



**INDIAN CENTRE
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China Bans Waste Imports Cut the Scrap, Says China



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ICPE Mumbai moves to new location

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Editorial



Since past few months Plastics in general and Plastics Carry Bags in particular, have been facing the ire of the regulatory authorities in some states of India. Restrictions in manufacture and use have been imposed in various degrees including, in some case, proposal for complete ban on use of polythene / plastics carry bags.

Though the main target of the regulatory action has been plastic carry bags, there has been visible attempt, in some cases, to declare plastics as dangerous materials! All plastics bags are also in the target zone. One such declaration of one of the State Government

Departments has been reproduced in this issue.

ICPE has, since its inception, represented this issue several times before the Environment Ministry as well as before several regulatory authorities explaining the correct scientific and practical positions regarding plastics in general and plastics carry bags in particular with a reasonably fare degree of success. The response of ICPE to the concerned department has been published in this issue for mass awareness.

While ICPE will continue its efforts to explain the correct position of plastics in the environment by focusing on the scientific facts and figures how plastics are saving our environment from a greater degree of pollution mainly by saving energy and by causing lesser emissions besides other attributes, it will also continue its awareness campaign on proper plastics waste management and providing solution for recycling of plastics waste.

In this issue of Eco-Echoes, we have received an interesting article from another International organization American Chemistry Council, which gives details of environmental benefits achieved by using plastics in various designs in the recently concluded Olympic Games in China.

We welcome comments and suggestions from the readers.

T. K. Bandopadhyay
Editor

Forthcoming Events



INDIA PACK 2008
Organised by
IIP, Mumbai
18th - 21st September, 2008
Mumbai



INDIA CHEM 2008
5th International
Exhibition & Conference
Organised by
FICCI
20th - 22nd October, 2008
Mumbai



PLASTINDIA 2009
7th International
Plastics Exhibition
and Conference
February 4 - 9, 2009
Pragati Maidan,
New Delhi

For more info: Website : www.plastindia.org



Buildings: The Future Is Plastic



In late January, Olympic officials unveiled the new National Aquatics Center (NAC) in Beijing, China. A complex and unique project clad in transparent cushioning, this blue-toned facility has been nicknamed the 'Water Cube' and will host the diving, swimming and synchronized swimming events for the 2008 Olympic and Paralympic Games. Afterwards, it will be converted into a multi-functional facility for sports, culture and recreation.

More than four years in the making, with overseas donations providing funding, the building is one of the largest swimming centers anywhere in the world. The construction of its outer layer of cushioning used more than one million square feet of Ethylene Tetrafluoroethylene (ETFE), a type of plastic with high strength and insulation properties, which has previously been used in the aviation industry and dubbed the "king of plastics."

The Olympic committee reports the project's ETFE air-cushion structures are the first of their kind to be used in China and from the largest and most complicated membrane system in any single project in the world. Blue 'bubbles' in the membrane are designed to showcase the grace of water, but each is strong enough to resist the weight of a car. They also provide high resistance against fire and intense heat.

Also, the NAC's ETFE membrane is self-cleaning. The friction coefficient of the material is low, so dust does not easily attach to it. Any dust

that does manage to gather is washed away by rainwater, which the outer surface and roof facade collect.

And unlike traditional stadium structures, in this case the structure, facade and architectural space are all one and the same. As such, the NAC is designed to act like a greenhouse, absorbing solar radiation and avoiding heat loss. In fact, the double-skin facade of bubbles is so well-insulated, it has the potential to achieve an annual net heat gain.

Another of the environmental advantages in construction was the material's low weight, in comparison with conventional glazing materials with similar lighting effects. This meant less steel was needed to support the structure.

Sealing the envelope

With their specific technical properties, plastics are quickly becoming key to the future of buildings around the world, particularly in terms of energy efficiency. The construction industry has discovered a building's 'envelope' is critical in preventing leakage—not



Beijing's National Aquatics Center, nicknamed the Water Cube, will host swimming and diving events at the 2008 Olympic and Paralympic Games.



Kingsdale School in London, England, was grossly-inefficient until an architectural overhaul added a plastic-based roof for thermal insulation.



just in terms of moisture, but also in terms of heat and air conditioning.

Earlier this year, the Plastics Division of the American Chemistry Council (ACC) presented a study titled 'And the Envelope Says', at the winter meeting of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). The following were some of this study's findings:

- If a U.S. 'big box' retailer replaced its 'dark' roofs nationwide with light thermoplastic membranes, it would save enough energy to provide electricity for 11,000 homes per day.
- During one summer, this would

equal the electricity required to power all of San Francisco, Calif.—both city and country—for two days.

- Manufacturing plastic window frames instead of metal frames saves the U.S. more than four trillion BTUs of energy per year, equivalent to 34 million gallons of gasoline.
- Further energy is saved during the life of the installed windows, due to the plastics' significantly lower thermal conductivity compared to metal.
- Applying plastic 'housewrap' to just one house in the U.S. saves the equivalent of 8,287 gallons of

gasoline over the course of 30 years.

- If all houses built since 1990 were wrapped, it could save energy equivalent to the amount of electricity required to power all of San Francisco (city and country) for 112 years.

The 'Chameleon House' is one example of innovative use of plastics in construction. The building in Northport, Mich., uses a 'skin' of thermally efficient expanded polystyrene (EPS) for insulation and is also wrapped in a screen of polymethyl methacrylate (PMMA), which offers a high level of light transmittance and ultraviolet (UV) resistance. At any given time of day, from different angles, parts of the screen simultaneously reflect, refract and absorb direct light, allowing for a truly chameleon-like multifaceted appearance, along with energy savings.

Companies like NOVA Chemicals are making EPS-based products more widely available for residential use. NOVA's products include recycled content and cut back on construction waste, and they are also being used in partnership with Dietrich Metal Framing—in a joint venture called Accelerated Building Technologies—to design new wall panels for further energy savings. The panels combine EPS insulation with light-gauge steel framing to provide an alternative to traditional 'stick frame' house construction.

Plastics can also help make existing buildings more energy-efficient. Kingsdale School in London, England, was an example of grossly energy-inefficient post-war modernist architecture until it was selected in 1999 for an overhaul.

Source:
americanchemistry. march / april 2008

Encouraging Plastics Recycling

By Jennifer Killinger

“Plastics. Too valuable to waste. Recycle”. That’s the key message of a new campaign that ACC’s Plastics Division recently launched, starting in California.

By focusing on the chemistry industry’s efforts to help reduce litter and marine debris and increase plastics recycling, this solutions-based communications and advocacy campaign should help change attitudes in favour of plastics, in part by emphasizing the benefits that plastics bring to modern life and by addressing concerns. The campaign is designed also to create a more favourable climate for discussing issues related to plastics.

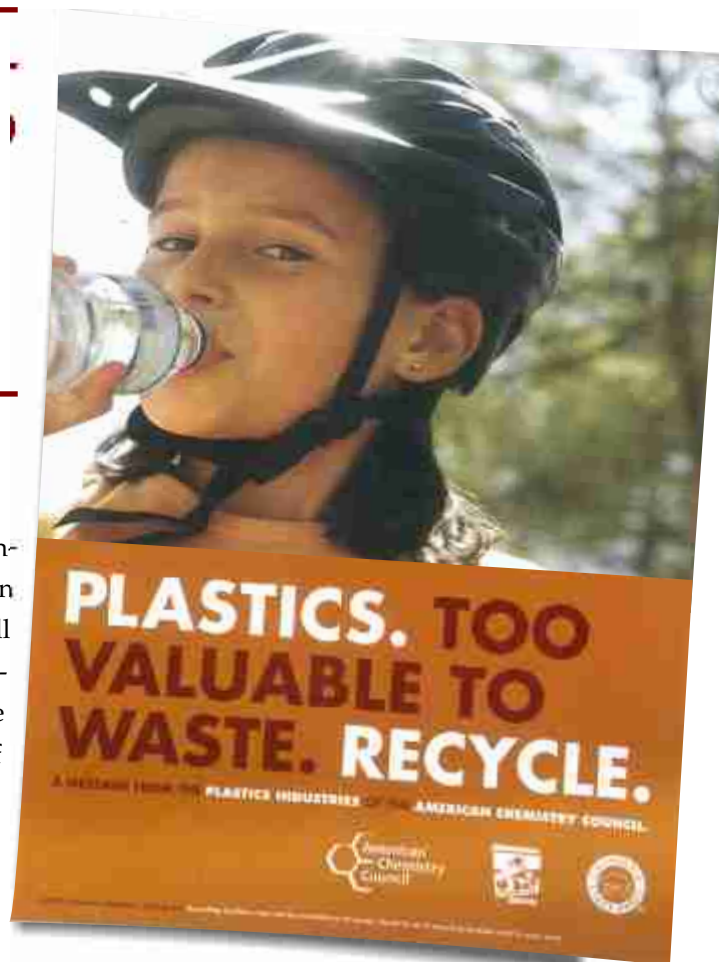
By actively promoting workable solutions, such as expanded recycling and anti-litter education programmes, ACC is demonstrating to state and local officials that plastic bans are not the answer to California’s litter problems.

For this new programme, ACC has partnered with the California Department of Parks and Recreation (California State Parks), as well as Keep California Beautiful, a non-

profit environmental education organization. All three organizations share the common goals of helping to increase recycling of plastics on California’s beaches and keeping valuable plastic material out of trash cans, waterways and the ocean.

Through the campaign, ACC is placing additional recycling receptacles and educational signage on 11 beaches in Los Angeles and San Luis Obispo. The campaign also uses radio and outdoor advertisements—including billboards and bus ads—to help educate consumers about plastics’ benefits and recycling.

“Some of the most readily recyclable products in the world are ending up as litter on our beaches, in our waterways, and on our highways, rather than in the recycling bin,” says ACC Products Division



Vice President Sharon Kneiss. “ We know Californians want to recycle more. This new partnership highlights industry’s commitment to work with government officials, nonprofit organizations and the recycling industry, to help protect the state’s environment for future generations.”

Helping California lead the way

More than 80 percent of U.S. households have access to a recycling programme, such as curbside collection or community drop-off centers. Yet, in most areas, the demand for recycled plastics exceeds available supply.

While California boasts approxi-

mately 2,100 certified recycling centers, many Californians—like many other Americans—still treat plastics as trash, instead of a valuable material that is readily recyclable.

By partnering with California State Parks, which leads the fight to help protect California’s abundant natural landscape, ACC hopes to reach a large and already environmentally aware audience.

“California has long led the nation in addressing environmental issues,” says Steve Russell, Managing Director of ACC’s Plastics Division. “We are excited to work with Californians to be at the forefront of addressing litter and marine debris issues. By drawing increased attention to California’s progressive recycling programmes and creating more opportunities for Californians to recycle, we hope to further extend an already stellar recycling history.”

Indeed, California leads the nation in the total quantity of bottles and cans recycled. In 2006, Californians recycled more than 12 billion beverage containers—an increase of 814 million units, or more than 7.25 percent, compared to 2005.



In February, at Leo Carrillo State Beach in Malibu, Calif., Jean-Michel Cousteau helped launch a statewide beach plastics recycling partnership between the California Department of Parks and Recreation, the American Chemistry Council, and Keep California Beautiful.

With countries like Los Angeles, Santa Barbara, and San Luis Obispo broadening the types of plastics that can be recycled, the opportunities to keep recyclable materials from becoming litter are constantly increasing.

Approximately 76 million people visit California’s States Parks in a year, many of them spending time on the 320 miles of oceanfront property owned by State Parks. Until

now, however, there has never been a widespread public education campaign to encourage park visitors to recycle plastics, instead of leaving them behind or placing them in trash cans.

“California State Parks welcomes the opportunity to partner with the private sector and keep California Beautiful to promote the value of recycling plastics and other materials,” says State Parks Director Ruth Coleman. “This campaign will help to prevent litter on beaches that costs taxpayers dollars to collect.”

Next steps

ACC is exploring the possibility of expanding this plastics recycling campaign to coastal cities in other states, particularly in the northeastern and northwestern regions.

“California has proven an invaluable first step for our campaign,” says Kneiss. “We look forward to using feedback from the initial phase to help us develop successful outreach for other areas”.

Kneiss also emphasizes the role that expanded partnerships will play in the continued development of the campaign. While seeking additional



Campaign Highlights to Date

Marine Debris Solutions Workshop

On November 28-29, 2007, more than 50 representatives from government, academia, industry, and nonprofit organizations attended an ACC-hosted workshop in La Jolla, Calif., to help address the problem of marine debris. Recommendations from this workshop will be used to help direct and expand ACC's efforts in the future. These efforts will include promoting partnerships, developing a national anti-litter education strategy, and increasing recycling.

Aquarium of the Pacific (Long Beach)

ACC has contributed \$ 100,000 toward the development of a permanent exhibit at the Aquarium of the Pacific in Long Beach, Calif., providing educational content about plastics, to help keep them out of oceans and waterways. The exhibit, titled 'Our Watersheds: Pathways to Our Oceans,' is scheduled to make its debut in November.

KLAB Litter Abatement Programme

ACC is providing \$ 300,000 in funding over two

years to help support Keep Los Angeles Beautiful's (KLAB's) development and implementation of a new Los Angeles-based litter abatement programme.

Marine Debris Research

In cooperation with National Oceanic and Atmospheric Administration (NOAA), ACC is sponsoring research to help increase scientific understanding of marine debris. Using scientific sampling methods, this research will help to more accurately assess plastics and marine debris in the Pacific Ocean. The result will be published in a scientific journal.

Operation Clean Sweep Programme

Working with the Society of the Plastics Industry (SPI), ACC is promoting a series of best practices to help companies prevent the uncontrolled release of plastic pellets into the environment, where they can make their way into oceans and waterways. More information about Operation Clean Sweep is now available online at www.opcleansweep.org.

opportunities to partner with state and local governments and nonprofit groups, ACC plans to enlist the participation of plastics industry employees through the development of an employee ambassadors programme.

Beginning this spring, the employee ambassadors programme will reach out to engage a national network of plastics producers and processors, starting in key legislative areas where local support is critical to the industry.

"We hope to create opportunities

nationwide for people to educate themselves about the value of plastics," says Russell. "Too often, people have had neither the information nor the opportunity to recycle these valuable materials and are incorrectly assuming them to be environmentally unfriendly. In fact, plastics are some of the most environmentally friendly materials available, but we need the public's help. We look forward to increasing public awareness of the value of plastics and helping lead the way on this important issue."

Update

ACC's bins on beaches campaign has extended to 19 beaches in 5 areas: Los Angeles, San Louis Obispo, San Diego, Monterey and Santa Cruz. In all, ACC has placed 529 new recycling bins, including 204 permanent bins and 325 term-limited bins, in tourism hot spots on California's shoreline.

Jennifer Killinger is Director of Industry and Consumer Outreach for the Plastics Division of the American Chemistry Council (ACC). For more information, visit www.americanchemistry.com/plastics.

Source:
americanchemistry. march / april 2008

Response to the Advertisement by Government of NCT, Delhi

Department of Environment, Government of NCT, Delhi issued an advertisement in the 29th July, 2008, issue of a leading daily newspaper in Delhi titled - "Plastic Kills, Avoid it". The text part of the advertisement cautions the residents not to use plastic bags.

In 2007, also the same Department had released a similar advertisement titled - "Plastics are choking our Environment" in leading dailies (Ads shown here).

While Plastics Industry had expressed its concern regarding such misleading advertisement by an important Department of a State Government, ICPE also had submitted a rebuttal against such misleading information. ICPE response to the 2007 Ad is reproduced in this issue; an appropriate response to the 29th July, 2008, Advertisement would be released in the next issue.



1. Excerpts from the Policy Resolution for Petrochemicals, Ministry of Chemicals and Fertilisers, Department of Chemicals and Petrochemicals, as published in the Gazette of India: No. 116, dated 30th April, 2007:

- "The twentieth century remains witness to the invention of one of the most versatile commodity material in the history of material science i.e. synthetic polymers, also known as plastics. Petrochemicals, which comprises of plastics and host of other chemicals are downstream hydrocarbons derived from crude oil and natural gas. These hydrocarbons are a valuable resource and constitute vital raw materials for industrial development. The downstream petrochemical products permeate our daily lives in almost every aspect. The value addition in the petrochemicals chain offers immense possibilities and caters to the needs of textiles and clothing, agriculture, packaging, infrastructure, healthcare, furniture, automobiles, information technology, power, electronics and telecommunications and a host of other articles of daily and

specialized usages."

This policy document aims to:

Increase the domestic demand and per capita consumption of plastics and synthetic fibres.

(Part of PREAMBLE, Clause 1)

- Plastics are lightweight and save energy in their manufacturing and transportation. It also provides cost effective substitutes for the conventional and natural materials. Plastics can replace high value metals or wood in various applications...

(Development of Plastics Applications, Clause 4.5)

- A policy that aims to increase the per capita consumption of plastics must also devote attention to issues related plastics waste disposal and its effect on environment. **Plastics conserves natural reserves like wood, metals etc. Plastics are recyclable per-se and (are) not harmful to the environment...**

(Plastics and Environment, Clause 4.8)

Whereas the National Policy as per the Gazette of India document dated 30th April, 2007, declares that "Plastics are not harmful to the environment" and "aims to increase

the consumption of plastics", it is beyond logical understanding how the Govt. of NCT, Delhi declares, "Plastics are choking our Environment-Stop using and dumping plastics"!

2. The study of Life Cycle Analysis of plastics in packaging in terms of cradle-to-grave approach, conducted by IIT, Delhi, for specific packaging material, glass vs. plastics, jute bags vs. plastic film bags, tin cans, vs. plastic cans concludes that:

"Though plastics are relatively newcomers, their use in packaging of Milk / Atta / Lube Oil commodities adhere to the basic tenets of sustainable development more than alternative materials like glass, jute and tin, if one considers the consumption of energy and emission of gases.

An analysis of the comparable life cycle with conventional materials clearly shows that plastics are economically affordable, socially acceptable and environmentally effective. From the study we can claim that the overall loss to the environment from plastic pouches is

less than that from alternative materials.

The need of the hour however is, educating the public about what to do with the plastics waste and how to dispose of it for recycling”.

3. In 1986, the D. V. Kapoor Committee on Perspective Planning of the Petrochemical Industry as conducted by the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Government of India, detailed the studies were made on the advantages and economics of plastics in various applications vis-à-vis alternate materials, including case studies on Low Density Polyethylene (LDPE) pouches vs. glass bottles and PVC pipes vs. GI and CI pipes.

The study clearly showed that plastic (LDPE) pouches was a saved capital and operational cost and also conserved energy and fuel resources substantially, both during the manufacturing stage as well as during transportation of the end product to the destination.

The same committee also analyzed and compared different materials for packaging of edible oil / vanaspati viz. tin plate containers, HDPE rigid containers and multilayer flexible film. The use of plastics showed a substantial saving in cost and lesser burden on the environment in terms of lesser use of energy.

4. A Life Cycle Assessment Study, conducted by Price Waterhouse Coopers / Eco balance, initiated by an international leader in retail chain in France-CARREFOUR Group, revealed the following with respect to Waste, Energy Consumption, Green House Gas Emission:

- Plastic bags generate 60% less Green House Gas Emissions than uncomposted paper bags and 79% less Green House Gas Emissions than

composted paper bags. The plastic bags generate 3097 tonnes of carbon-di-oxide (CO₂) equivalence per 100 million bags: while uncomposted paper bags generate 7621 tonnes and composted paper bags generate 14558 tonnes per 100 million bags produced.

- Plastic bags consume less than 4% of the water needed to make paper bags. It takes 5,527 cubic metres of water to produce 100 million plastic bags vs. 1,45,729 cubic metres of water to produce 100 million paper bags.

- Plastic grocery bags consume 40% less energy during the production and generate 80% less solid waste than paper bags.

- Paper sacks generate 70% more air pollutants and 50 times more water pollutants than plastic bags.

- It takes 91% less energy to recycle a pound of plastic than it takes to recycle a pound of paper.

- The manufacture of paper bags consumes three times more water and emits around 80% more green house gases than the production of plastic bags.

The issue is not plastic bags, but rather finding ways to reduce, reuse and recycle it and to find scientific and effective waste management options.

5. Clarifications given by the Govt. of India in the Parliament:

5.1 During the Question Answer sessions, both in the Lok Sabha as well as the Rajya Sabha, on Questions related to Plastics and the Environment, the Government of India made repeated declarations that “plastics by themselves are not harmful”. Only the indiscriminate littering of plastics and environmentally unsound recycling practices have the potential to cause adverse impacts on the environment.

(Reference:

1. Answer (a & b) to the Unstarred

Question No. 1096 answered on 01.12.2006 in the Rajya Sabha.

2. Answer (c) to the Unstarred Question No. 1877 answered on 09.12.2005 in the Rajya Sabha.)

5.2 During the answering of the Starred Q. No. 362 on 18.12.2006 in the Lok Sabha on “Whether the Government has assessed the adverse environmental effects of plastic bags,” the Minister in the Ministry of Environment and Forests, declared the following:

“Plastics are generally chemically inert and so used for the manufacture of a large number of consumer items including bags, personal care products, in packaging foodstuffs, medicine and child care products etc.” A monograph entitled “Plastics for the Environment and Sustainable Development” was published in 2003 by the Indian Centre for Plastics in the Environment, (ICPE), Mumbai and the Central Institute of Plastics and Technology, (CIPET), Chennai and an autonomous institution of the Ministry of Chemicals and Fertilisers, which comprehensively assesses issues concerning the sustainability of plastics as materials and their impact on the environment.” Unquote.

The study has revealed in the said monograph reveals that plastics are environmentally beneficial and sustainable materials. The book also deals with an approach with the scientific waste management and recycling of plastics.

6. For manufacturing Plastic Tiffin Boxes, generally Polypropylene (PP), Polyethylene (PE) and Polystyrene (PS) are used. All these plastic materials are approved by the Bureau of Indian Standard (BIS) for use in direct contact with ready-to-eat foodstuffs.

How the Govt. of NCT, Delhi advise general masses not to use plastics as Tiffin Boxes ?

GSPMA School Awareness Programme



Mr. Anupam Desai, RIL is displaying the ICPE School Book, while Mr. Navin Trambadia, President GSPMA looks on.

Gujarat State Plastics Manufacturers' Association had organized an Awareness Programme for school students, to educate and encourage them to keep the Environment clean, on 1st August, 2008 at Anand Niketan School, Ahmedabad.

About 960 students from Class II to IX, attended the programme in 5 sessions. The programme started with a brief introduction by Shri. Navin Trambadia, President, GSPMA. He informed students about GSPMA's aim of coming to school to provide information to students about a proper waste management system. This was followed by screening of an educational CD on this subject and a Questionnaire session, which was the

longest. Mr. Anupam Desai of Reliance Industries Limited, representing ICPE, attended the session and answered the technical questions. ICPE had provided schoolbooks for distribution and screened the awareness film "Living in the Age of Plastics".

Mr. Tushar Parikh, Chairman, Tech. Seminar Comm., handled the session. It was very encouraging that each and every student from II & III std. had a question and that too, on relevant issues. A few of the faculty members were also under the impression that Plastics were harmful to the society. But the team was successful in explaining them with several examples, and clearing such myths about plastics.

The Principal, Trustee and staff of

the school confirmed that they would keep separate dustbins for wet and dry waste. The trustee requested GSPMA to provide separate bins to the school for collecting waste. He informed that whatever income was generated by selling the plastic waste, would be utilized for buying books related to plastics for the school library. They took special interest in the programme and participated and motivated students to implement the suggestions in day-to-day life. Mr. Kamal Mangal, Trustee, had announced to keep a Quiz and Painting competition on this subject, in the school in the coming days. He made the students realize that Plastics are not harmful but the way we dispose it after use, is not proper. So it is we, the citizens, who are at fault. The session ended with a distribution of gifts and booklets to the students.

A beautiful card was prepared by the students with the words, "WE SAY YES TO PLASTICS". GSPMA requested PLASTINDIA and ICPE to take this School Awareness Programme on a wider scale, all over India, as it is very important to take this matter urgently on a National as well as Regional level.

ICPE assured continuing its support and assistance in conducting more such school programmes.



GSPMA team is making the Awareness Presentation to the Students.

Awareness Programme at Happy Public School, Daryaganj, New Delhi

An awareness programme on “Plastics and the Environment” was held at Happy Public School, Daryaganj, New Delhi, on 1st April, 2008. Around 400 students of class 6th, 7th and 8th attended the programme. Teachers of all these classes also were present.

The programme was initiated with an introduction by the school faculty and ICPE. Ten students were divided into two groups of five students each, which alternatively spoke both about the benefits that plastics have provided to the modern world as well as the menace caused by littering and the irresponsible use and disposal of plastics. The students stressed on the responsibility of every citizen in protecting the environment and maintaining clean ambience in towns and cities.

This was followed by a presentation by Ms. Savita Pradeep, Technical Manager-ICPE, on Plastics and Waste Management. The presentation covered the various applications of plastics; Comparison of plastics



Students of Happy Public School are participating in the Awareness Programme.

with paper, glass and metal; Resource conservation; Myths and Realities of plastics; Garbage segregation and bin culture; various methods of recycling of plastics and glimpses of waste management projects of the ICPE. The presentation was followed by a question and answer session. ICPE awareness films were shown to the students. Prizes were awarded to the best three speakers among the ten students who presented their views on waste

management and mementos were distributed to the participants. Awareness booklets (It's My World) were distributed among all the students. Samples of products made out of recycled plastics, and panels and awareness booklets on plastics and the environment, were also on displayed to the students.

The school faculty was appreciative of ICPE's efforts in waste management and in generating awareness among the students.





Environment Day Celebration



Dr. Quadros of WWF (3rd from left), Mr. T. K. Bandopadhyay, Prof. (Mrs.) Mulwad, Dr. (Mrs.) Thakur and Dr. Sahu are seen with the students of the Institute.



Prof. (Mrs.) V. V. Mulwad, Director of the Institute, is addressing the gathering. Dr. Sahu and Dr. (Mrs.) Thakur are also seen in the picture.

Three Mumbai based ENVIS Centres - ICPE, NASWAI (National Solid Waste Association of India) and WWF, assembled together with Institute of Science, Mumbai to celebrate the Environment Day - on 5th June, 2008 in the Campus of the Institute. Dr. Seema Misra Thakur, head of the Environment Department, together with the students of the Department had organized an Workshop where several environmentalists and NGOs were invited.

Prof. (Mrs.) V. V. Mulwad, Director of the Institute, graced the occasion. Dr. Amiya Kumar Sahu, Director of NASWAI, Dr. G. Quadros of WWF and Mr. T. K. Bandopadhyay of ICPE made presentations and interacted with the invitees.



Mr. T. K. Bandopadhyay of ICPE is making a presentation.

Community Awareness Programme

A Mumbai based NGO - Omkar Sanghatit Mahila Mandal, had organized a Community Awareness programme on the occasion of Environment Day in Mankhurd area of the suburban Mumbai. The NGO had selected Plastics Waste Management as one of the issue for the Awareness Campaign. ICPE supported the activity by providing awareness materials on plastics waste management and also screened ICPE film - "Living in the Age of Plastics" in local language. The common mass in the locality were benefitted from the campaign.



China bans waste imports

China has imposed a ban on the import of waste plastic bags and films, and restriction on the raw material waste imports of a range of plastics packaging materials, from March 2008.

Declaring that it will never allow 'foreign garbage' into the country again, the State Environment Protection, Administration, Ministry of Commerce, National Development and Reform Commission, General Administration of Customs and the State Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), recently jointly announced the release of two revised catalogues for imported waste materials.

Under Notice 2008 No. 11, the two catalogues (1st dated: December 1996) - Catalogue of Solid Waste Prohibited from Import (2004) and Catalogue of Solid Waste Restricted from Import (2004) - have been updated (December: 2006) to include extensive lists of waste material imports to be banned or restricted from 1st March, 2008, including a range of both, plastic and paper material waste imports.

Used plastic bags, plastic films and plastic nets, which China used to import in large quantities, were not listed in previous banned imports catalogues. According to the notice, they will 'not be imported into China any longer'.

In a separate statement, AQSIQ said that it was essential for the wellbeing of the people and future generations that China exercised its sovereign power to create 'policies of strong work' to tackle this matter. "Environmental protection is one of our country's basic national policies. As such, the state attaches great importance to the protection of the environment and pollution control,

and waste management."

Pointing to waste imports as a major contributing factor to China's pollution, AQSIQ added: "There was a time when, due to various reasons, some unscrupulous traders and foreign mercenaries imported toxic and hazardous raw material waste, which they called 'trade waste', into China. This resulted in a number of serious environmental pollution imported waste incidents.

"At present, China is making great efforts to resolve its environmental problems, and will never allow developed countries and regions to use our country as a dumping waste site for toxic and hazardous. We will never allow 'foreign garbage' into the country."

Under Notice 2008 No. 11, the list of banned/restricted plastics waste imports are as follows:

Catalogue of Solid Waste Prohibited from Import:

- Used waste plastic bags
- Used waste plastic film
- Used waste plastic 'nets' (web).

Catalogue of Solid Waste Restricted from Import:

- Ethylene polymer scrap waste and processed scrap waste ethylene polymer
- Styrene polymer scrap waste and processed scrap waste ethylene polymer
- Vinyl Chloride polymer scrap waste and processed scrap waste chloride polymer
- Polyethylene Terephthalate (PET) polymer scrap waste and processed scrap waste PET polymer
- Polycarbonate polymer scrap waste and processed scrap waste

polycarbonate polymer

- Other plastic polymer scrap waste and processed scrap waste plastic polymer.

Despite the inclusion of waste plastic bags in the Catalogue of Prohibited Imports, this restriction has been issued separately from the 1st January 2008 State Council Notice on the Restriction of Production, Sale and Use of Plastic Shopping Bags, and is part of China's overall Master Plan for the packaging industry, which stresses effective resource utilisation and energy recovery.

Under the Master Plan, known as The Method of Administration for Recycling Packaging Materials, all packaging materials must be recyclable, reusable, compostable or energy-recoverable.

Post-consumer flexible packaging, plastic bags and plastic films are generally deemed to be inefficient in the recycling process as they use more energy to recycle than the material contains. Therefore, the most efficient way of dealing with it would be incineration.

However, China has limited incineration facilities, and a surplus of scrap material to be incinerated, and has no need to import low-value scrap from other countries.



Cut the scrap, says China

When *Plastics in Packaging* exclusively revealed China's economic Master Plan early this year (January 2008, p10), it was inevitable that announcements of various legislative changes would trickle out of the different Chinese government departments over the following months.

China's goal of an all-round well-off society by 2020 means that its environmental polices will need to be more innovative than anything now in place in Germany, Japan, or elsewhere.

An early announcement in its Master Plan is the banning of waste imports from everywhere, even Hong Kong.

PlasticScene found confusion in media reports, some of which associated the waste import ban with China's recently introduced plastics bag standards covering the manufacture of bags above 0.025mm inside China. To clarify the ban, based on *PackWebasia.com's* direct translation from the Chinese notice, waste plastics bags, films, and 'web' refers to used plastics bags, films, and 'web' – which in Chinese is defined as "sorted out from the garbage collected from households or from the 'lifestyle rubbish' (general waste collected from anywhere)". It also applies to films used for agricultural purposes.

It applies to all sort of bags: big ones, small ones, carrier bags, but not just bags – as long as it is waste plastics, it's not allowed into the country. In addition, the original catalogue includes asbestos-containing waste, burned/partially burned waste plastics, plastics containers and airtight containers. All are banned whether in flake, massive, granular or powder form.

The 'restricted' categories are not an instruction to industry about how it may use these materials but an instruction to customs officials. As one of the few journalists to read the Notice, *AsiaPhile's* Stuart Hoggard questions why, if the items can only make up 0.01 per cent of the total weight of the waste plastics imported, they aren't banned altogether. The answer is that in a shipment of

100,000 tonnes of plastics, if a very small quantity of restricted items is found, the whole cargo will not be impounded – otherwise it runs the risk of being seized. It gives China's inspection agencies some latitude.

Should Europe be worried?

Until now, it has been cheaper for China to collect waste from imports than to collect from inside its own country. By forcing producers to do their own self collection, China is pursuing the credentials of its Master Plan, which are that everything has to be recoverable, recyclable, or compostable. Producers, at the moment, clearly don't have facilities for collection in China, so a whole infrastructure will have to be built from the ground up, which offers great opportunities, since they are permitted to 'assign' this liability to either a company or 'association' (none of which yet exists). Incinerators will also need to be built, as China only has about three that can sequester the gases produced. Initial reports in Europe centre on the effect that the ban could have on European industry's global competitiveness and whether this means that some countries will fail to meet their EU waste obligations.

Norbert Voll, press spokesman for Der Grüne Punkt – Duales System Deutschland (DSD), said his company was not concerned and that Germany would not have any problems reaching its recycling targets. He told *PlasticScene*, "Most of the plastics recycled by DSD are treated in Germany or EU countries, with only a very small amount exported to Asia. Most of the PET bottles in Germany are not recycled by DSD because of the deposit scheme. However, there are capacities to recycle PET bottles in Germany as well as in the EU ready to take over the material now being exported to China. Experts say prices for recycled plastics could fall because of the decreasing demand, but we are quite sure the Germany market can take over even more plastics than it does today."

What is interesting here is that the company refers to only recycled and treated plastics. However, recovered processed and raw plastics are covered in the notice; China doesn't care that it was treated in Germany.

According to INTRACEN/WTO statistics in 2005, Germany was the largest EU exporter of plastic waste, parings and scrap an astonishing \$223.99 million.

From the Asian and Chinese perspective, the EU has been preaching from the conservationist moral high ground, while all along quietly shipping its scrap to poor countries. The question now, says Hoggard, is: "Will the EU stay true to the "spirit" of its own legislation, or will it find another country to dump its waste on?"

What's next?

This legislation is part of China's plan to revamp its entire economy. The country has been labelled a heavy emitter of greenhouse gases, but per capita, it is a lower emitter than the US. By saying 'enough is enough' on waste imports, China has nailed its green colours to the mast on resource conservation and environmental protection.

But don't be fooled into thinking that this has anything to do with the upcoming a China Olympics. Hoggard explains: "It is a classic Western assumption that China is trying to clean up its image, how does banning shipments of Euro scrap help clean up China's image?"

The bigger picture is that China is revolutionising its entire national economy under the 'Cycling Economy Law 2002', a model which holds that 'The waste from one process becomes the feedstock of another', meaning literally: Every process, every where.

But what's next on China's agenda? There have been hints in the letters pages of the Chinese media, by 'concerned citizens', calling for an environment tax. What will it be? Let's wait and see.

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