



ENVIRONMENTALLY PREFERABLE PURCHASING

REDUCING OUR ENVIRONMENTAL FOOTPRINT through ENERGY EFFICIENT PROCUREMENT

Office of Environmental Programs
April 17, 2008



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WHAT IS EPP?

- Environmentally Preferable Purchasing (EPP) is the practice of purchasing products or services that “have a lesser or reduced effect on human health and the environment when compared to competing products or services that serve the same purpose.”

Federal Executive Order 13101

- EPP is one of over 70 programs in the city's Sustainability Report
phoenix.gov/Sustainability/summary.html



EPP PRODUCTS CAN INCLUDE

Recycled content products,
such as recycled plastic
furniture



Energy
conserving
fluorescent
lights

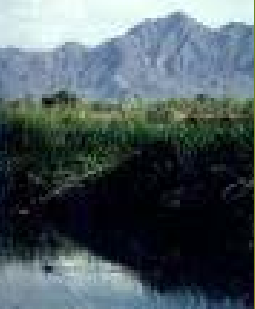
Bio-based inks



Less toxic
cleaners



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HISTORICALLY, EPP FOCUSED ON:



- Hazardous materials
- Recycled content

EPP NOW INCLUDES

- Human health and ecological stressors (greenhouse gases)
- Natural Resource Use (renewables)
- Positive Attributes (biobased, take back durability)



PHOENIX EPP RESOLUTION 20519

- Approved July 2, 2007
 - Integrate new contract provisions for green products and services
 - Consider price, performance and environmental effects over lifecycle
 - Support manufacturers and vendors with green products
 - Encourage others to adopt EPP



HOW TO BUY GREEN PRODUCTS

Certifying party examples:



US EPA recycled content



Less toxic products



Energy Star energy efficient products



US Dept of Agriculture biobased products



Forest Stewardship Council wood products



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COUNCIL-APPROVED EPP PROGRAM FRAMEWORK (DEC 2007)

- Goals:
 - Green city products & services
 - Reduce city's impact on the environment
- Elements
 - Training and outreach
 - Product evaluation teams & purchasing initiatives
 - Annual department goals



EPP PROGRAM: GREENING CONTRACTS

- Finance Department/Office of Environmental Programs collaboration
- Annually review expiring contracts for EPP potential
- Department meetings to discuss contracts with EPP potential and conduct tests
- Submit environmental specifications through operating department (Police, Streets, etc) to Finance

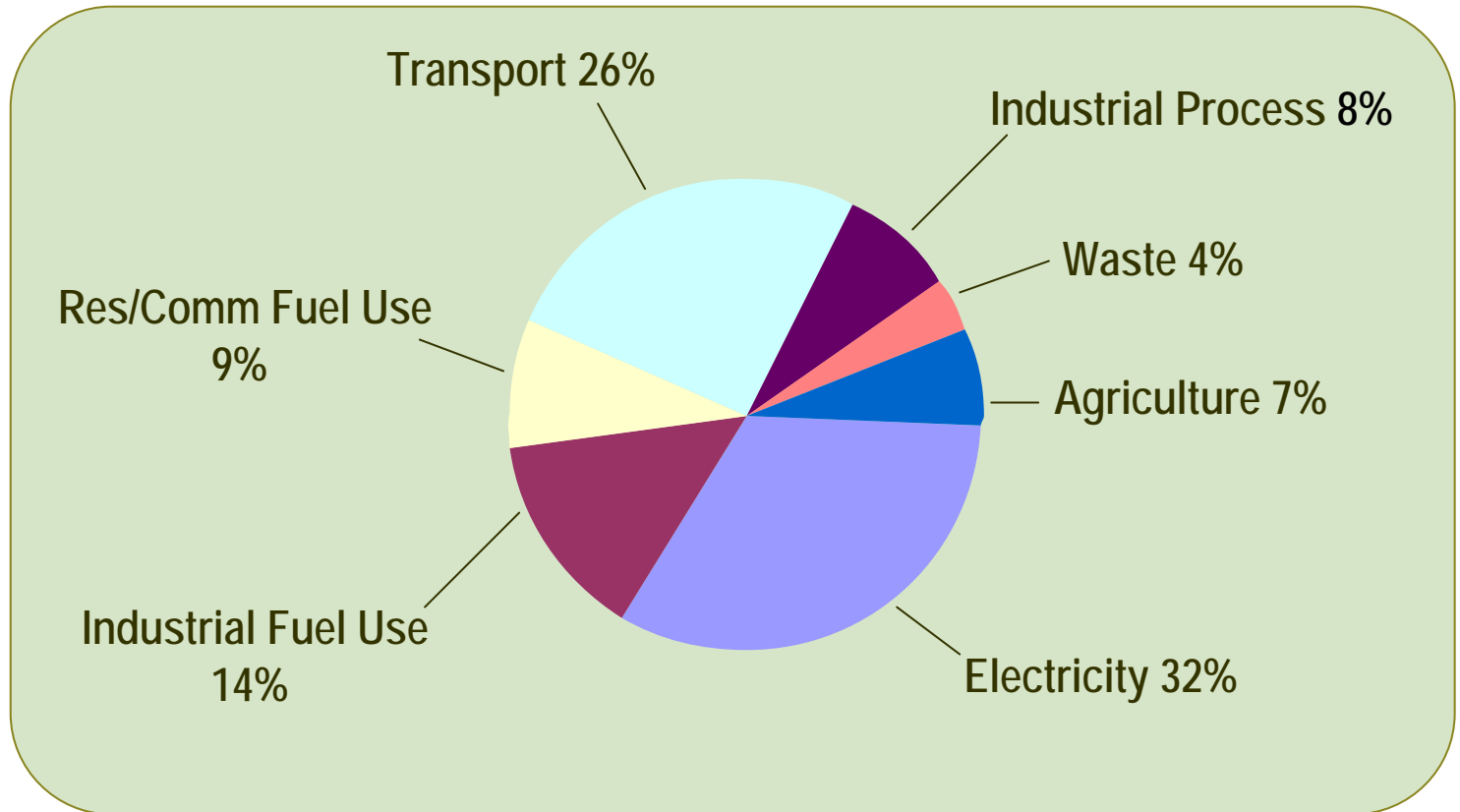


EPP PROGRAM DETAIL

- 7 Pollution Prevention (P2) Program staff
 - 1998: Initiated low toxicity EPP Program
 - 2006: Begin tracking contracts with EPP – approximately .5% (\$4 M)
 - 2007: Coordinating expanded EPP Program
- 55 commodity groups identified
- Citywide EPP training available through P2 University (1 of 7 classes)



U.S. GREENHOUSE GAS SOURCES



Source: AZ Department of Environmental Quality



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ENERGY EFFICIENCY OPTIONS

- 75% of the electricity used in the US today could be saved through efficiency measures for:
 - Lighting
 - Fans
 - Pumps
 - Electric motors
 - Air conditioning
 - Office equipment
 - Appliances



Source: Rocky Mountain Institute



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ENERGY EFFICIENCY



Best performance
with least wasted
energy

Helps minimize
energy production &
lowers costs



ALTERNATIVE HVAC SYSTEMS

BASE CASE HVAC TECHNOLOGY

	Base Date Cost	Year	Discount Factor (3%)	Present Value
Investment Cost	\$103,000	Base	1.00	\$103,000
Fan Replacement	12,000	12	0.70	8,400
Residual Value	<-3,500>	20	0.55	<-1,925>
Electricity	20,000	Annual	14.88	297,600
O & M	7,000	Annual	14.88	104,160
Total				\$511,235

ALTERNATIVE – “GREEN” HVAC TECHNOLOGY

Investment Cost	\$110,000	Base	1.00	\$110,000
Fan Replacement	12,500	12	0.70	8,750
Residual Value	<-3,700>	20	0.55	<-2,035>
Electricity	13,000	Annual	14.88	193,440
O & M	8,000	Annual	14.88	119,040
Total				\$429,195

Source: Responsible Sourcing Solutions



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CITY OF PHOENIX ENERGY EFFICIENCY INITIATIVES



- Examples:
 - Greening goods and services contracts
 - Traffic signal conversion (LED)
 - High efficiency air conditioning
 - High efficiency pool pumps
 - Energy Star-rated appliances and equipment
 - Electronic Product Environmental Assessment Tool (EPEAT) for computers, monitors, printers
 - Fluorescent lighting (low Hg, CFL)
 - Retrofits for air conditioning and lighting
 - Green Building program for city facilities



PHOENIX: 2007 GREEN ELECTRONICS CHAMPION

- From July 2006-07, the city purchased 3,253 computers and 247 notebooks that meet EPEAT silver criteria
- Energy Reduction: 2,701,969 kWh - enough electricity to power 238 households annually, and saving \$234,261.





RESOURCES

- Energy Star Program
 - Over 50 products: Appliances, equipment, roofing material
 - **Sample language:** All products provided in response to this solicitation shall be certified by the US Dept of Energy or the US EPA as Energy Star or are certified under the Federal Energy Management Program and in all categories that are available at energystar.gov/index.cfm?c=home.index



RESOURCES

Federal Energy Management Program

Sample language available for a wide
variety

of equipment and appliances

www1.eere.energy.gov/femp/procurement/



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RESOURCES

- Leadership in Environmental and Energy Design (LEED)
 - United States Green Building Council standards for air conditioning $\geq 250,000$ BTU: Consortium of Energy Efficiency
 - **Sample language:** Larger units, not eligible for qualification under the Energy Star program, shall meet the Consortium of Energy Efficiency (CEE) commercial Tier II specification (Additional language includes Web sites for specifications and equipment sources)



RELATED EFFORTS

- EPA Recycled Content Products
 - Over 50 products
 - Recycled content = energy conservation
 - EPA calculators calculate reduced energy consumption
 - **Sample language:** Minimum 8% recycled content for 28" orange traffic cones



RELATED EFFORTS

- EPA WaterSense
 - Plumbing fixtures (toilets, faucets, shower heads, irrigation)
 - Water efficiency = energy conservation
 - **Sample language:** Fixture must be compliant with current EPA WaterSense criteria



RELATED EFFORTS

- IT Power Management
 - Sleep mode available for
 - Computers
 - Monitors
 - Power management settings deployment estimate
 - 5% for computers
 - 70% for monitors
 - Consider for new purchases or during upgrades
 - CPU: 45 min ("system standby")
 - Monitor: 15 min ("monitor shutdown")
- April 2008: EPA Low Carbon IT Campaign



RELATED EFFORTS

- Consider requiring vendors to complete an energy audit and implement the results
 - Bidders shall have completed an energy audit by an electric utility or acceptable third party within the last 5 years and acted on results, or bidder shall submit a copy of their LEED building certificate
- Phoenix:
 - All new construction built to at least LEED-certified standard
 - Existing buildings have initiated energy audits



LESSONS LEARNED

- Develop a relationship with current vendor when seeking green products or services
 - Helps ensure most current product information available - may already be green
 - Green may be in existing contract but not yet requested
 - Vendors can be subject matter experts and can make greening easier



LESSONS LEARNED

- Make sure EPP specifications are included
 - If you don't ask for EPP, you probably won't get EPP
 - Finding EPP in existing contracts may be a coincidence; include EPP specifications for best results
- Raise EPP awareness in vendors to ensure competition and best prices



LESSONS LEARNED

- Include a clause for vendor to prepare purchase reports upon request
 - Assists tracking and measurement





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Contact:

Elizabeth Paulus
Pollution Prevention Coordinator
602-256-3447
liz.paulus@phoenix.gov