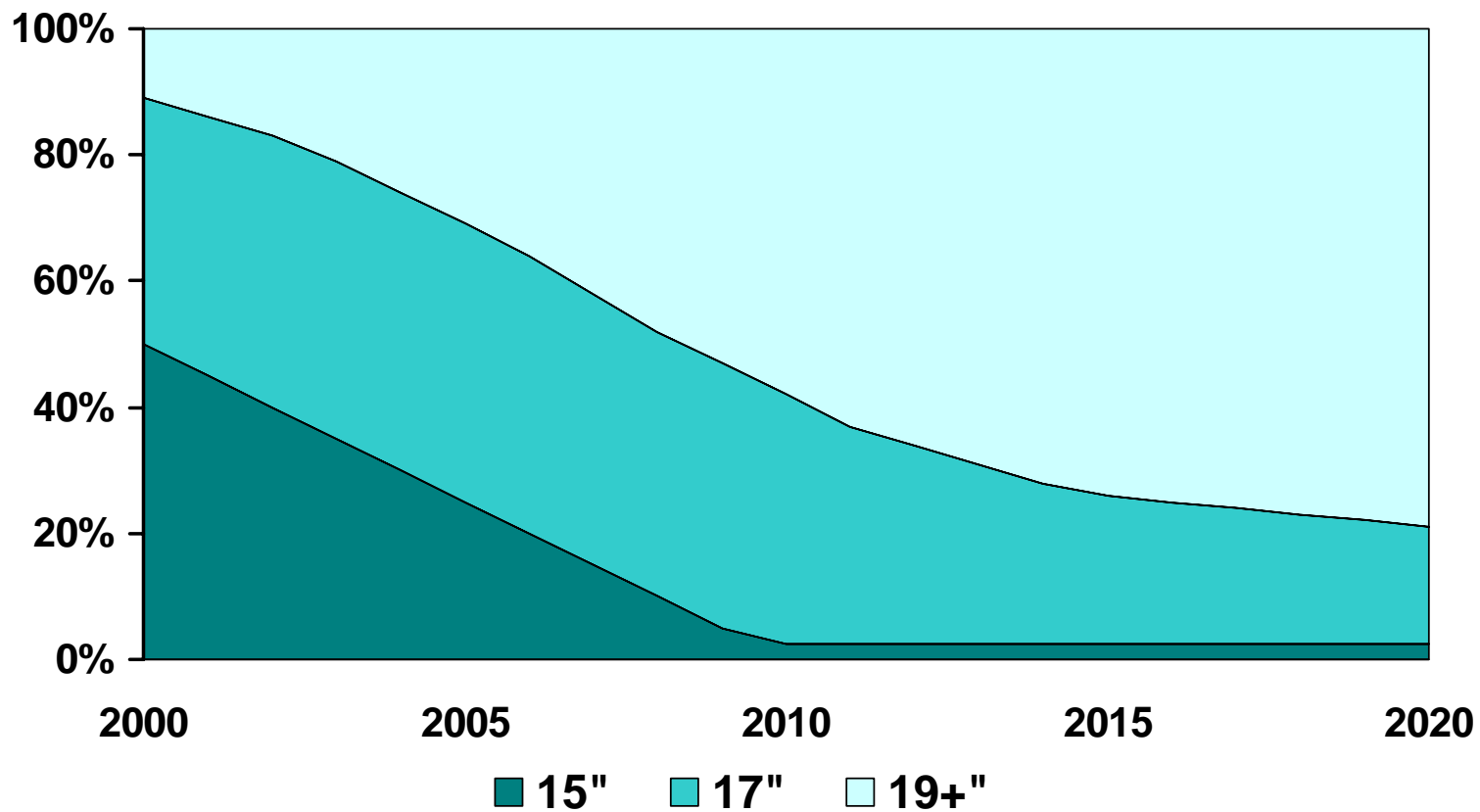
Residential PC Assumptions: Unit Energy Consumption

	Active	Standby	Suspend	Off
PCs	55 to 67 (13%)	N/A	15 (12%)	0 (75%)
Monitors:				
CRT	79 to 92	N/A	8	0
LCD	23 to 32 (13%)		8 (12%)	0 (75%)

Units: watts
(% of year in mode)

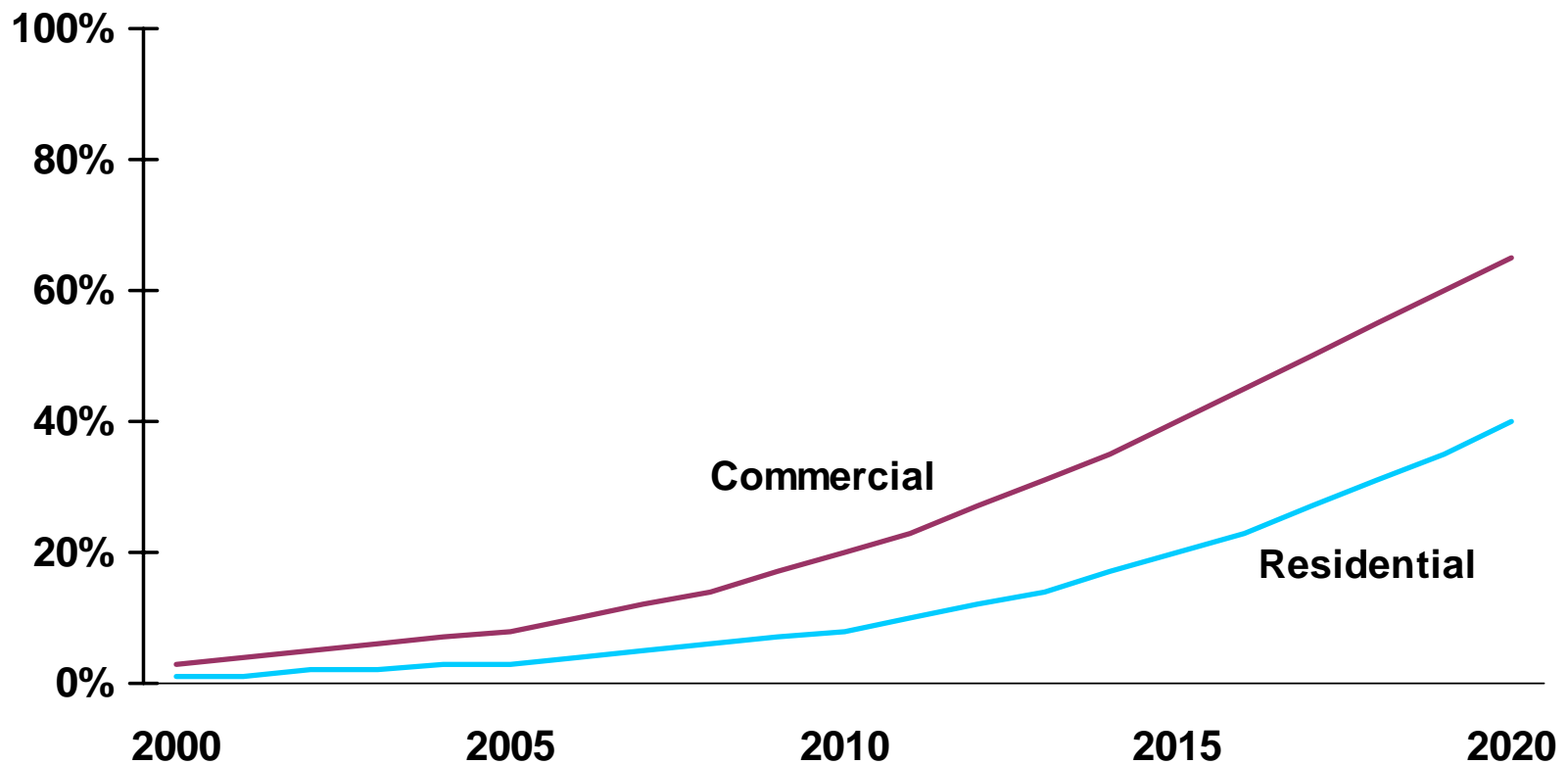
Commercial PC Assumptions: CRT Display Area

Percent of CRT Monitor Sales

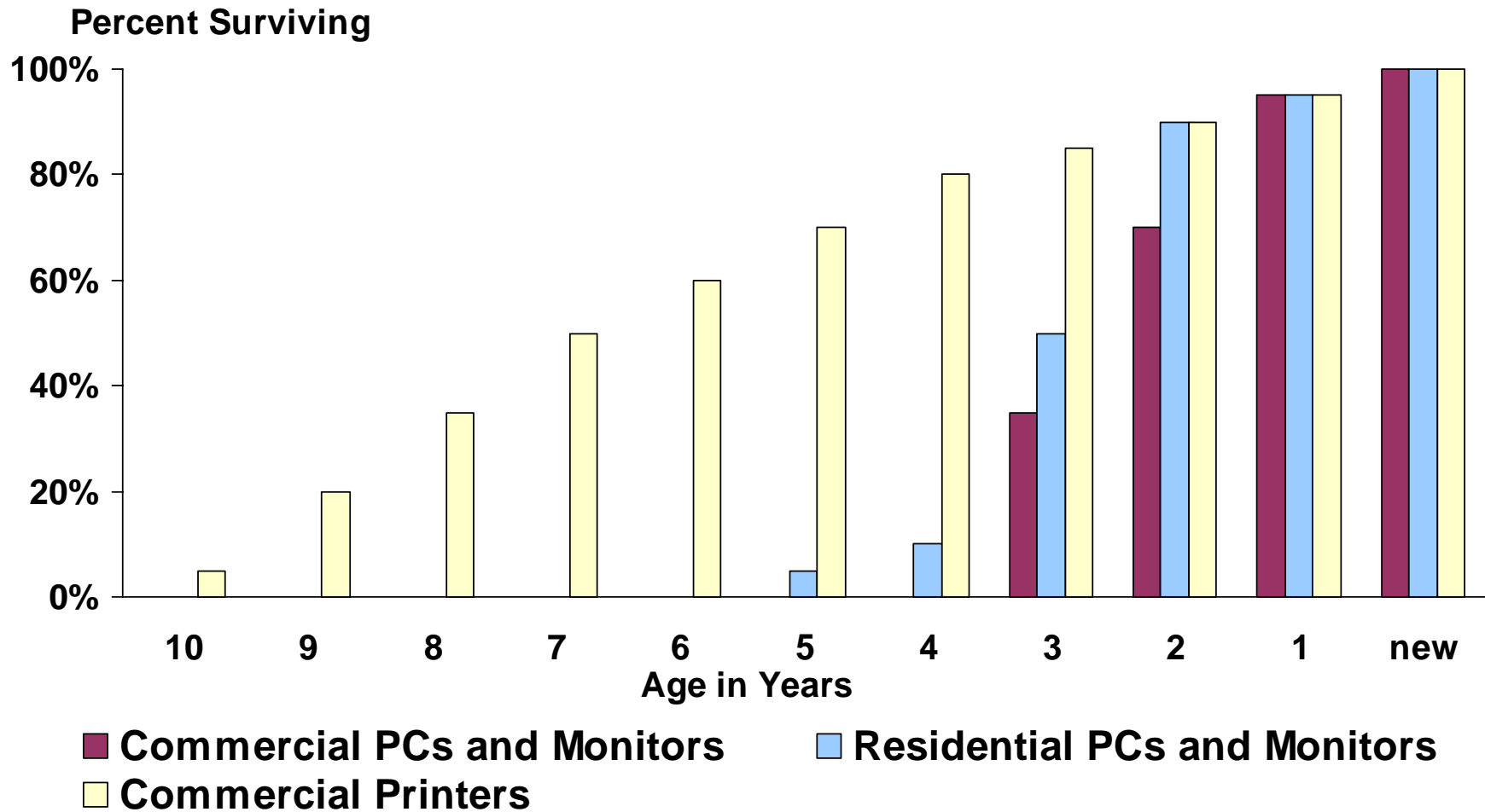


PC Assumptions: LCD Monitor Adoption

Percent of Monitor Sales



PC Assumptions: Equipment Life

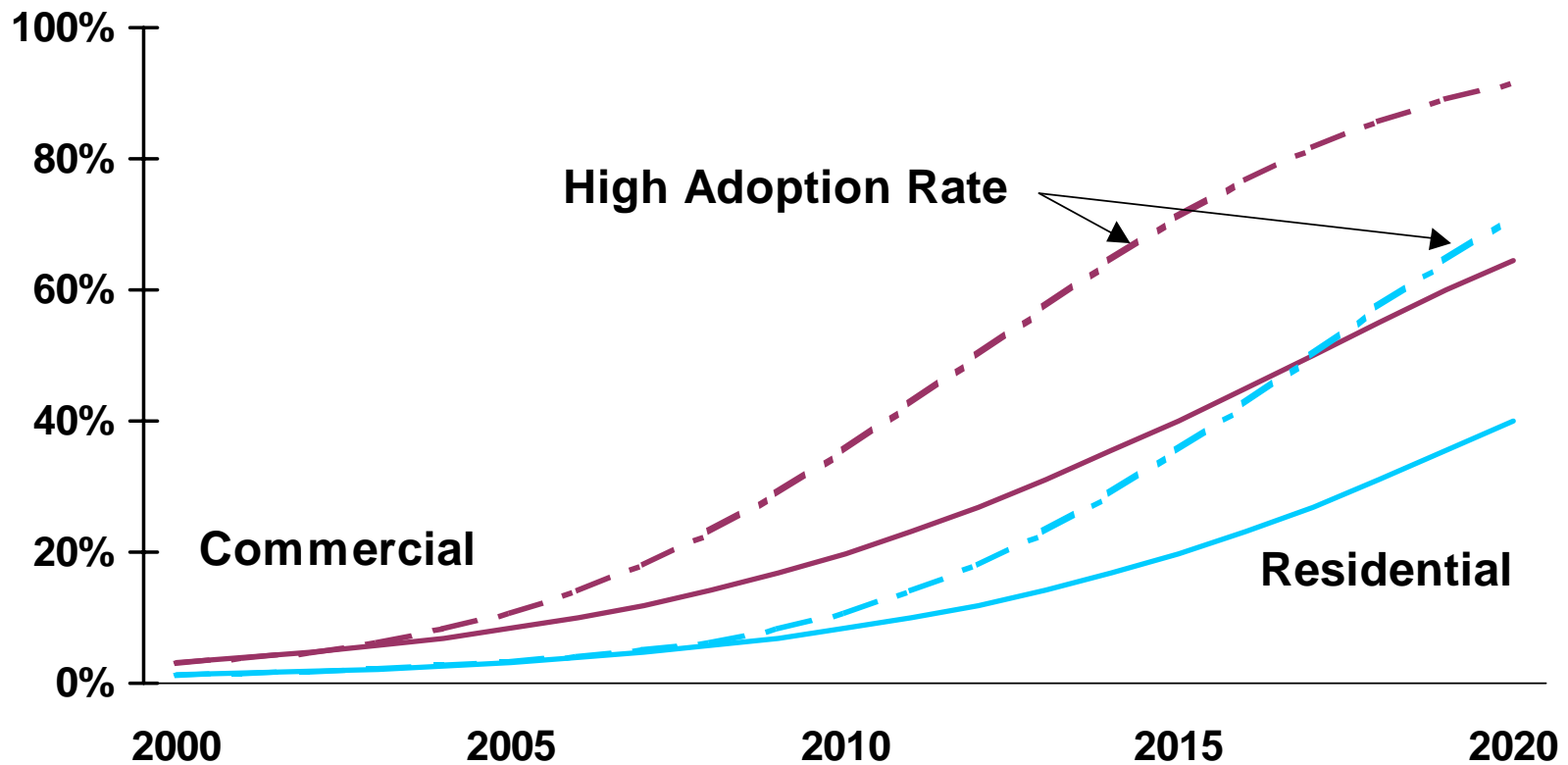


PC Assumptions: Energy Star Sales & Enabling Rates

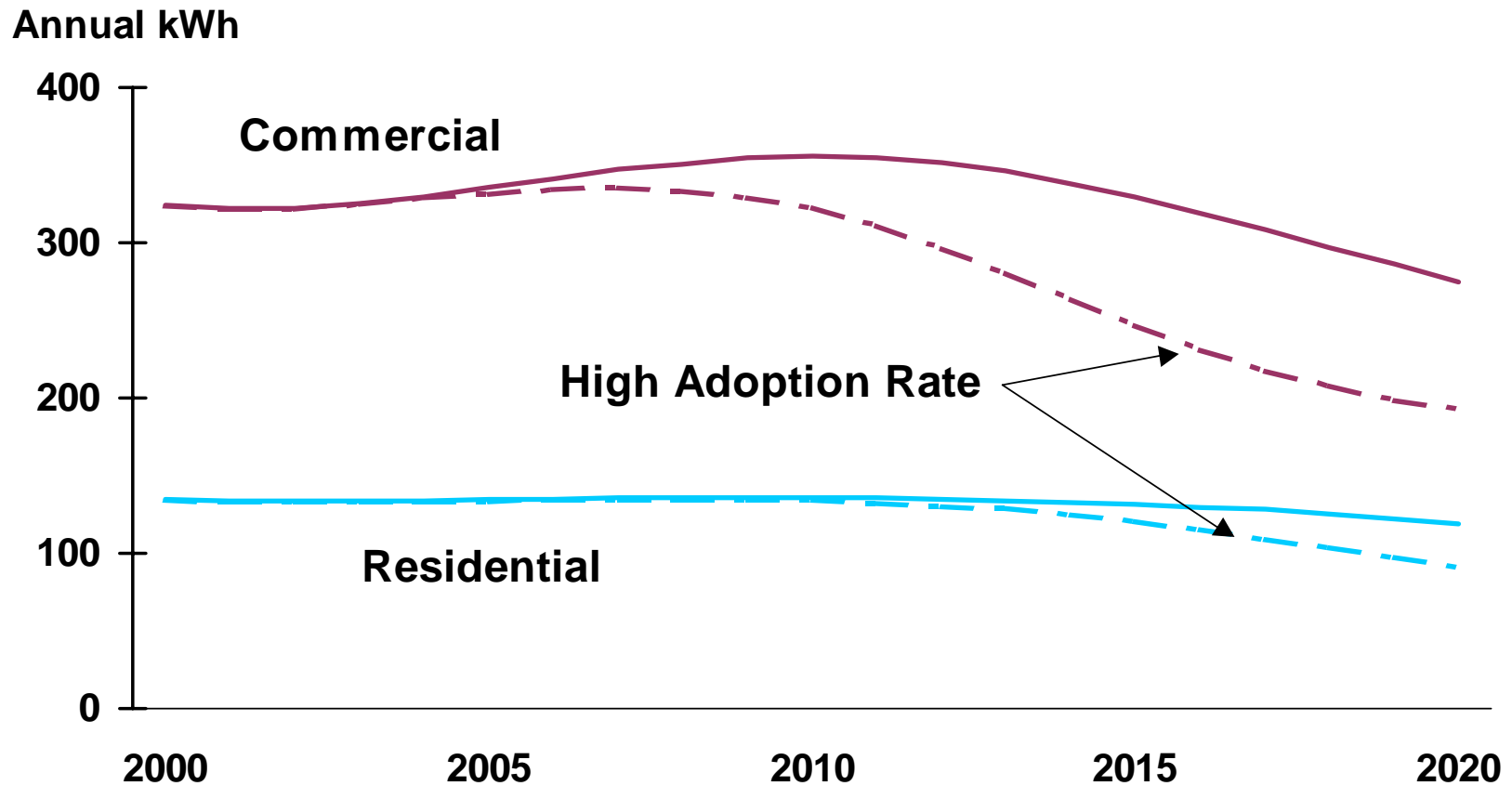
	Share of Sales	Share Enabled
PCs	50% in 2001 increasing to 90% by 2005	Commercial - 25% in 2001 increasing to 35% by 2005 Residential - 20% throughout forecast
Monitors	95% throughout forecast	59% throughout forecast
Commercial Laser/Ink Jet Printers	92% in 2001 increasing to 100% by 2004	76% throughout forecast

Alternate PC Assumptions: LCD Technology Adoption

Percent of Monitor Sales



Per Monitor Consumption (Composite): LCD Technology Adoption



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