

MANUFACTURING AND SOLID WASTE

The background image is a composite. It features a large, turbulent wave of multi-colored plastic waste, including bottles, fragments, and other debris, crashing over a boat. In the background, the iconic snow-capped peak of Mount Fuji is visible against a blue sky. The overall scene conveys the environmental impact of manufacturing and waste management.

By

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BACKGROUND PHOTO FROM
THE PAGES OF 12160
(tsunamirubbish)

Presentation outline

1. Introduction
2. Scope of presentation:
product packaging
3. Manufacturing and
Economic Growth



4. The Global packaging market
5. Statistics on Packaging waste
6. Impacts to the Environment
7. Conclusions
8. Recommendation

Introduction

- ❖ Solid waste is a global phenomenon.
- ❖ Manufacturing industries play a big role in the creation of solid waste
- ❖ At the start of production of goods, waste is also produced



Philippines (and around the world)

Solid Waste problem is most serious in urban centers due mainly to:

- ❖ High population density
- ❖ High consumption rates (e.g. Metro Manila)
- ❖ High concentration of packaged goods (some are made with toxic non-biodegradable materials) (EMB-DENR SWM)



Images by Ecowaste Coalition

(<http://ecowastecoalition.blogspot.com/2013/11/ecowaste-coalition-to-cemetery.html>)

Scope of Presentation: Product Packaging

In this age of consumerism...

many packaging materials end up as waste...from the plastic packaging of most products...to the boxes of your favorite celfones.



Almost Everything end up as waste!



PACKAGING:
Primary
source of
municipal
solid waste in
high income
countries



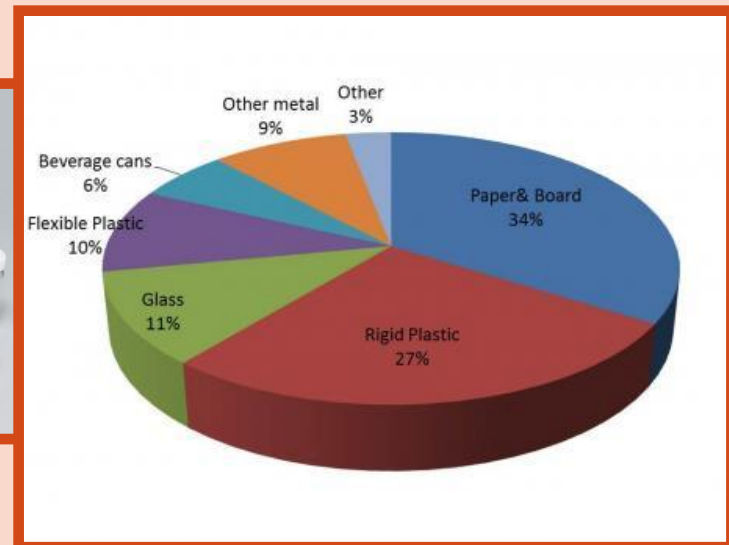
The manufacture and sale of consumer products are packaged for distribution, the packaging of which, almost always lead to the production of solid waste

Manufacturing and Economic growth

- Industrialization and the manufacturing sector has definitely spurred economic growth all over the world.
- Generation of high income rates – people's lives have improved
- Lead to high consumption rates
- Lead to higher waste generation rates from manufactured packaging (the more people consume the more people discard) (Martin Medina, 2007)



Image from European coatings

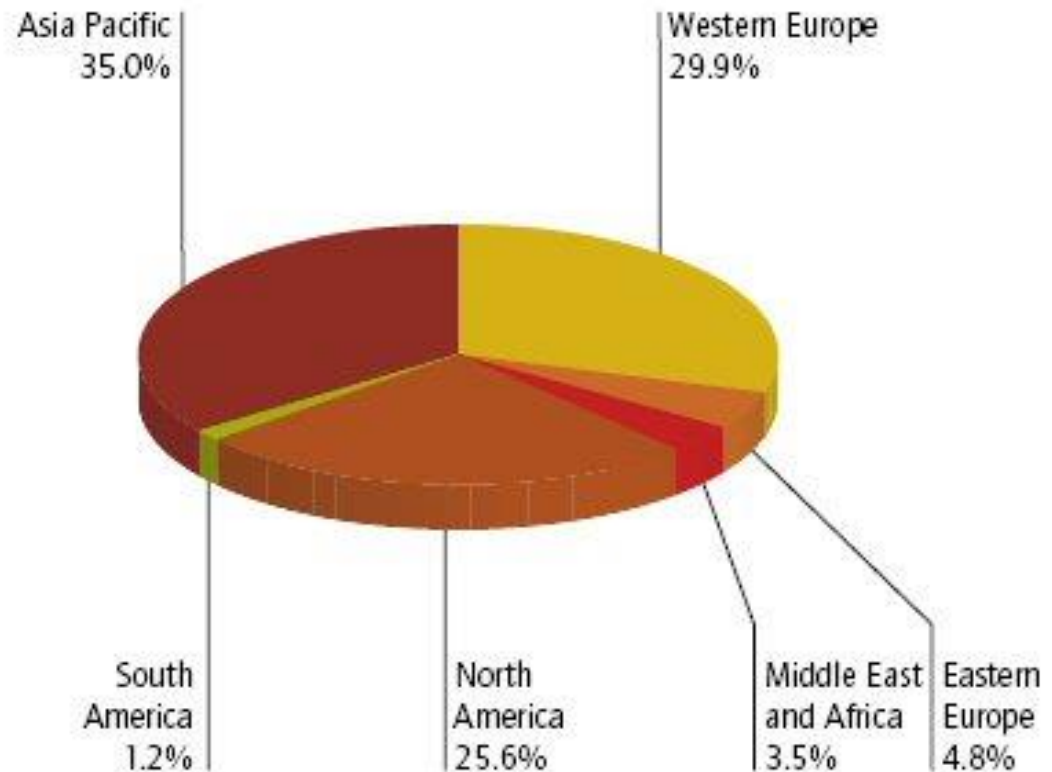


Market share of food packaging materials
(<http://www.foodpackagingforum.org/Food-Packaging-Health/Food-Packaging-Materials>)

Trend in packaging consumption

“Luxury goods and luxury packaging consumption is driven primarily by growing economic prosperity and affluence around the world. The developed world regions of North America, western Europe and Japan, which boast higher incomes per head and a sizeable proportion of high net worth individuals, are the largest markets for luxury goods and luxury packaging.” (Smithers Pira <https://www.smitherspira.com/market-reports/asia-pacific-to-lead-global-luxury-packaging-market-with-7-1percent-growth-to-2015.aspx>)

World luxury packaging value by region, 2010 (percentage share)



Source: Pira International Ltd

The most visible portion of MSW comes from manufactured packaging materials

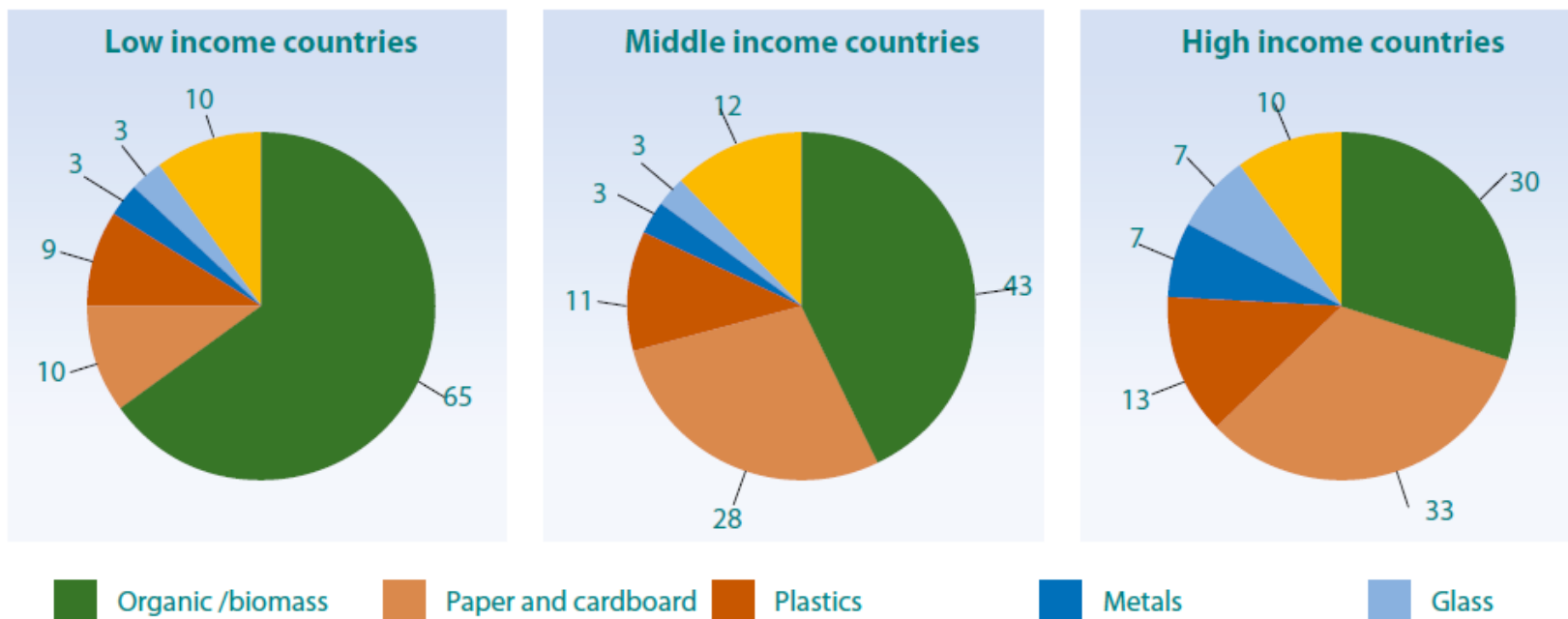
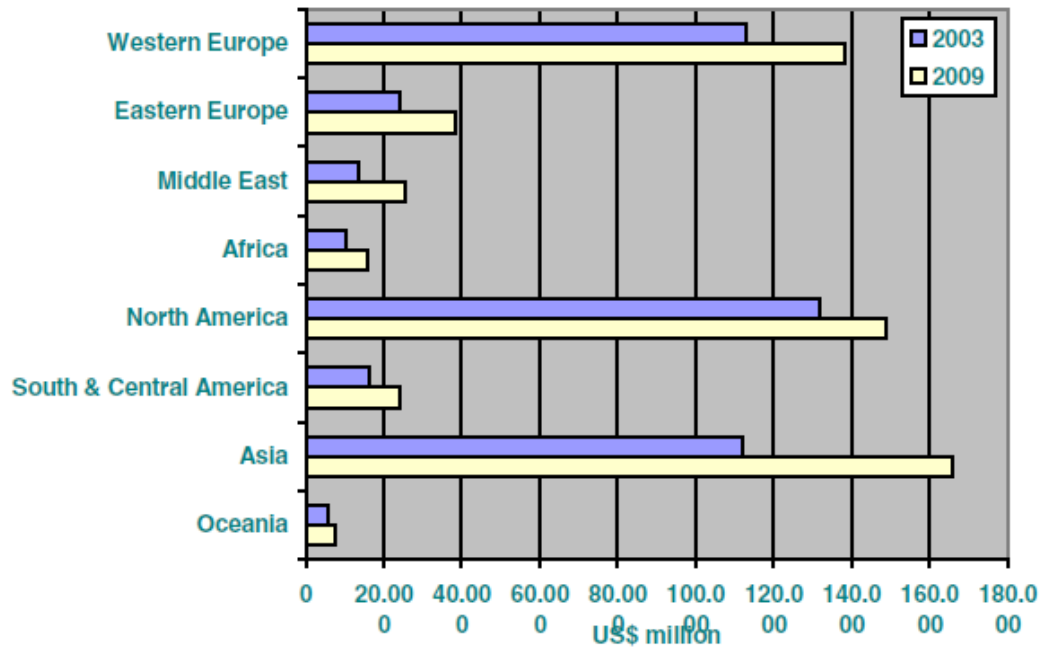


Figure 2: Composition of MSW by national income

Source: Data sourced from Chalmin and Gaillochet (2009) and averaged

The Global packaging market

- ❖ A billion dollar industry
- ❖ Fuels our economic growth
- ❖ Provides jobs to millions of people all over the world



Note: constant 2004 prices in 2009

Source: Pira International Ltd

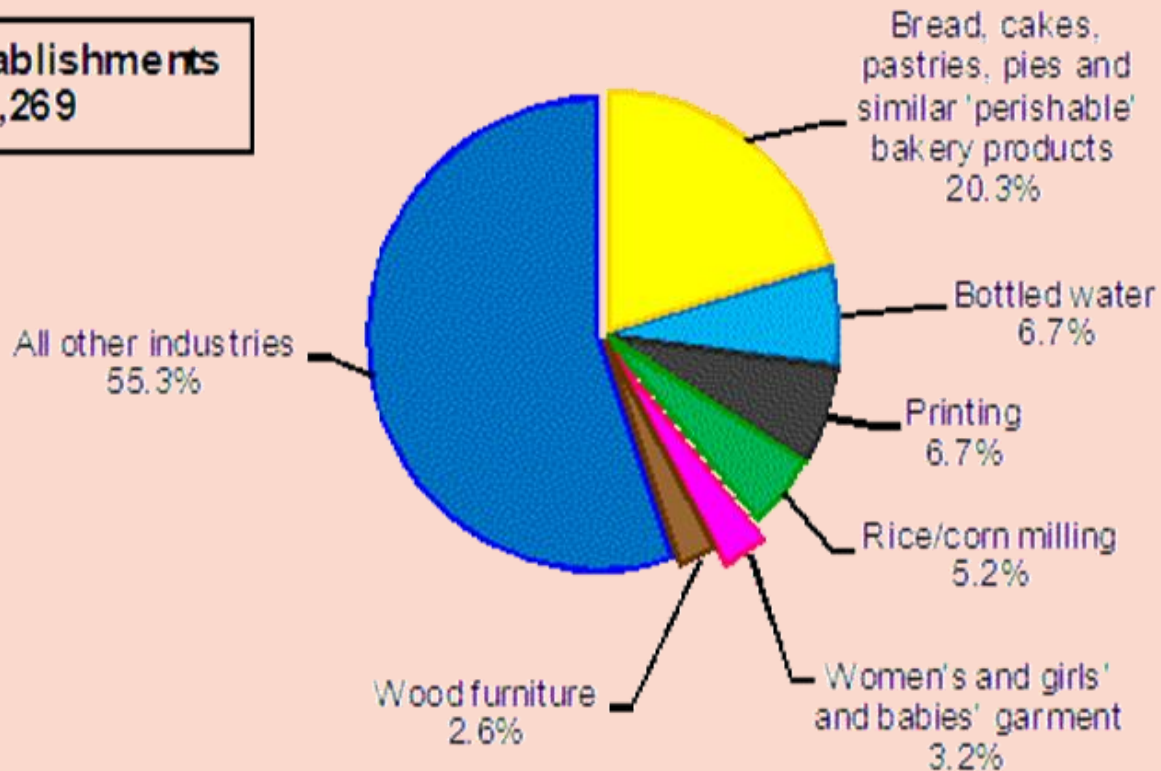
World packaging consumption by region, 2003-09

Philippine Industries

There's a lot of packaging waste involved!

FIGURE 1 Percent Distribution of All Manufacturing Establishments by Industry Sub-Class: Philippines, 2010

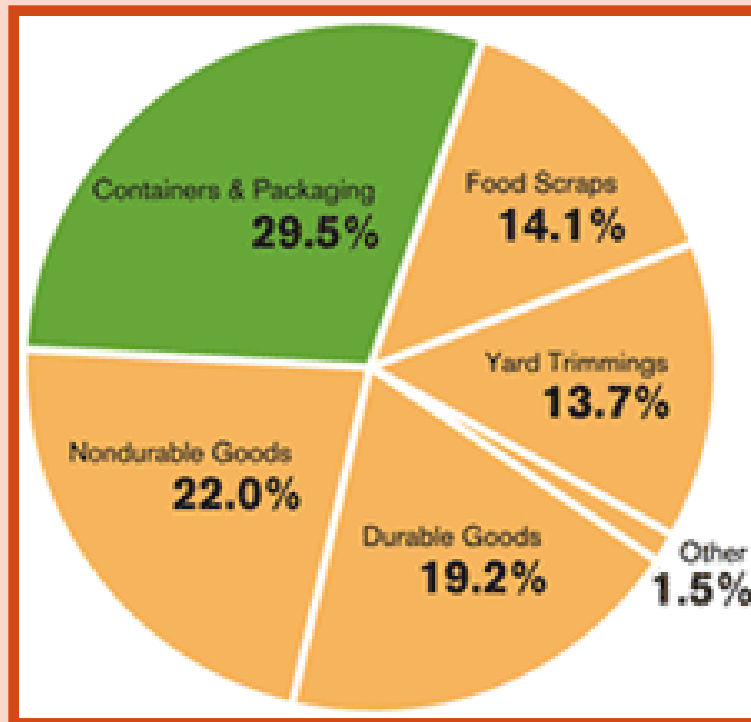
Total Establishments
16,269



Some statistics about packaging waste

United States

- ❖ containers and packaging constituted the largest portion of the municipal solid waste generated in 2009
- ❖ This constitutes about 30%, or about 72 million tons
- ❖ Around 48% was recovered for recycling (EPA).
- ❖ In food packaging alone, Americans discard 570 million pounds each day .

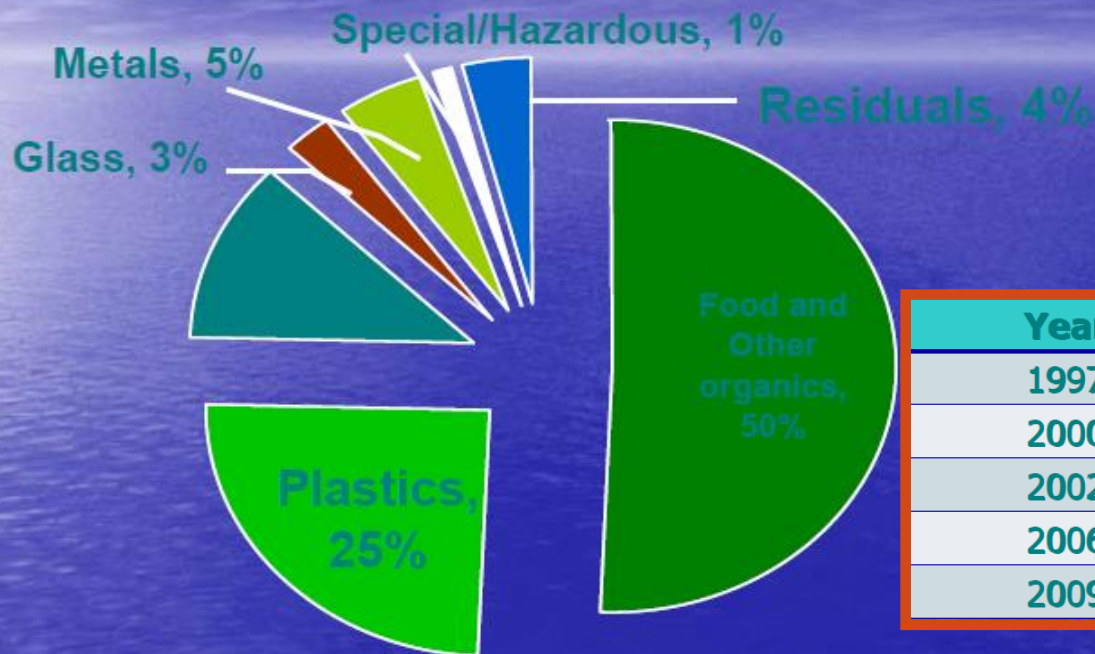


The typical American school-age child generates 67 lbs of discarded school lunch packaging waste per school year. Annually, that equals more than 18,000 lbs. for the average-sized elementary school.

Philippines (Metro Manila)

Current recycling rate in Metro Manila is 40% (Aguinaldo, 2013)

Solid Waste Composition



Year	Recycling Rate
1997	6%
2000	13%
2002	25%
2006	28%
2009	31%

Payatas Sanitary Landfill



Recent composition of waste disposed in Payatas Sanitary Landfill facility

Impacts of packaging waste to the environment

1. Wastage of materials is a waste of water and energy that were used in manufacturing the product.
2. Packaging wastes contaminate our environment. It degrades the air we breathe, the soil that nourishes our plant foods, and the water we drink.
3. It mars the cityscape.



Impacts of packaging waste to the environment

4. Packaging wastes haphazardly discarded end up where they shouldn't – in storm drainage, creeks, rivers, lakes, seas and oceans.



Impacts of packaging waste to the environment



Packaging waste poses a threat to our wildlife

What do we do?

Do we ban packaging materials?



Photo Courtesy of UST Varsitarian (Official publication of the University of Santo Tomas)

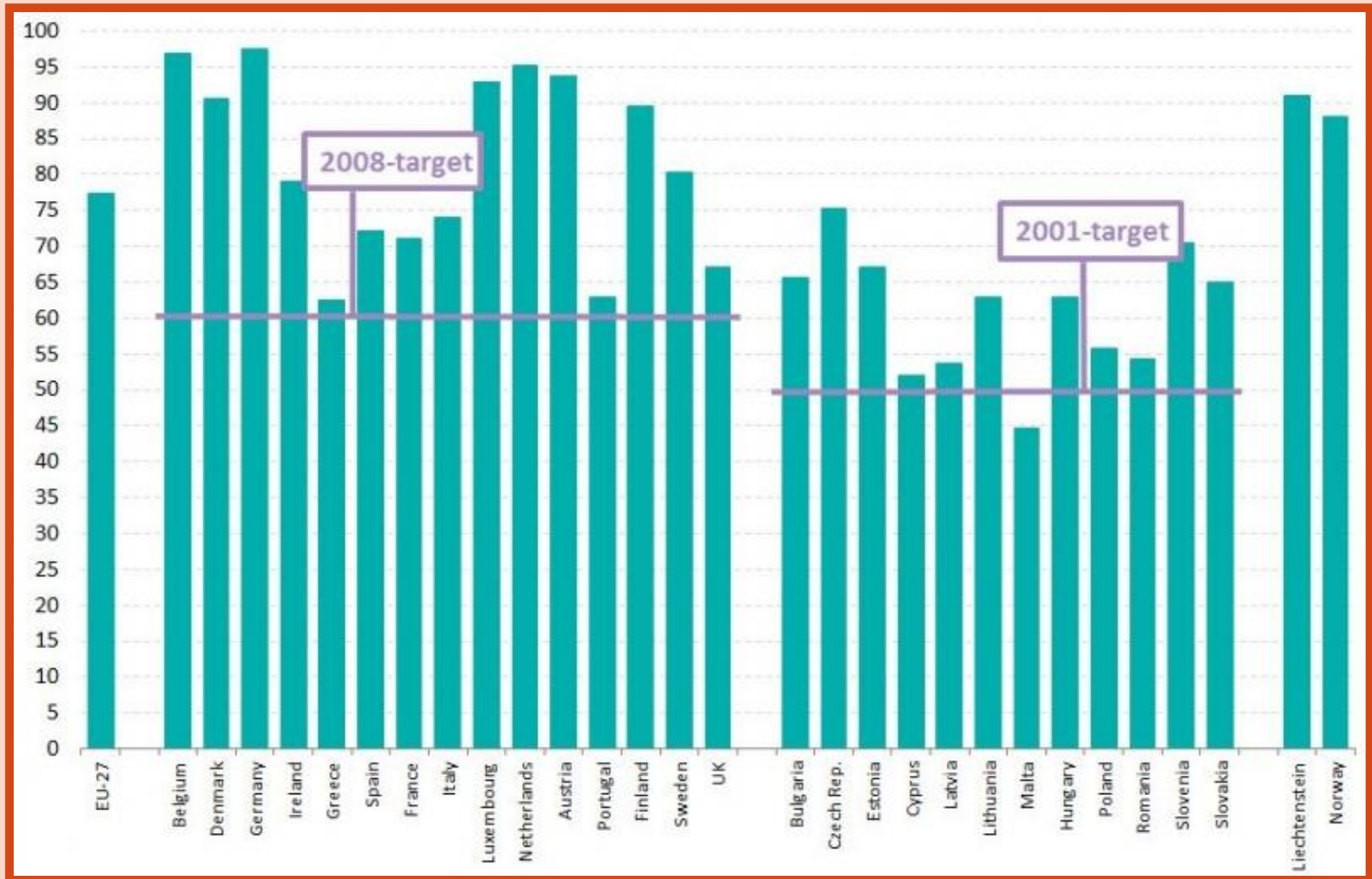
Most
packaging
products are
highly
recyclable



But ignorance on recycling leads to
waste

Europe

Recovery rate for total packaging rate (in percent)



Source: European commission Eurostat (Statistics Explained) Oct 2013 data

Manufacturing best practices

- PPCP or the Polystyrene Packaging Council of the Philippines recovers and recycles polysterene packaging waste
- The Council calls out to further promote the advocacy campaign on recovery and recycling and be able to influence the lives of their own community.



**Polystyrene Packaging Council of the
Philippines, Inc**

**"W recover POLYSTYRENE"
E recycle**

PILIPINAS



**INQUIRIES?
PPCP SECRETARIAT
5220860 / 5219926
www.ppcp.org.ph**



Polystyrene Recovery



- a. Total waste recovered = **90 metric tons**
RF/Waste markets/allied industries: 60%
Local Govt. Units : 40%
- b. Environmental impact areas:
- | | | |
|-----------------------|---|--------------------|
| No. of truckloads | = | 546 trucks |
| Collection savings | = | 3.42 million pesos |
| Landfill cost savings | = | 1.17 million pesos |
| TOTAL SAVINGS >>> | | Php 4.59 million |
| Gals. Of Oil saved | = | 61,740 gal. |
| Kwh of Energy | = | 458,190 kwh |

Industry Initiative : PS collection per LGU (Jan-Dec. 2013)



NCR / MM		Outside MM	
Valenzuela	= 35,885 kilos	Bulacan	= 7,174 kilos
Quezon City	= 34,116 kilos	La Union	= 2,012
Makati	= 5,129	Rizal	= 1,983
Caloocan	= 1,284		
Pasig	= 754		
Manila	= 654		
Mandaluyong	= 648		
Pasay	= 421		
Taguig	= 330		
San Juan	= 217		
Paranaque	= 192		

Source: PPCP Year end report
(Jan. to Dec.. 2013)

Information and Education Campaign (IEC) Activities.



Forums, meetings, etc.



Projects: Exhibits, Contests, Redemption, others



Clean - ups...



Donations...



A JUNK ♻️ COSPLAY
will unwrap this holiday

Inaanyayahan ang mga kabataang makilahok sa unang anime costume contest ng T. I. N. A sa Ika-29 ng Disyembre 2013.

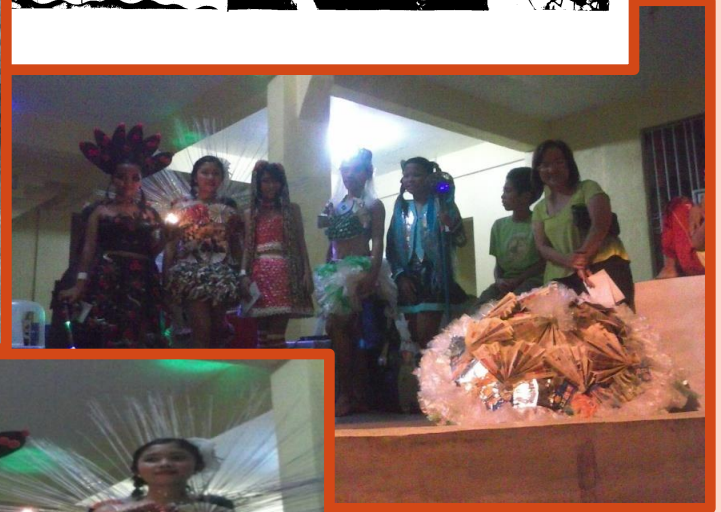

Ipakita ang Inyong "creativity" at natatanging "anime identity" gamit ang recyclable materials para sa inyong "costume play"

Open to all **TABING-ILOG TEENS** (girl / boy / bakla/ tomboy) 13 - 17 years old

Siyempre may premyo! pero secret muna hehehe

kaya **PUSH MO NA YAN** at magparegister please look for **Ate Oyay**

PPCP POLYSTYRENE PACKAGING COUNCIL OF THE PHILIPPINES



Recyclable Art Contests...

The Philippine Plastics Industry Association

Recovers and
recycles plastics



PPIA has been an active supporter of the passage of The Plastic Bag Recycling Act of 2010 for a nationwide plastic bag recycling program.

Photos shared by PPIA

PHILIPPINE PLASTICS INDUSTRY ASSOCIATION, INC.

Congratulation to the Philippine Chamber of Commerce and Industry for the successful holding of the 39th Philippine Business Conference and Exposition (October 22 - 24 2013)



Plastic Industry Initiatives

Plastic Recovery



Forums



Plastic Bag Redemption



Plastics Identification Codes



Media Campaign



Tree Planting

Plastics are 100% Recyclable



Estero Clean-up



Clean-up Drive

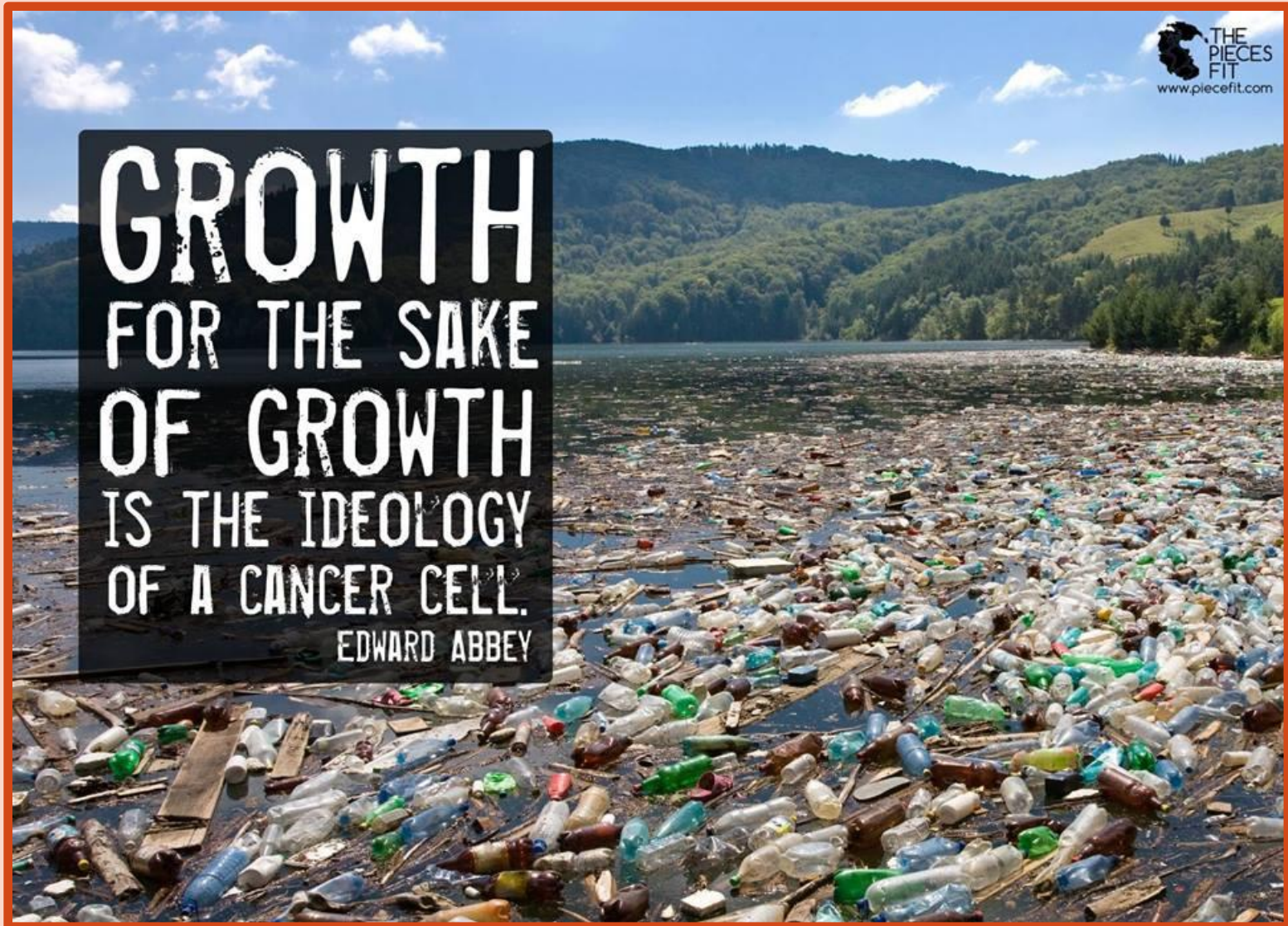
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CONCLUSIONS

- ❖ High income leads to higher consumption of manufactured goods
- ❖ Most goods come in packaging (sometimes multiple)
- ❖ Most packaging end up as waste
- ❖ Packaging waste is an important resource
- ❖ Packaging waste are mostly recyclable materials and are recoverable
- ❖ Recycling of packaging waste helps conserve raw/virgin materials and preserve our dwindling natural resources
- ❖ Proper management of solid waste can lead to zero waste
- ❖ Proper management of solid waste is one of the greatest environmental challenges of all

Economic Growth must consider the Environment in order to be Sustainable



RECOMMENDATIONS

Citizens

- ❖ Must reduce waste generation
- ❖ Must obey the law
- ❖ Must keep themselves from littering
- ❖ Must help protect the environment

Manufacturers:

Recycling is only part of the solution so....

- ❖ Manufacturers must ensure minimization of waste when designing a packaging product to conserve resources (materials, energy, water)
- ❖ Must create a more intensive recovery programs for packaging materials
- ❖ Must stop manufacturing disposable materials but instead produce reusable goods
- ❖ Must partner with communities to ensure packaging waste recovery as part of their CSR

Government:

- ❖ Implement and enforce waste segregation/recycling policies strictly
- ❖ Create a policy for recovery of packaging waste
- ❖ Help open markets for recycling industry
- ❖ Recycling involves everyone, such that...
More intensive IEC is needed to get everyone involved

Let us make efforts
in preserving and nourishing
our home planet, and make our world,
a better place to live in

WHAT CAN YOU DO?

Our home...
Our planet...
Our Earth.

Thank you!

for a greener future

