



*Opportunities and
Challenges: PSE, WPPF
and the Paper Industry*

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The Power of 'e'

- Industry: engineering-environment-energy-economics
- PSE/WPPF: enrollment-endowments-excellence



A Few Paper Industry Statistics

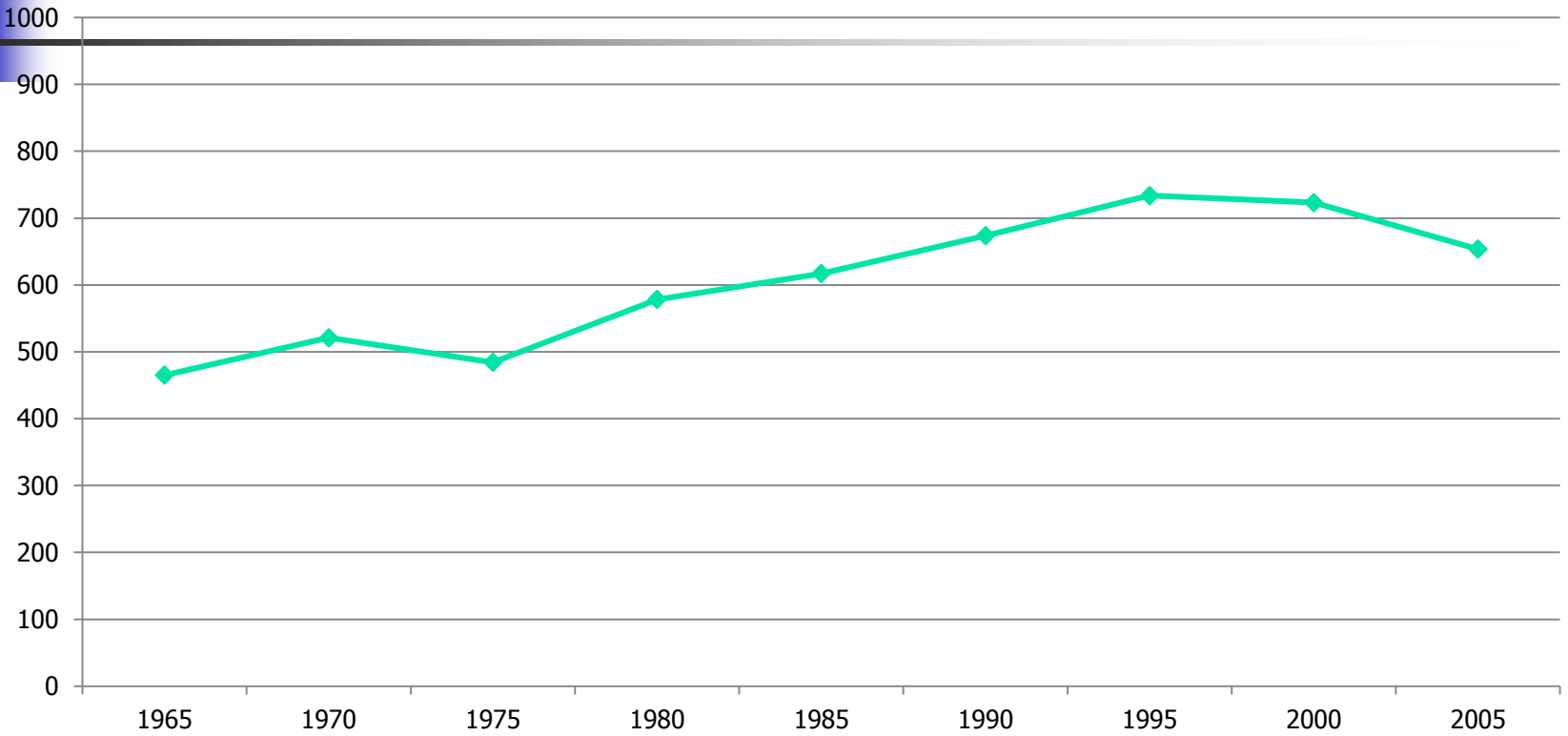
- According to AF&PA, USA capacity is down 7.3% from 2000-08
- Predicted to drop another 1.9% in 2009
- FAO predicts that North American paper industry will increase production at 1.8%/yr from 2005-2020, and
- Production in Asia and Europe will grow at 4.3%/yr and 2.6%/yr, respectively



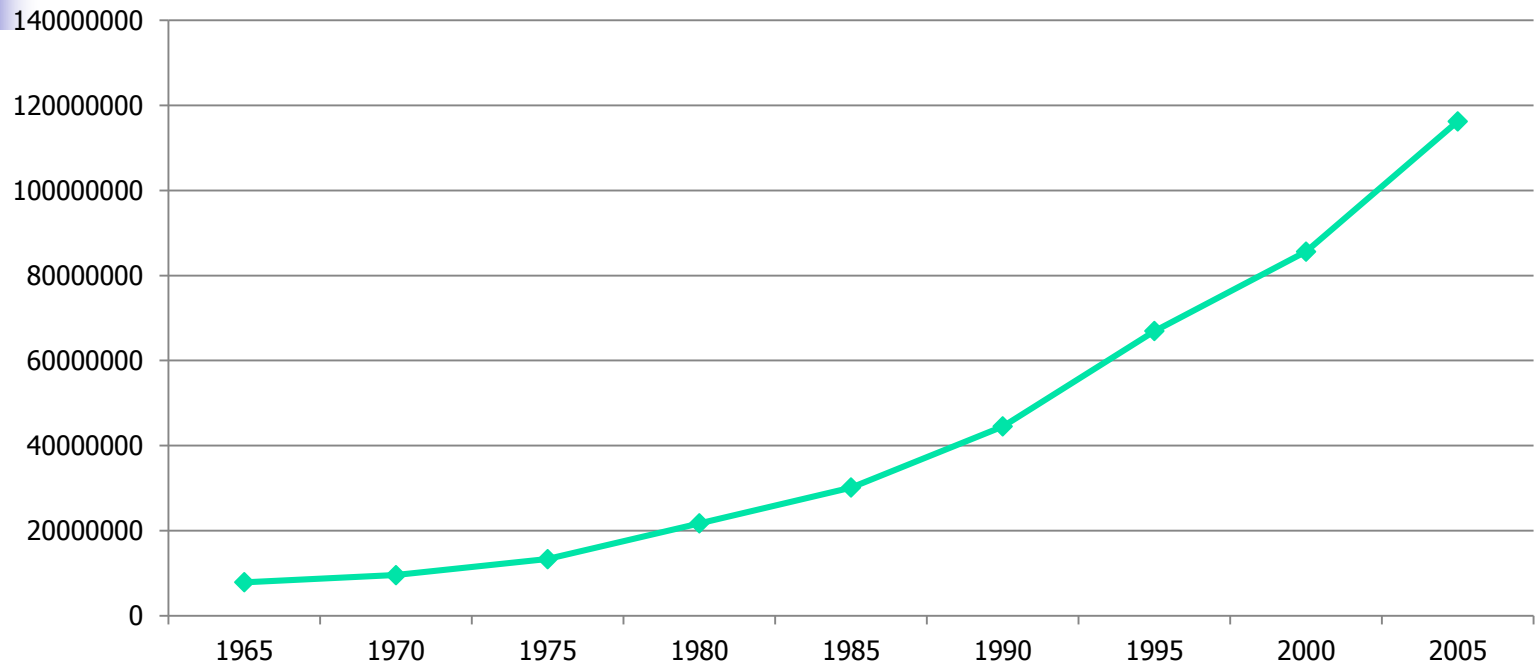
A Few Paper Industry Statistics

- Paper per capita consumption in USA peaked in 1995
- Developing world is rapidly increasing paper production capacity
- Production in developed world is increasing at a slower rate
- What is driving changes in the industry and where does the power of 'e' fit in?

Paper/Paperboard Consumption (lbs/person/yr) USA

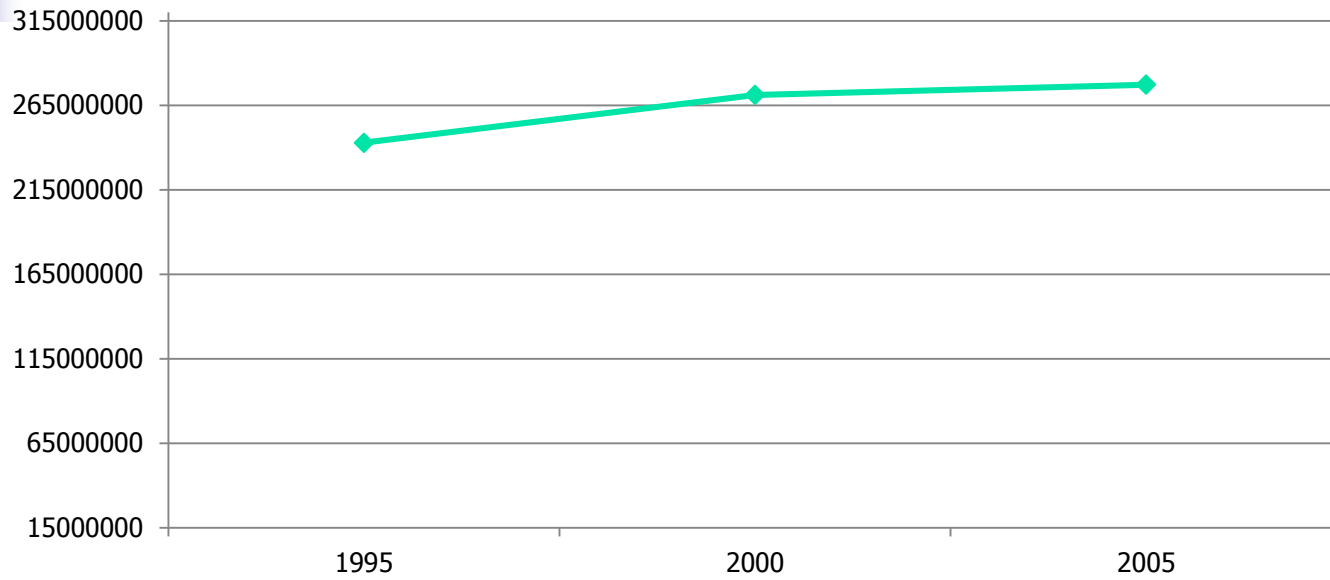


Paper/Paperboard Production (Tons) Developing Countries





Paper/Paperboard Production (Tons) Developed Countries



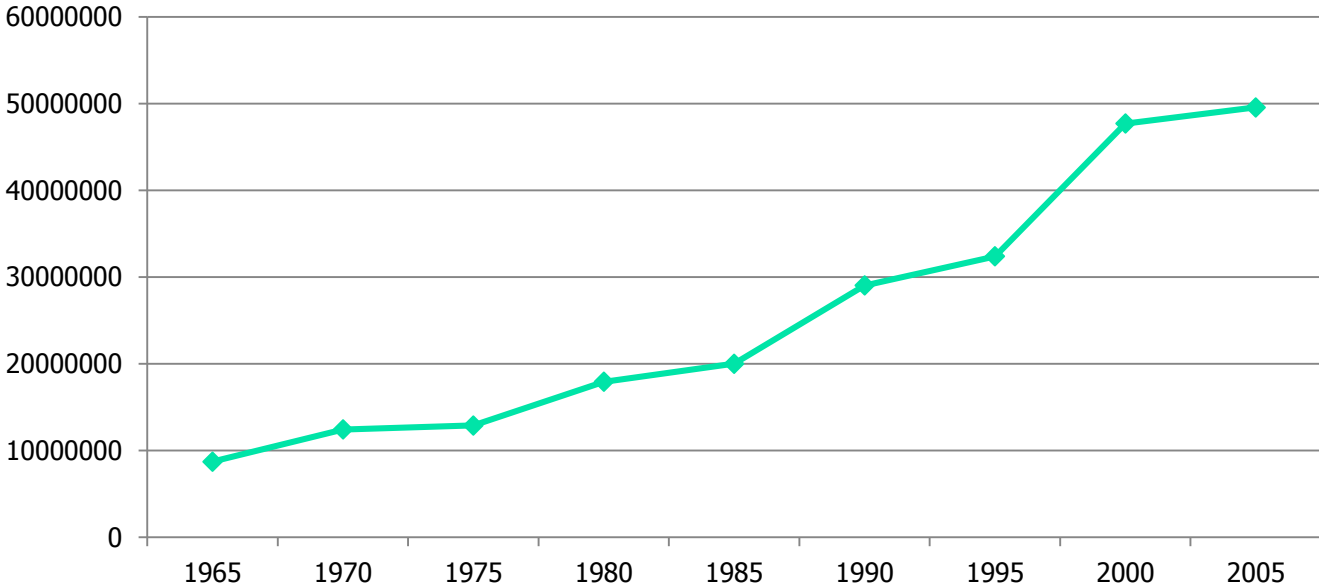


Forces Driving Change

- Affluent / growing population with more leisure time - disposable income
- Global climate change
- Recycling of paper
- Energy and environmental policies
- Global trade and fast communication
- Electronic media
- Renewable energy from woody biomass



Recoverable Paper (USA) Tons





Wood Energy

- Worldwide, roundwood used for energy is comparable with roundwood used for industrial purposes
- Includes fuelwood, charcoal, burning wastes like black liquor, and burning wood specifically for heat and power generation



Wood Energy

- FAO estimates that biomass energy production was 583 M tons oil equivalent (MTOE) in 1970; 792 MTOE in 2005; and 1,183 MTOE in 2030
- In terms of wood consumption, these figures translate to 2 Bm³ in 1970; 2.6 Bm³ in 2005 and 3.8 Bm³ in 2030



Wood Energy

- Europe is expected to increase its energy production from biomass between 2005-20; the most of any region
- Large scale biorefinery usage (biofuels) will significantly increase worldwide wood consumption



PSE/WPPF

- UG enrollment at 75 students
- Cost of resident UG tuition will increase by 14% to \$7125 + fees = \$7677 in FY 2010 and another 14% in FY 2011
- Endowment operating accounts are down 25% for FY 2009 (from FY 2008) and will drop another 25% for FY 2010 and be held constant for four years



PSE/WPPF

- To maintain excellence PSE program needs excellent students, faculty, facilities and support
- PSE faculty needs to grow in both number and disciplinary diversity to meet needs of the future
- State budget reductions will make this very difficult



WPPF and PSE Missions

- Focus on sustainability, stewardship and economic vitality
- Maintain capacity of UW faculty
- Produce excellent students for the industry
- Engage alumni in activities
- Be financially healthy



Issues and Opportunities For Paper Industry

- Biomass conversion for energy and transportation fuels
- New bio-products for a variety of uses
- New pulping processes that are more energy efficient and environmentally friendly
- Develop new markets

Issues and Opportunities for PSE/WPPF



- Continue to recruit excellent students with adequate scholarship support
- Add faculty capacity in program
- Improve educational and research facilities



Sources

- EarthTrends, World Resources Institute
- State of the World's Forest – 2009, Food and Agriculture Organization
- 49th Annual Survey of Paper, Paperboard and Pulp Capacity, American Forest and paper Association