

# VIETNAM NATIONAL STRATEGY FOR WASTE REDUCTION, REUSE AND RECYCLING UNTIL 2030

*(The Zero Draft)*



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# Legal Background and the Strategy

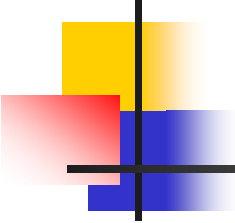
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*3R has been introduced and emphasized in umbrella policies:*

- Viet Nam Agenda 21
- National Strategy on Environmental Protection to 2010 with vision toward 2020
- Law on Environmental Protection 2005

The **National Strategy on Waste Reduce, Reuse and Recycle to 2030** has been being developed and reached to the Zero-Draft with supports from:

- *Ministry of Environment of Japan,*
- *United Nations Centre for Regional Development*
- *Institute for Global Environmental Strategies*
- *Asian Development Bank (ADB)*



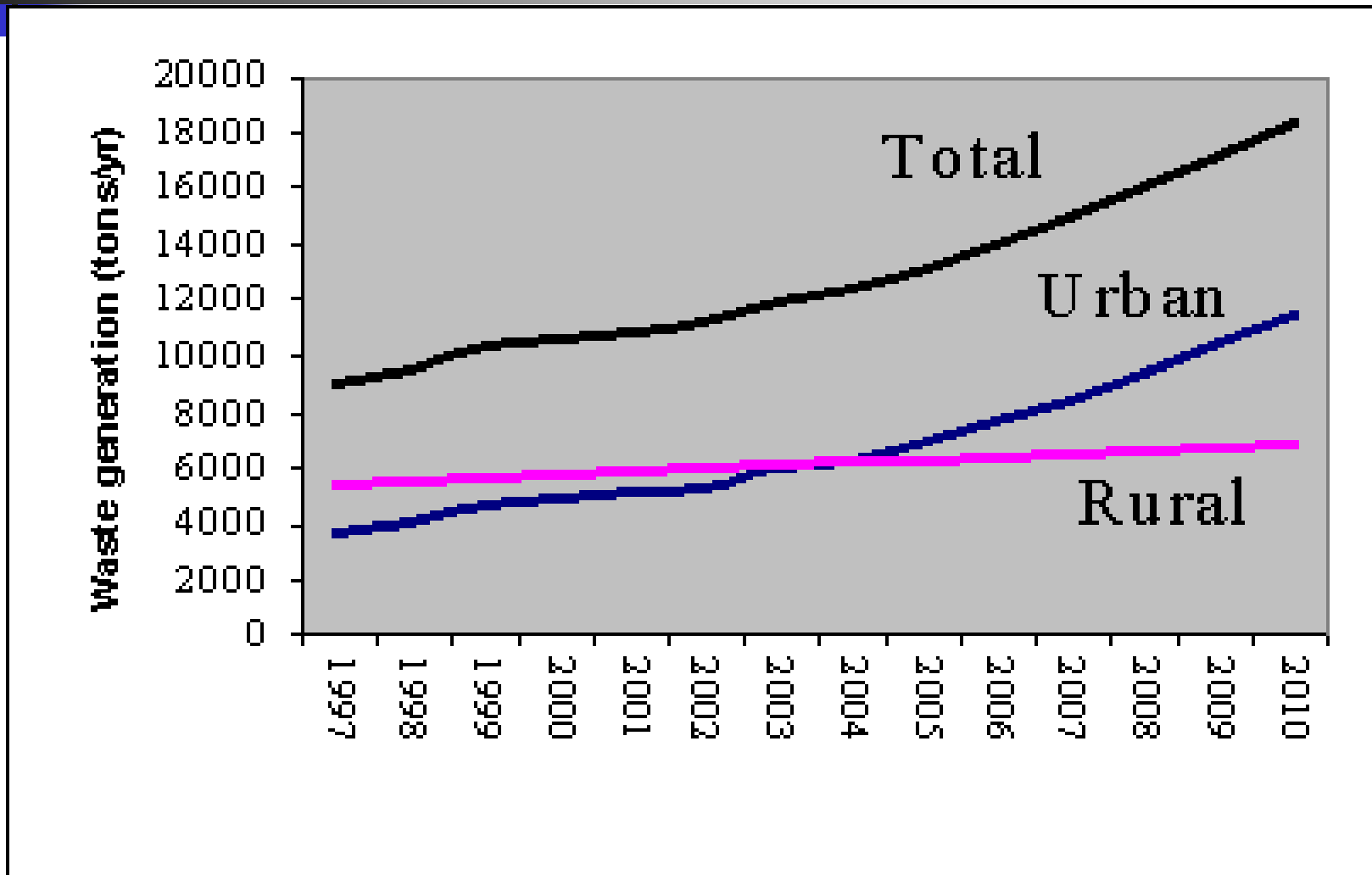
# Current Waste and 3R Situation in Vietnam (1)

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## 1. Current waste situation

- **Solid waste:** 15 million tons, including about 250,000 tons of hazardous wastes → still mainly landfilled
- **Wastewater:** 3,100,000 m<sup>3</sup> per day and night; including 64% from households, 32% from industries and 4% from hospitals
- **Air pollutants emissions:** The volume is rapidly increasing, even higher than the standard level sometimes

# Municipal Waste Generation Forecast (by WB 2004)





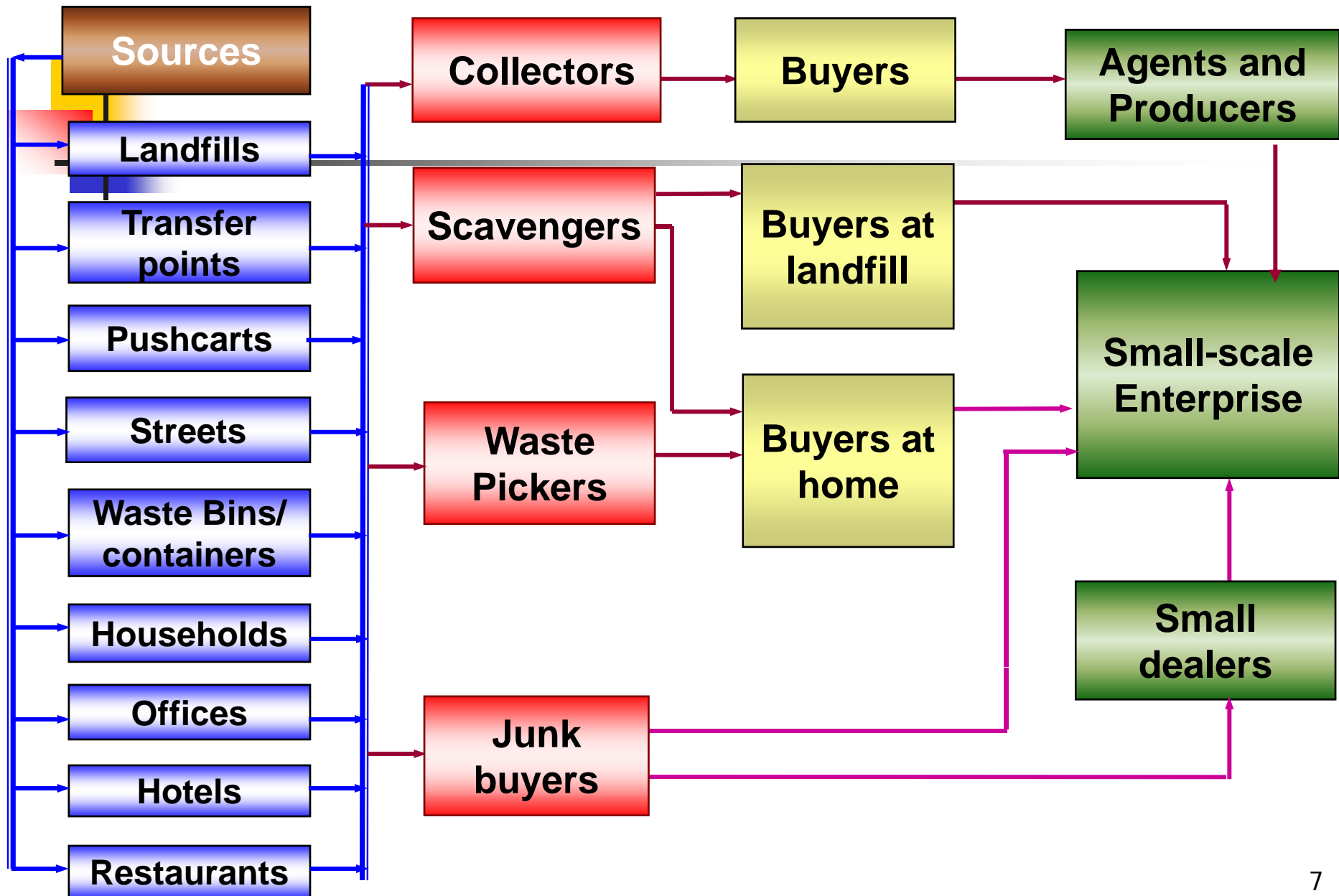
# Current Waste and 3R Situation in Vietnam (2)

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## **2. Current 3R situation: 3R activities in Viet Nam is fragmented, incoherent and lacking national orientation**

- 3R is an informal activity: There are many garbage-collectors, who collect and sell recyclable wastes for recycling
- These recyclables (papers, plastics, metals,...) are collected and transported to craft villages for recycling in small-scale industries (Minh Khai, Chi Dao, ect...)
- There is no sorting at source as required by LEP 2005. Only two projects is being implemented in Hanoi and Hochiminh city

# The typical mode of recycling solid waste in Vietnam



## Recycling in Craft Villages

Materials recycled	Inputs to recycling production (tons/year)	Products (tons/year)	% recycled
Plastics	25,200	22,900	90.9
Paper	51,700	45,500	80.0
Metals	735,000	700,000	95.2
<b>Total</b>	<b>811,900</b>	<b>768,400</b>	<b>94.6</b>

**Source:** *INEST, 2003. Project KC08-09*

<sup>7</sup> *CENTEMA 2002*

<sup>8</sup> *JICA (2001) The Study on Sanitation Improvement Plan for HaiPhong City in the Socialist Republic of Vietnam*

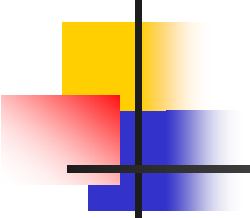
<sup>9</sup> *Le Minh Duc, 2004. Consultant report based on MOI survey 2002-2003, submitted to WB*

<sup>10</sup> *WB staff estimate based on data from 9 URENCOs, assuming the cost for disposing non-hazardous industrial waste is \$ 10/ton, the same as for municipal waste.*



## Status of selected Centralized Composting Facilities in Vietnam

Location of Facility	Capacity, tons/day	Opened	Source of Organic Waste	Status
Cau Dien, Hanoi <sup>1</sup>	140	1992; expanded in 2002	Market and street waste	Operating. Sell three products with different quality for 800, 1200, and 2000 VND/kg
Nam Dinh City <sup>1</sup>	250	2003	Mixed municipal waste	Operating. Compost provided to farmers free of charge
Phuc Khanh, Thai Binh <sup>1</sup>	75	2001	N/A	Operating.
Viet Tri City, Phu Tho Province <sup>1</sup>	35.3	1998	N/A	Operating. Sell 3 products with different quality 200, 250, 900 VND/kg
Hoc Mon, Ho Chi Minh City <sup>1</sup>	240	1982; closed 1991	Mixed municipal waste	Closed due to difficulties in selling compost
Phuc Hoa Tan Thanh, Baria-Vung Tau <sup>1</sup>	30	N/A	N/A	Operating.
Trang Cat, Hai Phong City <sup>2</sup>	50	2004	Septage, sewers, mixed municipal waste	Trial period



## Price of selling the recycable materials

N°	Recycle Materials	Unit	Unit prize (VND)
1	Aluminum	Kg	14 000
2	Copper	Kg	14 000
3	Plastic	Kg	1 000 – 3 500
4	Iron	Kg	500
5	Plastic bags	Kg	700
6	Paper, cartton	Kg	1 200
7	Rags	Kg	1 000
8	Glass	Bottle	100 – 300
9	Rubbers	Kg	1 000



# Challenges and Opportunities for 3R in Vietnam (1)

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## 1. Challenges

- Growing pressure from quantities, compositions, diversity and toxicity of wastes
- Poor waste treatment infrastructure and technology as well as weak waste reduction, reuse and recycling practices
- Incomplete and weak legislation on waste management in general and waste reduction, reuse and recycling in particular
- Low awareness and sense of responsibility of communities on waste reduction, reuse and recycling



# Challenges and Opportunities for 3R in Vietnam (2)

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## 2. Opportunities

- Attention of the Government to environmental protection providing a strong legal basis for waste reduction, reuse and recycling
- Great potential for waste reduction, reuse and recycling
- Recycling technology initially applied
- A lot of opportunities being created through international integration and cooperation (This Strategy is supported by ADB, UNCRD and IGES)



# Viewpoints of the Strategy

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- 3R should be used to strengthen control of environmental pollution for sustainable development
- 3R activities should be in line with national policies and strategies for socio-economic development and environmental protection
- 3R should be seen as responsibility of the entire society
- Wastes should be seen as a valuable natural resource
- 3R should take waste sorting and reduction at source as the main task and community-level awareness raising as the key solution
- 3R should be closely coordinated with international cooperation in environmental protection



# Objectives of the Strategy (1)

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## Major directions until 2030

*Overall objective* : Efforts will be made to shape a developed recycling society in which 3R are used as an effective means to prevent increased pollution, contribute to environmental protection, conserve and rationally utilize natural resources and improve people's quality of life.



## Objectives of the Strategy (2)

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### Major directions until 2030

#### *Specific targets:*

- ✓ Solid waste (SW) : 30% landfill or incinerate, 70% reuse & recycle
- ✓ 100% urban centers, industrial parks and export-processing zones have central wastewater treatment facilities
- ✓ 100% SW sort at source
- ✓ 100% SW collected, 80% of organic household wastes composted; 90% construction solid wastes: reused/recycled
- ✓ 30% annual energy consumed is clean (including bio-energy utilizing organic wastes)



## Objectives of the Strategy (3)

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### Major directions until 2030

#### *Specific targets:*

- 50% city dwellers use public transport means → reduce 50% increase of green house gases reduction
- The use of recycled things up to 50%
- 10% industrial enterprises use cleaner production technologies: 100% exported products and 70% domestically consumed products: environmentally labeled and; 70% businesses apply ISO 14000





## Objectives of the Strategy (4)

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### **Objectives until 2015**

#### *Overall objective:*

Community-level awareness of the need for waste reduction, reuse and recycling will be increased. Necessary conditions in terms of physical, financial and human resources for waste reduction, reuse and recycling will be established. Environment-friendly, water-saving and energy-saving ways of life will be formed among people from all walks of life.



## Objectives of the Strategy (5)

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### Specific targets

- ✓ 100% SW in urban centers of Class 1: sorted at source.
- ✓ 45% urban centers and 70% of IPs and EPZs: have central waste water treatment facilities
- ✓ 80% SW collected: 30% household wastes: recycled into composts; 50% construction solid wastes: reused/recycled
- ✓ 50% city dwellers: consume clean energy at the household level .
- ✓ 10% city dwellers: use public transport means.
- ✓ The use of recycled things up to 20%



# Major Tasks and Contents of the Strategy (1)

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## 1. Sorting at source

### *a) Promoting community participation in at-source waste sorting*

- Programs/projects to promote at-source waste sorting should be experimented at the community. Raise community-level awareness of the benefits from at-source waste segregation, hence to encourage people's participation in waste sorting.
- At-source waste sorting should be obligatory to industrial and public health entities.
- Policies and mechanisms should be developed to encourage at-source waste sorting. Develop waste standards, formulate lists of recyclable wastes, hazardous wastes, organic wastes and non-recyclable. Hot lines on waste management should be established; free-of-charge waste collection services should be set up for recyclable wastes.

### *b) Infrastructure development for the sorting, collection and treatment of specific wastes following their sorting.*

- Construct facilities and provide necessary equipment for at-source waste sorting. Households should be provided with litter bins and boxes/bags dedicated for specific wastes. Litter bins dedicated for specific wastes should be put at public places.
- Develop plans/schedules for and in organizing the collection and transportation of specific wastes following their sorting and in making sure that these are not mixed up again. Transfer stations and treatment facilities should be established for specific wastes.



# Major Tasks and Contents of the Strategy (2)

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## 2. Reduction of wastes

### *a) Reduction of household wastes*

- Raise public awareness, encourage sustainable consumption practices. Encourage the buying goods with lesser packaging materials, reuse non-disposable boxes/bags. Save energy and water at the household level. Use public transport means, and use cleaner fuels to reduce gas emissions.
- Life expected time standards to be developed for a number of products.
- Upgrade, build and effectively use infrastructure and equipment for solid waste and wastewater treatment in urban areas.

### *b) Reduction of industrial wastes*

- EIA should be conducted for new projects to ensure waste treatment measures.
- Promote the application of cleaner production practices. Improve and re-design products with the aim for more environmentally friendly.
- Enhance the application of management systems that meet ISO 14000 environmental standards in industrial establishments and industrial parks.
- Develop and implement policy on extended producer's responsibility for the collection and handling of products which have expired or special products as required by the Law on Environmental Protection 2005.
- Encourage the construction of green works through the selection of sites and effectively use energy, effectively use water resources, utilize green materials, etc...



# Major Tasks and Contents of the Strategy (3)

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## 2. Reduction of wastes

### *c) Reduction of service wastes*

- Require and encourage producers of packaging materials and boxes/bags to develop and implement a roadmap for cutting down the quantity of products that they produce and distribute and, at the same time, conducting research on manufacturing environment friendly products. Promote ecological services and eco-tourism.
- Control importation of waste materials and strictly implement the commitments made in the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal. Restrictions should be introduced to the importation of second-hand transport means, machinery, equipment and production lines that are of low efficiency, short-lived use and polluting. Close control will also be exercised over the importation of fertilizers and pesticides for crop production. It should be important to take an active part in regional and global forums on the implementation of the Basel Convention.
- It is essential to impose fees and taxes on wastes, with special attention to the development and implementation of a roadmap for abolishing cost subsidization of waste treatment, increase such fees up to the level of actual treatment costs, collect fees based on the volumes of wastes generated, with the aim of encouraging waste generators to minimize wastes/emissions.



# Major Tasks and Contents of the Strategy (4)

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## 3. Reuse of wastes

### *a) Reuse of household wastes*

- Household utensils should be reused to the maximum extent possible, thus extending the life expected time of products and minimizing wastes. Energy appliances, such as batteries, be rechargeable, and that boxes/bags be reused as many times as possible. Recycle and reuse accessories for electric and electronic household appliances.

### *b) Reuse of industrial wastes*

- Increase the application of water circulation systems in production activities, maximize the recovery of gas emissions and energy resources which should be used to serve other activities in these systems.
- Control the dumping of wastes generated from public and private construction works. Facilities should be designed and built to recover construction wastes. It should be important to reuse construction wastes for ground filling and leveling purposes. Regulations should be eventually introduced for the treatment of construction wastes whereby construction works and projects should be have to plan, reuse and recycle such wastes.

### *c) Reuse of service wastes*

- Regulations should be introduced for the use of recycled paper and ink in the printing industry, communications, services and office work.



# Major Tasks and Contents of the Strategy (5)

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## 4. Recycling of wastes

### *a) Development of the recycling industry*

- Invest in infrastructure, research & development activities and human resource to develop the recycling industry.
- It is important to encourage the implementation of projects to recover energy from land-fills and incinerators. Encourage the application of environment-friendly recycling technologies.
- Plans should be prepared and implemented to develop the recycling industry.

### *b) Encouraging the procurement of recycled products*

- Encourage offices, schools, organizations and communities to procure recycled products or products made from recycled materials.
- Develop and widely disseminate databases on producers, distributors, quantities and types of products and other information on the contents of recycled materials during the production process.

### *c) Formulation and application of incentive policies for recycling activities*

- Formulate and issue incentive policies in terms of capital, taxation, land allocation, etc... for recycling facilities in accordance with Article 68 of the LEP 2005.

### *d) Development of databases on and centers for recyclable wastes*

Conduct surveys/research and develop databases on recyclable wastes throughout the country. Set up centers and agencies to manage and publish such databases.



# Solutions to Implement the Strategy

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- Raising community-level awareness of the importance of waste management and 3R
- Improving policies, laws and institutions on waste management
- Increasing investments in infrastructure for waste treatment and development of the recycling industry
- Applying economic instruments and expanding the waste market
- Enhancing scientific research on 3R
- Enhancing stakeholder coordination and international cooperation
- Implementing pilot projects on 3R in order to draw lessons learned and scale up successful models





# Implementation Arrangement

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## **Responsibility of Government institutions**

- The Ministry of Natural Resources and Environment (MONRE) shall be the focal point agency in organizing implementation of the contents and solutions of the Strategy.
- The MONRE shall work with ministries, sectors and Provincial People's Committees in preparing plans to implement the Strategy, with the Ministry of Finance in balancing and allocating funds within the expenditure on environmental protection in the State Budget and from other financial resources for implementation of the Strategy.
- Ministries, sectors and People's Committees shall be responsible for implementation of those objectives, contents and solutions related to their respective sectors and localities as well as for working closely with the MONRE in implementing the Strategy.

## **Responsibility of businesses, research institutions, social and mass organizations**

- Businesses shall be responsible for participating in the development and implementation of the State's guidelines, policies and laws on 3R. They shall be responsible for organizing the implementation of activities related to 3R.
- Research institutions, political and social organizations shall be responsible for coordinating, encouraging and promoting effective implementation of the Strategy.

## **Responsibility of individuals and households**

- Individuals and households shall be responsible for taking part in the formulation and implementation of the State's guidelines, policies and laws on 3R. They shall be responsible for implementing the objectives, contents and solutions of the Strategy.<sup>25</sup>



# Programs for Implementation of the Strategy

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1. Program for propaganda, education and awareness raising of community on waste reduction, reuse and recycling.
2. Program on building capacity for waste reduction, reuse and recycling.
3. Program for development and application of economic instruments in waste management.
4. Program on development, piloting and replication of at-source waste separation model.
5. Program on to establish the network of compost production facilities in big cities.
6. Program on enhancing and promoting green procurement/sustainable consumption.
7. Program on development the markets for waste and recycled products.



Thank you for Attention!

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