Protecting the Environment While Producing Books:

Key Actions for Printers & Implementing Partners

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Mamadou Goundiam
Director, Africa
Topics Covered Today

• Industry Guidelines and Standards
• Environmentally-Friendly Specifications
• Reducing Use of Natural Resources
• Reducing Waste
• Pollution Control
Certification: Independent, verified assurance that forest-based material in a product originates from sustainably managed forests.

“Chain of Custody” Certification
- Forest Stewardship Council (FSC)
- Programme for the Endorsement of Forest Certification (PEFC)
Environmentally-Friendly Paper Specifications

**Paper for Interior Pages**

- **Recycled**: Paper made from previously used paper (newsprint, printed paper waste, trim waste, etc.).
- **Agro-Waste**: Paper made from agriculture waste (l.wheat husks, bagasse, etc.).
- **Mixed**: Paper made from a mix of recycled paper & agricultural waste.
- **Wood-based**: Paper made from fresh wood from forests.

**Paper for Covers**

- **Virgin Fiber (C2S)**: Cover paper/board made from fresh wood fiber with coating on both sides; suitable for double-sided printing.
- **Virgin Fiber (C1S)**: Cover paper/board made from fresh wood fiber with coating on one side; suitable for single-sided printing.
- **Recycled Fiber Board (C1S)**: Cover paper/board made from recycled fiber with coating on one Side; used for student notebooks and some boxes.
Reducing Energy Use

• Use heat recovery systems
• Use high efficiency cooling machines
• Implement load balancing and other systems to reduce electricity use
• Use natural gas-cleaner fuel that furnace oil

Reducing Water Use

• Recycle ground water on plant site
• Recycle treated water for sanitation and cooling
• Recycle condensate from steam heaters and solvent recovery
Reducing Waste: Printing Cylinders

Printing Cylinders

• Reduce copper consumption by optimizing cylinder circumference.
• Recycle used copper.
Reducing Waste: Paper & Ink

Paper:
• Using high quality paper and efficient paper specifications reduces waste.
• Segregating paper waste by type (printed/trim/white, etc.) allows for sale to authorized recyclers.

Ink:
• Using high quality ink reduces waste.
• Solvent recovery systems recover more than 95% of solvent, while filtering paper dust and volatile organic compounds (VOC) from exhaust.
• Recovered solvent is reused for printing.
Reducing Waste: Binding, Packing, Shipping

**Binding**

- Inputs for binding include printed forms (sets of pages), glue, wire, and thread.
- Transport materials (forms) from printing presses to binding machinery with reusable packing materials.
- Purchase stitching wire (for saddle stitched books) and glue from reliable suppliers.
- Use dust/fume extractors to filter any fumes and paper dust produced during the binding process.

**Packing**

- Pack finished books in biodegradable packing materials, using energy efficient packing procedures and recycled pallets.
- Efficient packaging reduces the amount of materials required, improves warehouse utilization and reduces the amount of handling required.

**Shipping**

- Use non-peak times to move containers reduces the environmental impact of shipping.
- Optimize the number of containers with efficient handling requirements (eg use of pallets, weight per carton, ...)

![Sustainable Packaging Image]
Pollution Control

Reducing Air Pollution

• Require at least 95% solvent recovery and recycling for other products.
• Using piped natural gas reduces air pollution.

Reducing Water Pollution

• Use effluent treatment plants to dispose of industrial waste water.
• Treat domestic waste water through sewage treatment plants and use recovered, treated water for cooling and other facility needs.

Managing Hazardous Waste

• Collect hazardous waste (ink sludge, ETP sludge, plating bath Sludge, used oil, etc.) and dispose of it through authorized recycling and handling companies only.
• Collect other waste (cloth, electrical, glass, etc.) and dispose through authorized recycling and handling companies only.
4 Managing Non-Hazardous Waste
   • Collect scrap metal, plastics, wood, etc. separately and ensure recycling through appropriate channels.

5 Paper Waste
   • Collect segregated paper waste (print waste, white waste, brown waste, reel ends, core plugs, etc) and ensure recycling through appropriate channels.
   • Collect paper dust through dust collecting systems and dispose of it through a paper recycler.
Top 5 Takeaways for Implementing Partners

1. **Certification**
   - Use only “Chain of Custody” certified printers (FSC or PEFC).

2. **Technical specifications**
   - Establish technical specifications that use raw materials efficiently.

3. **Packaging**
   - Require the use of recyclable packaging.
   - Optimize packing requirements

4. **Planning**
   - Require printers to provide an environmental protection plan in their proposals/bids.

5. **Logistics**
   - Structure delivery and distribution to reduce environmental impact.
   - Plan timelines accordingly
THANK YOU

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