GREENING THE ROADMAP FOR THE PHILIPPINE PULP AND PAPER INDUSTRY

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IS THE PAPER INDUSTRY GREEN?

WHAT MEASURES IS IT TAKING TO CLEAN UP ITS PRACTICES (ROADMAP)?

- **CURRENT INDUSTRY SITUATION AND EXISTING MEASURES AT GREENING**
  - Local paper production is 95% based on recycled wastepaper
  - Local mills use 0.9 Million Tons/yr local wastepaper, preventing this volume of solid wastes from ending up in landfills
  - The 6 biggest mills have complete wastewater treatment plants and operate modern air pollution control systems
  - All paper mills have primary wastewater treatment and basic air pollution control devices and practice a high degree of process water re-use. Some 2/3 further treat wastewater up to biological and tertiary treatment stages and the balance are in various levels of completing their wastewater treatment systems.

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CURRENT INDUSTRY SITUATION AND EXISTING MEASURES AT GREENING THE PAPER MANUFACTURING – p.2

- The industry (PPMAI) signed an Environmental Consent Agreemnt (ECONA) with EMB under the Environmental Partnership Program (PEPP) and is taking further steps to comply fully and consistently with the conditions set by DENR under DAO 14-2003.

- These measures include sustaining efforts to comply with the terms of ECONA for the Clean Water and Clean Air Acts and with other Environmental laws under the Med-Term Phil. Developmental Plan (PDP), such as Solid Waste Management Act (RA 9003), Hazardous and Toxic Waste Substances (RA 6969), and PDEA/PNP Regulations on the import and Handling of Controlled Chemicals and Substances.

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NEXT STEPS AT GREENING THE PAPER INDUSTRY (UNDER THE ROADMAP)

- RAISE WASTEPAPER RECOVERY FROM CURRENT 50-55% TO 65% IN 3-5 YEARS. THIS WILL BRING BACK TO RECYCLING AN ADDITIONAL VOLUME OF 150-200,000 TONS/YR WASTEPAPER THAT WOULD OTHERWISE END UP IN LANDFILLS.
- FURTHER RAISE WASTEPAPER RECOVERY RATE FROM 65% TO AT LEAST 70% IN ANOTHER 6-10 YEARS.

- ENCOURAGE INVESTMENTS IN PULP AND PAPER PRODUCTION BASED ON AGRI-RESIDUES SUCH AS ABACA FIBER WASTES, RICE STRAW, BANANA/PINEAPPLE/TOBACCO WASTES.
- PROMOTE INVESTMENTS IN SPECIALTY PULP/PAPER PRODUCTION BASED ON ANNUAL FIBERS LIKE PLANTATION HYBRID ABACA AND KENAF.

NEXT STEPS AT GREENING THE PAPER INDUSTRY (UNDER THE ROADMAP) - p. 2

- LAUNCH VIRGIN PULP PRODUCTION IN PHILS. BY ESTABLISHING THE COUNTRY'S ONLY KRAFT MARKET PULPMILL BASED ON SUSTAINABLY- MANAGED TREE PLANTATIONS.

- THE KRAFT PULPMILL SHALL ADAPT TO MODERN AND ENVIRONMENTALLY-FRIENDLY TECHNOLOGIES IN WOOD FIBER PULPING, BLEACHING AND WATER USE. ITS STEAM/POWER GENERATION SHALL BE ONLY BIOMASS AND WASTE HEAT-BASED. IT SHALL BE COMPLIANT WITH ALL ISO STANDARDS DEFINING QUALITY, PRODUCTION, ENVIRONMENTAL CARE, HEALTH PROTECTION AND SAFETY.

- THE TREE PLANTATIONS SUPPORTING THE WOOD REQUIREMENTS OF THE PULPMILL SHALL PRACTICE MULTI-SPECIES REFORESTATION, PERPETUAL FOREST COVER, CORRIDORS FOR WILDLIFE, AND PROTECTED NATURAL FOREST AREAS.

- THE PULPMILL WITH ITS SUPPORTING TREE PLANTATIONS SHALL SEEK THE INTERNATIONAL CERTIFICATIONS OF PEFC AND FOREST STEWARDSHIP COUNCIL (FSC).

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Pulpmill shall comply with International Standards prescribed for Forest-based Manufacturing Industries

PHILIPPINES : Relevant Developments in Paper and Forest Industries

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GREENING THE PROPOSED PULPMILL PROJECT

- Capacity / Product Grade: 330,000 Tons/Year (Kraft Pulp)
- Target Market : 60% BHKP Export / 40% Local BHKP,LUKP
- Sustainable forest areas required:
  - Industrial Tree Plantations : 30,000 hectares
  - Agro- and Social Forestry : 35,000 hectares
- Wood species :
  - A. mangium, Eucalyptus spp. (deglupta, pelitta), Gmelina
  - Giant ipil ipil, agoho, local pines, etc.
- Pulping Technologies : Extended cooking, Oxygen Delignification, ECF-Bleaching
- Environmental Standards : ISO and FSC/PESC Certifications, CIFOR Financing Criteria for pulpmills.

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INTERVENTIONS NEEDED TO SUPPORT THE GREENING PROGRAM IN THE PULP/PAPER INDUSTRY

- **INCENTIVES FOR EXISTING MILLS TO INVEST IN IMPROVING THEIR ENVIRONMENTAL PERFORMANCE, INCL. UPGRADES OF PRODUCTION TECHNOLOGIES TO RAISE EFFICIENCY IN THE USE OF RAW MATERIAL, WATER, AND ENERGY**

- **INCENTIVES FOR EXISTING PAPER MILLS TO VERTICALLY INTEGRATE TO PULP AND FIBER PRODUCTION OR TO UNDERTAKE PROJECTS THAT RAISE WASTEPAPER RECOVERY RATES**

- **GREATER TECHNICAL AND FUNDING SUPPORT FOR R&D ACTIVITIES AND TECHNICAL FACILITIES AT RELEVANT GOVERNMENT INSTITUTIONS AND BY PRIVATE COMPANIES ENGAGED IN PULP AND PAPER MANUFACTURING, AS WELL AS FOR SKILLS AND MANAGEMENT TRAINING IN CLEANER PRODUCTION AND PRACTICES**

- **INCENTIVES AND SUPPORT FOR COMPANIES INVESTING IN NEW PULP AND PAPER MILLS TO PRODUCE HIGHER VALUE PULP AND PAPER GRADES OR DIVERSIFY TO NEW PULP AND PAPER PRODUCTS, ESP. THOSE THAT ARE MOSTLY IMPORTED.**

Backup slides only

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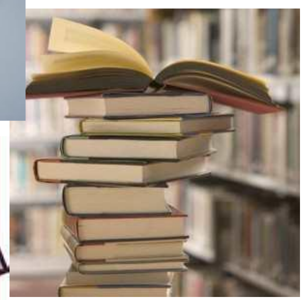
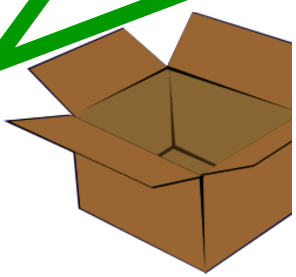
TAPPI **Philippines**

Paper and Paperboard Products -

Graphic papers



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CONSUMPTION OF PAPER &BOARD IN PHILS.

- Production P&B (2014) : 870,000 Tons
- Imports P&B (2014) : 997,000 Tons
- TOTAL CONSUMPTION : 1,867,000 Tons
- Less Import Re-exports : 200,000 Tons
- Less Exports of P&B : 35,000 Tons
- NET LOCAL CONSUMPTION: 1,632,000 Tons P&B
- Local Wastepaper Recycled: 940,000 Tons (57%)
  - RISI Figure (2012) : 50%
- Imported Wastepaper : 125,000 Tons

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WASTE GENERATION IN GREATER METRO MANILA

- Landfill - 8,000 Tons/day
- Illegally Dumped, Burned, or Buried - 1,400 Tons/day
- Recycled at Source - 600 Tons/day
- Recycled-by Scavengers - 400 Tons/day
- Total 10,300 Tons/day
  - Recycled 10%
    - Source: Japan International Cooperation Agency, The Study on Solid Waste Management for Metro Manila in the Republic of the Philippines

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Market Growth by Grades of Paper/Paperboard

2014	Local Product-ion[e]	Imports	Total Market	Segment Share of Market %	Projected Growth (2011-2016)
Printing &Writing	132,000	137,000	455,000	23%	+1%
Newsprint	64,000	58,000	128,000	7%	-2%
Packaging P&B	660,000	360,000	1,012,000	53%	+3.5%
Tissue/Sanitaries	14,000	40,000	87,000	5%	+4%
Other Paper &Board	-	402,000	233,000	12%	+2%
TOTALS	870,000	997,000	1,867,000*		+2.5%
			*with exports		

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