

**Sixth Regional 3R Forum in Asia and the Pacific**

*“3R as an Economic Industry - Next Generation 3R Solutions for a Resource Efficient Society and Sustainable Tourism Development in Asia and the Pacific”*

Malé, Maldives, 17-19 August 2015

# **Country Report**

**(Draft)**

**< Thailand >**

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This country report was prepared by the Government of Thailand as an input for the Sixth Regional 3R Forum in Asia and the Pacific. The views expressed herein do not necessarily reflect the views of the United Nations.

**Country 3R  
Progress Report**

**Name of the Country:**  
**Name, Designation and Organization Respondent:**  
**Other Ministries, Organizations, Agencies contributing to Country Report:**  
**Timeline of Submission: 17 JULY 2015** (Email: [3R@uncrd.or.jp](mailto:3R@uncrd.or.jp))

*Progress and achievements towards implementation of the Ha Noi 3R Declaration*

*-Sustainable 3R Goals for Asia and the Pacific (2013-2023)-*

With the objective of demonstrating renewed interest and commitment of Asia-Pacific countries towards realizing a resource efficient society, the Fourth Regional 3R Forum in Asia-Pacific in 2013 adopted the good-will and legally non-binding “***Ha Noi 3R Declaration – Sustainable 3R Goals for Asia and the Pacific 2013-23.***” The objective of the Country Reporting is to share among international community various initiatives launched and efforts made (such as new policy instruments, legislations, regulations, institutional arrangements, investments or financing, technological innovation or intervention, partnership mechanisms, such as PPPs, etc.) by the member countries of the Forum in addressing each of the underlined goals of the Ha Noi 3R Declaration. This would not only help the member countries to learn various 3R best practices in place across the region, but it would also help bi-lateral and multi-lateral development agencies, donors, development banks in assessing the sustainable needs and challenges to better devise their existing as well as future capacity building programmes and technical assistance in the areas of 3Rs and sustainable waste management.

We request you to kindly fill in the below table as much as possible with relevant data/information. If additional spaces are required, separate sheets could be attached.

Thank you very much for your kind cooperation.

Secretariat of the Regional 3R Forum in Asia and the Pacific

United Nations Centre for Regional Development (UNCRD) Email: [3R@uncrd.or.jp](mailto:3R@uncrd.or.jp)

Please list below the type of date reports/statistical compendium available in the areas of waste management in your country:



Clean and Green City

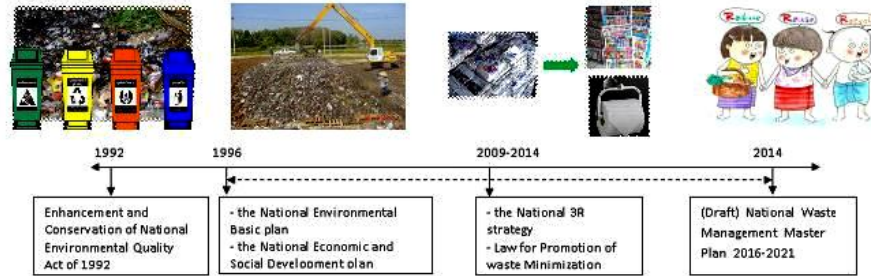


**Kingdom of Thailand**

Location : Southeast Asia N 13° 44' 07", E 100° 30' 07"

Total Area : 513,115 KM2 Population 67.4 million

**Environmental and Resource Recycling Policy**



Type	Waste Generation (Ton)	Commercial (Ton)	Quantity of Waste Recovery			Utilizations
			Waste Exchange System (Ton)	Total		
				(Ton)	(Percent)	
Glass	2,347,459	923,309	189,397	1,112,706	47	Recycling
			295,000	295,000	12	Reuse
Paper	4,750,086	1,187,522	1,425,026	2,612,547	55	Recycling
Plastic	1,310,400	655,200	196,560	851,760	65	Recycling
Steel scrap	3,343,870	769,090	2,507,902	3,276,992	98	Recycling
Aluminium	882,925	88,292	309,024	397,316	45	Recycling
Pubber	600,459	9,007	150,115	159,122	27	Recycling
			93,900	93,900	16	Reuse
			24,000	24,000	4	Alternative Fuel
<b>Total</b>	<b>13,255,199</b>	<b>3,639,780</b>	<b>5,198,328</b>	<b>8,823,343</b>	<b>67</b>	

Figure 1 Overall generating and recovery of recyclable waste in 2014.

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 1</b>	Significant <b>reduction</b> in the quantity of <b>municipal solid waste</b> generated, by instituting policies, programmes, and projects at national and local levels, encouraging both producers and consumers to reduce the waste through greening production, greening lifestyle, and sustainable consumption.
<i><b>Q-1 What specific 3R policies, programmes and projects, are implemented to reduce the quantity of municipal solid waste?</b></i>	
The National 3R Strategy and plan, Government Green Procurement programme, the National Environmental Basic Plan (2012-2016)	
<i><b>Q-2 What is the level of participation of households in “source” segregation of municipal waste streams?</b></i> (Please check the appropriate box)	
<input type="checkbox"/> Very High (> 90%)	
<input type="checkbox"/> High (>70%)	
<input type="checkbox"/> Average (50~70%)	
<input checked="" type="checkbox"/> Low or not satisfactory (< 50%)	
<input type="checkbox"/> Does not exist	
<i><b>Q-3 Total annual government expenditure per capita (US\$ per capita) in municipal solid waste management in 2013-2014</b></i> 3-5 USD per capita	
<i><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b></i>	
Need incentives both financial and technical support, challenges in multi – stakeholder cooperations.	
<i><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b></i>	
Master Plan on 3R, 3R Promotion Law, Zero waste Project, Government Green Procurement, <a href="http://www.pcd.go.th">http://www.pcd.go.th</a> , <a href="http://www.deqp.go.th">http://www.deqp.go.th</a>	
<i><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</b></i>	
The National Environmental Basic Plan, The National 3R Policy and Strategy.	
<i><b>Is this Goal relevant for your country?</b></i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 2</b>	Full-scale utilization of the organic component of municipal waste, including food waste, as a valuable resource, thereby achieving multiple benefits such as the reduction of waste flows to final disposal sites, reduction of GHG emission, improvement in resource efficiency, energy recovery, and employment creation.
<b><i>Q-1 Does the central government have policies or support to utilize or reduce the organic waste such as composting, energy recovery and improving efficiency in food processing?</i></b>	
The Waste and Hazardous Waste Management Road Map which was approved by the National Council for Peace and Order on the 26 <sup>th</sup> of August 2014, supports Integrated Waste Management. Within Integrated Waste Management Organic waste can be composted or anaerobic digested to produce biogas and generate electricity.	
<b><i>Q-2 What is happening to country's organic waste?</i></b> (Please check the appropriate box)	
<input type="checkbox"/> mostly landfilled	
<input type="checkbox"/> mostly incinerated	
<input type="checkbox"/> both landfilled and incinerated	
<input checked="" type="checkbox"/> mostly open dumped or open burned (51% of all waste generated is improperly disposed)	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>➤ Inadequate numbers of knowledgeable staff to operate large anaerobic digestion systems.</li> <li>➤ Slow growth of private investors and understanding from financial sector.</li> <li>➤ Difficulties in obtaining consistent source segregated organic waste.</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>• The Waste and Hazardous Waste Management Road Map <a href="http://www.pcd.go.th/Info_Serv/roadmapWaste.html">http://www.pcd.go.th/Info_Serv/roadmapWaste.html</a></li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
<ul style="list-style-type: none"> <li>• The National Waste and Hazardous Waste Management Master Plan (2016-2021) is being drafted</li> </ul>	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

### I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)

**Goal 3** Achieve significant **increase in recycling rate** of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.

**Q-1 What is the recycling rate of various recyclables?** (Please check the appropriate cell & add more waste streams as relevant for the country)

Type \ Rate	Very High (>90%)	High (>70%)	Average (50~60%)	Poor (<50%)	Recycling does not exist	Definition of recycling rate*
Paper			/			1
Plastic				/		1
Metal	/					1
Construction waste			/			1
e-waste				/		1
others				/		1

\*Note: Please specify in the cell which of the following definitions (ie., 1 or 2 or 3) is followed for recycling rate

Definition 1: (collected recyclable waste)/(estimated generation of waste)

Definition 2: (volume of utilized recyclable waste)/(volume of raw material)

Definition 3: (volume of utilized recyclable waste)/(volume of collected waste for recycling)

**Q-2 What specific policies are introduced at local and national level for prevention or reduction of waste streams – paper, plastic, metal, construction waste, e-waste?**

The National Policy and Plan on 3R and E-wastes, Zero Waste Programme, One community one Recycling Program.

### I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)

**Goal 3** Achieve significant **increase in recycling rate** of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.

#### *Q-3 What is the rate of resource recovery from various waste streams?*

Rate Type	Very High (>90%)	High (>70%)	Average (50~60%)	Poor (<50%)	Recycling does not exist
Paper			/		
Plastic				/	
Metal	/				
Construction waste				/	
e-waste				/	

*(Please check the appropriate cell & add more waste streams as relevant for the country)*

#### *Q-4 What is the level of existence of resource recovery facilities/ infrastructures in cities?*

Level Type	Every Major City	Few Major Cities only	Does not exist	Supportive policy or programmes exists	No supportive policy or programmes
Paper	/				
Plastic	/				
Metal	/				
Construction waste		/			
e-waste				/	

I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 3</b>	Achieve significant <b>increase in recycling rate</b> of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b> Need incentive policy for informal sectors, specific law and regulation for waste separation, recovery and recycling, challenges on investment of modern recycling facilities.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>  The National 3R Strategy, Drafted 3R Promotion law. <a href="http://www.pcd.go.th">www.pcd.go.th</a>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b> The National 3R Strategy and Plan, The National Waste and Hazardous Waste Management Master Plan.	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	



I. 3R Goals in Urban/Industrial Areas (3Rs in municipal solid waste)	
<b>Goal 4</b>	Build <b>sustainable cities /green cities</b> by encouraging “ <b>zero waste</b> ” through sound policies, strategies, institutional mechanisms, and multi - stakeholder partnerships (giving specific importance to private sector involvement) with a primary goal of <b>waste minimization</b>
<b><i>Q-1 What specific waste management policies and programmes are introduced to encourage private sector participation in municipal waste management?</i></b>	
The Waste and Hazardous Waste Management Road Map which was approved by the National Council for Peace and Order on the 26 <sup>th</sup> of August 2014, encourages private investors in waste management especially in the waste to energy sector.	
<b><i>Q-2 What are the major waste management areas that have strong involvement of private and business sector? (Please check appropriate boxes and add other areas if not listed below)</i></b>	
<input type="checkbox"/> waste collection <input checked="" type="checkbox"/> resource recovery <input type="checkbox"/> waste recycling <input checked="" type="checkbox"/> waste to energy, composting, etc. <input type="checkbox"/> PPP (Public Private partnership) projects in waste sector	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
PPP Projects exceeding 1,000 million THB must comply with Public Private Partnership Act which has many procedural steps and requires time to receive approval.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
Lampang city municipality contracts out their waste collection process. Phuket City municipality has a PPP project for their waste incinerator. Hadyai City municipality has a PPP project for their waste gasification.	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
The National Waste and Hazardous Waste Management Master Plan (2016-2021) is being drafted	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 5</b>	Encourage the <b>private sector</b> , including small□ and medium□ sized enterprises (SMEs) to implement measures to increase <b>resource efficiency and productivity</b> , creation of decent work and to improve environmentally-friendly practices through applying environmental standards, clean technologies, and cleaner production.
<p><b><i>Q-1 What are the major clean technology related policies aiming to increase energy and resource efficiency of SMEs?</i></b>  The cleaner technology mechanisms have been prepared to help increase the competitiveness of the industry and to conserve the environment at the same time. It was considered the inputs rather than the outputs in the search to produce more goods with less waste and emission. Under the clean technology project, the data is collected and evaluated systematically in order to know the causes of effects and find ways to prevent or correct in views of both the technology and management practices.</p> <p><b><i>Q-2 What are the capacity building programmes currently in place to build the technical capacity of SMEs in 3R areas?</i></b>  The project has been launched to promote the use of industrial waste and reduction of the amount of waste to landfill which is prescribed to use resources efficiently and reduce the environmental impact from the year 2009 by studying the utilization of industrial waste. A part of this project is the 3R training programmes which have been done for 200 participating factories.</p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <ul style="list-style-type: none"> <li>- Lack of experts</li> <li>- No budget for changing technology.</li> </ul>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <p>The practice of clean production technology has been brought to promote and develop the industrial sector with a total of 17 industrial sectors such as canned pineapple, rubber, milk and milk products, frozen seafood, noodles and rice noodles, Tapioca flour, canned fish, furniture, etc. (www.diw.go.th)</p>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b></p>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input checked="" type="checkbox"/> Highly    <input type="checkbox"/> Partially    <input type="checkbox"/> Not at all</p>	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 6</b>	Promote the <b>greening of the value chain</b> by encouraging industries and associated suppliers and vendors in socially responsible and inclusive ways.
<b>Q-1 What percent of companies and industries have introduced green accounting and voluntary environmental performance evaluation (Ref: ISO 14000)?</b>	
<input type="checkbox"/> Very High (> 90%) <input type="checkbox"/> High (>70%) <input checked="" type="checkbox"/> Average (50~70%) <input type="checkbox"/> Low or not satisfactory (< 50%) <input type="checkbox"/> None	
<b>Q-2 What percent of companies and industries have introduced social accounting (Ref: SA 8000) in consultation with their workers?</b>	
<input type="checkbox"/> Very High (> 90%) <input type="checkbox"/> High (>70%) <input checked="" type="checkbox"/> Average (50~70%) <input type="checkbox"/> Low or not satisfactory (< 50%) <input type="checkbox"/> None	
<b>Q 3 Does government have a programme for promoting greening of the value chain? What specific policies, programmes and incentives are introduced to promote greening of value chain?</b> The government Green Procurement, Pollution Prevention programme cleaner production and clean technology programmes.	
<b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b> Lack of integrated policy on sustainable development and green industry.	
<b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b>	
<b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</b> Green Industry Plan	
<b>Is this Goal relevant for your country?</b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 7</b>	Promote <b>industrial symbiosis</b> (i.e., recycling of waste from one industry as a resource for another), by providing relevant incentives and support.
<b><i>Q-1 Does your government have policies and programmes promoting industrial symbiosis in industrial parks or zones? What specific policies, programmes and incentives are introduced to promote industrial symbiosis?</i></b>	
The Ministry of Industry by DIW and Industrial Estate Authority of Thailand (IEAT), has made the concept of sustainable development on the principle “Eco”. IEAT has launched the Developing of Eco Industrial Estate & Networks Project (DEE + Net Project) which is collaboration between IEAT and GTZ of Germany on the year 1999-2004. And it was continuously implemented in five pilot estates of the Northeastern Industrial Estate, Bang Pu Industrial Estate, Map Ta Phut Industrial Estate, Eastern Seaboard Industrial Estate and Amata Nakorn Industrial Estate.	
<b><i>Q-2 How many eco-industrial parks or zones or the like, which is supported by the government, are there in the country?</i></b>	
Eco Town Projects has been developed in 15 provinces focusing on several industrial parks i.e. Rojana Industrial Park, Bang Kra Dee Industrial Park, Sahapat Industrial Park (Sriracha), Sahapat Industrial Park (Kabinburi), 304 Industrial Park and IRPC Industrial Park, etc.	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
This year, the Application of Industry-Urban Symbiosis and Green Chemistry for Low Emission and POPs free Industrial Development in Thailand had been submitted to the Global Environmental Fund.	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)	
<b>Goal 8</b>	Build <b>local capacity</b> of both current and future practitioners, to enable the private sector (including SMEs) to obtain the necessary knowledge and technical skills to foster green industry and create decent, productive work.
<i>Q-1 How many dedicated training facilities or centers are there to cater the needs of SMEs and practitioners in the areas of cleaner production, resource efficiency and environment-friendly technologies, etc.?</i>	
<i>Q-2 Please provide an indicative figure on annual government (US \$) expenditure on building technical capacity of SMEs and practitioners in the areas of cleaner production, resource efficiency and environment-friendly technologies, etc.?</i> The project has been done on building technical capacity of SMEs and practitioner in the area of cleaner production, resource efficiency, and environment-friendly technologies, etc. around 2,000,000 \$ per year.	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

<b>I. 3R Goals in Urban/Industrial Areas (3Rs in Industrial waste)</b>	
<b>Goal 9</b>	Develop proper <b>classification and inventory of hazardous waste</b> as a prerequisite towards sound management of such waste.
<b><i>Q-1 Is there a systematic classification of hazardous waste? If so, please attach.</i></b>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
The Ministry of Industry Notification No. 48 (2005) on Industrial Waste Disposal.	
<b><i>Q-2 What specific rules and regulations are introduced to separate, store, treat, transportation and disposal of hazardous waste?</i></b>	
The Ministry of Industry Notification No. 48 (2005) on Industrial Waste Disposal. Hazard Substance Act B.E. 2535 ( 1992)	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
- Waste exchange : <a href="http://www.thaiwasteexchange.net">www.thaiwasteexchange.net</a>	
- Promotion of 3Rs : <a href="http://www.diw.go.th/iwmb/project.asp">www.diw.go.th/iwmb/project.asp</a>	
The Master Plan of Industrial Waste Management.	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
The Master Plan of Industrial Waste Management.	
Industrial waste management plan 2015-2020 ( by DIW )	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

II. 3R Goals in Rural Areas	
<b>Goal 10</b>	<b>Reduce losses in the overall food supply chain</b> (production, post harvesting and storage, processing and packaging, distribution), leading to reduction of waste while increasing the quantity and improving the quality of products reaching consumers.
<i>Q-1 What specific policies, rules and regulations, including awareness programmes, are introduced to minimize food or crop waste?</i>	
-	
<i>Q-2 Is there any continuing education services or awareness programmes for the farmers or agricultural marketing associations on reduction of crop wastes for increased food security?</i>	
-	
<i>Q-3 What is the average wastage of crops or agricultural produce between farms to consumers, if there is a study in your country?</i>	
<input type="checkbox"/> Very High (> 20~ 30%) <input type="checkbox"/> High (10~20%) <input type="checkbox"/> Medium (5~10%) <input type="checkbox"/> Low (< 5%) <input type="checkbox"/> Negligible (<1%)	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
-	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
-	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
-	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

II. 3R Goals in Rural Areas	
<b>Goal 11</b>	Promote full scale <b>use of agricultural biomass waste and livestock waste</b> through reuse and/or recycle measures as appropriate, to achieve a number of co-benefits including GHG emission reduction, energy security, sustainable livelihoods in rural areas and poverty reduction, among others.
<b>Q-1 How much amount of – (a) agricultural biomass waste and (b) livestock waste are grossly generated per annum?</b> (a) Around 55 million ton per annum (Data as of 2007)	
<b>Q-2 How are most of the agricultural biomass wastes utilized or treated?</b> (Please <u>check all appropriate boxes</u> ) <input checked="" type="checkbox"/> as secondary raw material input (for paper, bioplastic, furniture, etc.) <input checked="" type="checkbox"/> biogas/electricity generation <input checked="" type="checkbox"/> composts/fertilizers <input type="checkbox"/> mostly left unutilized or open dumped <input type="checkbox"/> mostly open burned	
<b>Q-3 What specific policies, guidelines, and technologies are introduced for efficient utilization of agricultural biomass waste and livestock waste as a secondary material input towards full scale economic benefits? Relevant websites could be shared for additional information.</b> The National Strategy on Ban of Open – Burning, The National Alternative Energy Plan.	
<b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b> Need cost – effective technology for bio – mass utilization.	
<b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b> Plam tree wastes composting, Biomass incineration for electricity.	
<b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</b> The National Alternative Energy Plan.	
<b>Is this Goal relevant for your country?</b> <input type="checkbox"/> Highly <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Not at all	



III. 3R Goals for New and Emerging Wastes	
<b>Goal 12</b>	Strengthen regional, national, and local efforts to address the issue of <b>waste, in particular plastics</b> in the marine and coastal environment.
<b><i>Q-1 What specific policies and regulations are in place to address the issue of plastic wastes in coastal and marine environment?</i></b> The coastal and Marine Environmental Protection Plan, The National Park Act.	
<b><i>Q-2 What extent issue of plastic waste is considered in integrated coastal zone management (ICZM)? (Please check the appropriate box)</i></b> <input type="checkbox"/> Very much <input checked="" type="checkbox"/> Somehow <input type="checkbox"/> Not at all	
<b><i>Q-3 Please provide a list of centres of excellences or dedicated scientific and research programmes established to address the impacts of micro-plastic particulates (&lt;5 mm) on coastal and marine species? If yes, please provide relevant websites.</i></b> -	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b> Lack of incentive and technology development on alternative materials.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b> National Roadmap for the Development of Bioplastics Industry (2008 - 2015)	
<b><i>Is this Goal relevant for your country?</i></b> <input type="checkbox"/> Highly <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Not at all	

### III. 3R Goals for New and Emerging Wastes

<b>Goal 13</b>	Ensure <b>environmentally-sound management of e-waste</b> at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal with appropriate consideration for working conditions, including <b>health and safety aspects</b> of those involved.
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**Q-1 How do people usually recycle their e-waste (waste electrical and electronic equipment)?** (Please check the appropriate box in order of priority by filling in numbers like 1, 2, 3, 4,....etc., for example 1 => Highest priority)

Check if applicable	Number in priority order	
		Take to recycling center / resource recovery facilities
		Take to landfill
		Take to the retailer
√	4	Take to local charity for re-use
√	3	Take to second-hand shop for re-use
		Ship back to the manufacturer
		Ship back to the manufacturer
√	5	Recycle in another country
		Do not know how people dispose

Operations in Thailand (No in schedule) Sell to junk shops (1) Storage at home/office (2)
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**Q-2 What specific policies and regulations are in place to ensure health and safety aspects of those involved in e-waste management (handling/sorting/resource recovery/recycling)?**

The Public Health Act of 1992

The Factory Act of 1992

III. 3R Goals for New and Emerging Wastes			
<b>Goal 13</b>	Ensure <b>environmentally-sound management of e-waste</b> at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal with appropriate consideration for working conditions, including <b>health and safety aspects</b> of those involved.		
<b><i>Q-3 How much amount of e-waste is generated and recycled per year?</i></b>			
Type of e-waste	Estimated total volume generated (ton/year)	% of collected by permitted recycler* (as of 2007)	% of volume recycled in collected
Television	103,610	35.8	N/A
Computer	55,195	18	N/A
Mobile phone	1,658	N/A	N/A
Refrigerators	64,540	15.4	N/A
Washing machines	60,282	15	N/A
Air conditioners	73,469	27.5	N/A
Others...		N/A	N/A
- Digital Cameras	188		
- DVD /CD Players	17,859		
*Recycler is junk shops			
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>			
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b> Draft e-waste law is under developing			
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b> E-waste management law			
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all			

III. 3R Goals for New and Emerging Wastes	
<b>Goal 14</b>	Effective enforcement of established mechanisms for preventing illegal and inappropriate export and import of waste, including transit trade, especially of hazardous waste and e-waste.
<p><b><i>Q-1 What specific policies and regulations are introduced to prevent illegal import and export of e-waste?</i></b></p> <p>- According to Notification of Department Industrial Works on the condition imposed on import permission of chemical wastes, listed hazardous substance , into the Kingdom of Thailand, dated on 26 May 2000, Imported e-waste that is designated as hazardous substances are permitted to be used as a raw material in a factory only Its import for commercial purpose (e.g. sell or distribute ) is prohibited</p> <p><b><i>Q-2 Do you have required number of well-trained custom or other officials (for airport. sea-port, land border control, etc.) to track illegal export and import of e-waste?</i></b></p> <p><input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No</p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <p>- False declaration  - Misunderstanding about hazardous waste/e-waste is a raw material  - Related authorities have limitations on skill and tools for hazardous waste analysis.</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <p>- Annual technical training workshop on identification and monitoring of hazardous waste and e-waste transboundary movement from the year 1999 until now</p>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b></p> <p>- According to the National Integrated WEEE Management Strategic Plan (Phase II) for the year 2014-2020 , strengthening import-export control procedure is one of the government' s strategy to preventing illegal import and export of hazardous waste and e-waste</p>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input checked="" type="checkbox"/> Highly      <input type="checkbox"/> Partially      <input type="checkbox"/> Not at all</p>	

III. 3R Goals for New and Emerging Wastes	
<b>Goal 15</b>	Progressive implementation of “ <b>extended producer responsibility (EPR)</b> ” by encouraging producers, importers, and retailers and other relevant stakeholders to fulfill their responsibilities for collecting, recycling, and disposal of new and emerging waste streams, in particular e-waste.
<p><b><i>Q-1 What specific Extended Product Responsibility (EPR) policies are enacted or introduced? (If there is none, then skip Q-2 below)</i></b></p> <p>Drafted Act on the Management of waste Electrical and Electronic Equipment and Other End-of-life Products</p> <p><b><i>Q-2 Please provide a list of products and product groups targeted by EPR nationally?</i></b></p> <p>Potential products targeted by EPR include television, air conditioner, refrigerator, computer/notebook, mobile phone, dry cell batteries.</p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <ul style="list-style-type: none"> <li>- Computing amount of E-waste quantity and recovery by informal collectors and recycling.</li> <li>- Public awareness of e-wastes issues</li> <li>- Limited number of licences recycle, collection outer (including those provided by municipalities)</li> </ul> <p>(Draft out is not yet effective)</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <p>Pilot Project on E-wastes collection and recycling ( under development )</p>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b></p> <p>National Integrated Waste Electrical and Electronic Equipment Management Strategy 2014-2021</p>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input checked="" type="checkbox"/> Highly        <input type="checkbox"/> Partially        <input type="checkbox"/> Not at all</p>	

III. 3R Goals for New and Emerging Wastes	
<b>Goal 16</b>	<b>Promote the 3R concept</b> in health-care waste management.
<p><b>Q-1 What specific policies and regulations are in place for healthcare waste management?</b> The Public Health Ministry Notification on Infectious Waste Management</p> <p><b>Q-2 What is the total annual government expenditure towards healthcare waste management (US\$ per year)?</b> N/A</p> <p><b>Q-3 List the agencies or authorities responsible for healthcare waste management.</b> Department of Health, Ministry of Public Health</p> <p><b>Q-4 What is the common practice for disposal of healthcare wastes?</b> (Please check the appropriate box and add if any other practice followed)</p> <p><input type="checkbox"/> open dumping (untreated)</p> <p><input type="checkbox"/> open burning (untreated)</p> <p><input checked="" type="checkbox"/> ordinary landfilling (untreated)</p> <p><input type="checkbox"/> sanitary landfilling (treated)</p> <p><input checked="" type="checkbox"/> Low cost small scale incineration (do not meet air emission standards)</p> <p><input type="checkbox"/> Highly controlled air incineration (dedicated, modern medical waste incinerators)</p> <p><input type="checkbox"/> Other methods (please specify names: _____)</p>	
<p><b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b> Lead among ASEAN on Health Promotion</p>	
<p><b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b> WWW.anamai.moph.go.th</p>	
<p><b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</b></p>	
<p><b>Is this Goal relevant for your country?</b>    <input type="checkbox"/> Highly            <input checked="" type="checkbox"/> Partially            <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 17</b>	Improve <b>resource efficiency and resource productivity</b> by greening jobs nationwide in all economic and development sectors.
<b><i>Q-1 What specific policies and guidelines are introduced for product standard (towards quality/durability, environment/eco-friendliness, labour standard)?</i></b> Guidelines and criteria for product standard, Promotion for government green procurement.	
<b><i>Q-2 What specific energy efficiency schemes are introduced for production, manufacturing and service sector?</i></b> Government energy saving plan and energy efficiency label on home appliances.	
<b><i>Q-3 What specific policies are introduced to create green jobs in product and waste sector?</i></b> Green Industry Policy. Government Green Procurement and Green label Schemes.	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b> Need incentives for manufactures changes.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b> Green products and Services for government, Green label products. <a href="http://www.pcd.go.th">http://www.pcd.go.th</a> and <a href="http://www.tei.or.th/">www.tei.or.th/</a>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b> Government Green Procurement Policy and Green Industrial Policy	
<b><i>Is this Goal relevant for your country?</i></b> <input type="checkbox"/> Highly <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 18</b>	Maximize co-benefits from waste management technologies for local air, water, oceans, and soil pollution and global climate change.
<b><i>Q-1 Please share how climate mitigation is addressed in waste management policies and programmes for co-benefits?</i></b>	
<ul style="list-style-type: none"> <li>- Linkage of municipal solid waste management to GHG reduction – improving recycling efficiency reduction of open – burning and dumping.</li> <li>- Apply technologies for landfill gases reduction and recovery, AD for organic wastes.</li> </ul>	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>- Clear Benefits of reduction GHG or climate mitigation.</li> <li>- Need to change a conventional solid waste disposal to modern technologies.</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>- GHG mitigation by municipal organic waste composting</li> <li>- Improving open – dumping site plan.</li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
The National Solid and Hazardous Wastes Management Master Plan	
<b><i>Is this Goal relevant for your country?</i></b> <input type="checkbox"/> Highly <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Not at all	



IV. 3R Goals for Cross-cutting Issues	
<b>Goal 19</b>	Enhance <b>national and local knowledge base and research network on the 3Rs and resource efficiency</b> , through facilitating effective and dynamic linkages among all stakeholders, including governments, municipalities, the private sector, and scientific communities.
<p><b><i>Q-1 What specific policies are introduced to encourage triangular cooperation between government, scientific &amp; research institutions and private/business sector in 3R areas?</i></b></p> <p>National Policy on Science and Technology and R&amp;D development plan.            - Thailand Institute of Science and Technological Research (TISTR) : Waste minimization, material research.</p>	
<p><b><i>Q-2 Please share the number and list of dedicated scientific institution, or coordinating centers in the areas of 3Rs (e.g., waste minimization technologies, eco-products, cleaner production, recycling technologies, industrial symbiosis, resource efficiency, etc.)?</i></b></p> <p>- PCD : 3R and waste minimization eco – products            - DIW : Cleaner Production, Industrial symbiosis recycling technology, resource efficiency            - TEI : Sustainable production and consumption, green label) environmental labeling.            - Kasetsart University : LCA green economy CT/CP programme</p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <p>- Limitation of experts or researchers.            - Budget and incentive problems.</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <p>- Research and study on packaging and E-waste recovery, <a href="http://www.pcd.go.th">www.pcd.go.th</a>            - CT/CP programme for industrial sectors, <a href="http://www.diw.go.th">www.diw.go.th</a></p>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b></p> <p>The National Sustainable Development Policy, The National Environment Basic plan.</p>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input type="checkbox"/> Highly        <input checked="" type="checkbox"/> Partially        <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 20</b>	Strengthen multi-stakeholder partnerships among governments, civil society, and the private sector in raising public awareness and advancing the 3Rs, sustainable consumption and production, and resource efficiency, leading to the behavioral change of the citizens and change in production patterns.
<p><b><i>Q-1 Does central government have official dialogue with multi-stakeholders in the process to formulate 3R-related policies and regulations? Which stakeholders are involved in the dialogue?</i></b> (Please <u>check all</u> applicable)</p> <p> <input type="checkbox"/> NGOs           <input checked="" type="checkbox"/> Industrial Association  <input type="checkbox"/> Local Government           <input checked="" type="checkbox"/> Academic Institution  <input type="checkbox"/> Others, please add/specify ( )         </p> <p><b><i>Q-2 What is the level of NGOs' involvement in 3R, sustainable production and consumption, resource efficiency related promotional activities?</i></b> (Please check the appropriate box)</p> <p> <input type="checkbox"/> Very high           <input checked="" type="checkbox"/> Moderate           <input type="checkbox"/> Low           <input type="checkbox"/> Almost Negligible         </p> <p><b><i>Q-3 What is the level of citizens' awareness on beneficial aspects of 3R, sustainable production and consumption and resource efficiency.</i></b> (Please check the appropriate box)</p> <p> <input type="checkbox"/> Very high           <input checked="" type="checkbox"/> Moderate           <input type="checkbox"/> Low           <input type="checkbox"/> Almost Negligible         </p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>          Citizen were inform about Green Product but reluctant to purchase because of pricing and personal emotional requirements.</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>          Green Public Procurement Promotion Plan 2008-2011, 2013-2016 <a href="http://ptech.pcd.go.th/gp/main/">http://ptech.pcd.go.th/gp/main/</a></p>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>          Continuation Of Green Public Procurement Promotion Plan</p>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input type="checkbox"/> Highly    <input checked="" type="checkbox"/> Partially    <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 21</b>	<b>Integrate the 3Rs</b> in formal education at primary, secondary, and tertiary levels as well as non-formal education such as community learning and development, in accordance with Education for Sustainable Development.
<b><i>Q-1 Provide a list of formal programmes that addresses areas of 3R and resource efficiency as part of the academic curriculum?</i></b>	
<ul style="list-style-type: none"> <li>- Mining programme</li> <li>- Environment science</li> <li>- Environmental engineering programme</li> <li>- Environmental technology programme</li> </ul>	
<b><i>Q-2 Please provide an overview of the Government policies and programmes to promote community learning and development (non-formal education) on 3R and sustainable waste management.</i></b>	
The Roadmap for Municipal Solid Waste Management provide a strategy addressed on environmental education, public awareness raising, public participation programmes	
<b><i>Q-3 Please provide a list of academic and research institutions offering PhD programmes in the areas of 3Rs and resource efficiency?</i></b>	
<ul style="list-style-type: none"> <li>- Asian Institute of Technology</li> <li>- Mahidol University</li> <li>- Kasetsart University</li> <li>- Chiang Mai University</li> <li>- Chulalongkorn University</li> </ul>	
<b><i>Q-4 Please provide a list of management institutions (offering BBA / MBA courses) which have integrated resource efficiency and life cycle assessment (LCA) as part of their curriculum or course development?</i></b>	
- Kasetsart University – The National Institute of Development Administration (NIDA)	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
Limitation on know how to develop environmental education programme.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
Integrated 3R and solid waste management into environmental education at school and universities	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
The National Basic Environmental Plan	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 22</b>	<b>Integrate the 3R concept</b> in relevant policies and programmes, of key ministries and agencies such as Ministry of Environment, Ministry of Agriculture, Forestry and Fisheries, Ministry of Industry, Ministry of Trade and Commerce, Ministry of Energy, Ministry of Water Resources, Ministry of Transport, Ministry of Health, Ministry of Construction, Ministry of Finance, Ministry of Labour, Ministry of Land and Urban Development, Ministry of Education, and other relevant ministries towards transitioning to a resource-efficient and zero waste society.
<b><i>Q-1 Please list the name of the Ministries and major Government Agencies which are promoting 3R and resource efficiency as part of their policy, planning and developmental activities at local and national level.</i></b>	
<ul style="list-style-type: none"> <li>- Ministry of National Resources and Environment      - Ministry of Public Health      - Ministry of Education</li> <li>- Ministry of Industry      - Ministry of Interior</li> <li>- Ministry of Energy      - Ministry of Finance</li> </ul>	
<b><i>Q-2 What type of coordination mechanism are there among ministries and agencies for a resource efficient economic development?</i></b>	
<input checked="" type="checkbox"/> Official regular coordination meeting among ministries and agencies <input checked="" type="checkbox"/> Official ad-hoc coordination meeting among ministries and agencies <input type="checkbox"/> Informal meeting among ministries and agencies <input type="checkbox"/> Other coordination mechanisms (please add/specify)	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
Challenges in cooperation among relevant ministries, Limitation on ministry authority	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
<ul style="list-style-type: none"> <li>- Green Industry Programme : <a href="http://www.diw.go.th">www.diw.go.th</a></li> <li>- Alternative energy from wastes policy : The Department of Alternative Energy Development and Efficiency : <a href="http://www.dede.go.th/">http://www.dede.go.th/</a></li> </ul>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
The National Environmental Management Plan.	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 23</b>	Promote <b>green and socially responsible procurement</b> at all levels, thereby creating and expanding 3R industries and markets for environmentally-friendly goods and products.
<b><i>Q-1 What specific policies are introduced to promote green and social responsible procurement?</i></b> Green Public Procurement Promotion Plan 2008-2011 The establish by The Cabinet Resolution on 22 January 2008	
<b><i>Q-2 Please provide details of eco-labeling schemes of your country.</i></b> Green Label operates by Thai Environment Institute (TEI), DIW , PCD and Private sector's	
<b><i>Q-3 Please provide a list of criteria for eco-labeled products and services in your country.</i></b> Typical criteria base on performance standard as common criteria plus environment concern criteria analyzed from environmental issue according to LCA of certain product. List of detailed criteria can be found on <a href="http://www.tei.or.th/greenlabel/thcategories.html">http://www.tei.or.th/greenlabel/thcategories.html</a>	
<b><i>Q-4 Please provide the list of Ministries and major Government Agencies which have adopted green procurement policy.</i></b> All ministries and central government agencies (170 Agencies)	
<b><i>Q-5 What % of municipalities have adopted the green procurement policy?</i></b> Data of local authority is being collected will be report around end of the year.	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b> Being GPP monitoring voluntary, there is a risk for low response rate, which results in a misrepresentation of actual level og procurement of green products and services. The lack of centralized purchases and/or procurement platform requires each implementing agency to track their own GPP data, which can be time consuming.	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b> - Green Public Procurement Promotion Plan 2008-2011. - Green Public Procurement Promotion Plan 2013-2016. - <a href="http://ptech.pcd.go.th/gp/main/">http://ptech.pcd.go.th/gp/main/</a> - <a href="http://www.tei.or.th/greenlabel/thcategories.html">http://www.tei.or.th/greenlabel/thcategories.html</a> .	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b> Green Public Procurement Promotion Plan 2017-2021 is under developing by related stakeholder.	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 24</b>	<b>Phase out harmful subsidies that favour unsustainable use of resources (raw materials and water) and energy, and channel the freed funds in support of implementing the 3Rs and efforts to improve resource/energy efficiency.</b>
<i>Q-1 Are there any government subsidy programmes that directly or indirectly favour unsustainable use of resources (raw materials, water, energy)? If so, please provide a list of such programmes along with the responsible Ministry or Agency administering and implementing it.</i>	
-	
<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
-	
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
-	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
-	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	
-	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 25</b>	<b>Protect public health and ecosystems, including freshwater and marine resources by eliminating illegal activities of open dumping, including dumping in the oceans, and controlling open burning in both urban and rural areas.</b>
<p><b><i>Q-1 Is waste management a public health priority in your country? Yes</i></b></p> <p><b><i>Q-2 What are the rules and regulations to prevent open dumping and open burning of waste?</i></b> The Waste and Hazardous Waste Management Road Map which was approved by the National Council for Peace and Order on the 26<sup>th</sup> of August 2014, calls for an end to improper disposal methods such as open dumping.</p> <p><b><i>Q-3 Rank the five most important rivers in terms of water quality (BOD values) passing through major cities and urban areas?</i></b> 1. Chaophraya river 2. Thachin river 3. Phangrad river 4. Lopburi river 5. Pechburi river</p> <p><b><i>Q-4 What are the specific laws, rules and regulations in place to prevent littering in river and water bodies?</i></b> The Public Cleansing Act B.E. 2535 Article 26, 29-34 : Prohibits the disposal of waste in public areas.</p> <p><b><i>Q-5 What are the specific laws, rules and regulations in place to prevent marine littering?</i></b> -The Public Cleansing Act B.E. 2535 Article 26, 29-34 : Prohibits the disposal of waste in public areas. -Rules and regulations from the Marine Department.</p>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b> Need to update laws and regulations</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <ul style="list-style-type: none"> <li>➤ The Waste and Hazardous Waste Management Road Map <a href="http://www.pcd.go.th/Info_Serv/roadmapWaste.html">http://www.pcd.go.th/Info_Serv/roadmapWaste.html</a> (in Thai language)</li> <li>➤ The National Waste and Hazardous Waste Management Master Plan (2016-2021) is being drafted</li> <li>➤ The Waste Management Act is being drafted.</li> </ul>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 25</b>	<b>Protect public health and ecosystems, including freshwater and marine resources by eliminating illegal activities of open dumping, including dumping in the oceans, and controlling open burning in both urban and rural areas.</b>
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
The National Waste and Hazardous Waste Management Master Plan (2016-2021) is being drafted The Waste Management Act is being drafted.	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	



IV. 3R Goals for Cross-cutting Issues	
<b>Goal 26</b>	Facilitate the international circulation of re-usable and recyclable resources as well as remanufactured products as mutually agreed by countries and in accordance with international and national laws, especially the Basel Convention, which contributes to the reduction of negative environmental impacts and the effective management of resources.
<p><b><i>Q-1 What are major recycling industries in your country?</i></b></p> <ul style="list-style-type: none"> <li>- Factory type 101 (Central Waste treatment)</li> <li>- Factory type 105 (sorting and/or landfill facility of waste)</li> <li>- Factory type 106 (recycling facility in which unusable industrial products wastes being utilized in production process to produce raw material or new product)</li> </ul> <p><b><i>Q-2 Please specify the regulation on transboundary movement of hazardous waste.</i></b></p> <p>According to the Hazardous Substance Act B.E. 2535 (1992), hazardous waste be classified to Hazardous Substance Type 3 which obtain permission before specified actions. The importer – exporter shall submit an application for a permit for Type 3 hazardous substance to Department of Industrial work (DIW) Ministry of Industry.</p> <p><b><i>Q-3 If your government has restriction on import of non-hazardous waste or quality control of non-hazardous waste, please list it up.</i></b></p> <ul style="list-style-type: none"> <li>- Plastic wastes (Apply to the Notification of Ministry of Industry on the criteria for the approval of the import of the scrap and used material which is made of used plastic and unused plastic B.E. 2551 (2008) dated on 21 January 2008)</li> <li>- Used tyres (Apply to the Notification of Ministry of commerce on the importation of used tyres into Thailand B.E. 2556 (2013) dated on 16 August 2013)</li> </ul> <p><b><i>Q-4 Does your government restricts import of remanufactured goods?</i></b></p> <p><b><i>Q-5 Does your government regard remanufactured goods as secondhand goods, and regulate it as secondhand goods?</i></b></p> <p>N/A</p> <p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <p>Need specifies law and regulation for transboundary movement of wastes, recyclables and goods.</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 26</b>	Facilitate the international circulation of re-usable and recyclable resources as well as remanufactured products as mutually agreed by countries and in accordance with international and national laws, especially the Basel Convention, which contributes to the reduction of negative environmental impacts and the effective management of resources.
<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i> Drafted Solid Waste Management Act.	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
<i>Is this Goal relevant for your country?</i> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

#### IV. 3R Goals for Cross-cutting Issues

**Goal 27** Promote data collection, compilation and sharing, public announcement and application of statistics on wastes and the 3Rs, to understand the state of waste management and resource efficiency.

**Q-1** Please give an overview on availability of various data and information on material flow and waste management by checking (X or ) the appropriate boxes. (Please respond on both "Data Availability" and Monitoring Base")

Data Type	Data Availability			Monitoring Base	
	Good	Very limited	No data exist	Good	Not good
Waste generation		/			/
Material flow	/				/
Cyclical use			/		/
Amount of final disposal	/			/	
Disposal to land	/			/	
Direct disposal to water		/			/
Import of waste	/			/	
Export of waste	/			/	
Total landfilled waste	/			/	
Import of recyclables		/			/
Export of recyclables	/				/
Hazardous waste generation (solid, liquid, sludge, etc.)		/			/
e-waste generation	/				/

*(Please add any other data type relevant to your country)*

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 27</b>	Promote data collection, compilation and sharing, public announcement and application of statistics on wastes and the 3Rs, to understand the state of waste management and resource efficiency.
<b><i>Q-2 What are the current and planned government policies and programmes to strengthen data and information availability in waste sector?</i></b>	
Public Discloses Policy/ Environmental Promotion Programme.	
<b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b>	
<ul style="list-style-type: none"> <li>- Data collection and sharing need high budget.</li> <li>- Different data collection techniques and capability.</li> </ul>	
<b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b>	
- Municipal solid waste management data collection for annual report of pollution status : <a href="http://www.pcd.go.th">www.pcd.go.th</a>	
<b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b>	
- 3R data base and knowledge hub	
<b><i>Is this Goal relevant for your country?</i></b> <input checked="" type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 28</b>	Promote heat recovery (waste-to-energy), in case wastes are not re-usable or recyclable and proper and sustainable management is secured.
<b>Q-1 What are the government policies and programmes, including incentives, for waste-to-energy programmes?</b>	
<p>Waste and Hazardous Waste Management Road Map encourages waste to energy facilities as part of an integrated waste management system for local authorities with public-private partnerships approach.</p> <p>A new feed in tariff system has been introduced for driving production of energy from waste.</p>	
<b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b>	
<p>Procedures for public private partnerships for waste to energy projects need to be simplified and explained to local authorities. Inadequate numbers of local higher technology providers.</p>	
<b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b>	
<p>1. Waste and Hazardous Waste Management Road Map  <a href="http://www.pcd.go.th/Info_Serv/roadmapWaste.html">http://www.pcd.go.th/Info_Serv/roadmapWaste.html</a> (in Thai language)</p> <p>2. Undergoing a project to conduct feasibility studies for waste to energy facilities in Thailand for large, medium and small size.</p>	
<b>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</b>	
<p>The National Waste and Hazardous Waste Management Master Plan (2016-2021) is being drafted</p>	
<p><b>Is this Goal relevant for your country?</b> <input checked="" type="checkbox"/> Highly      <input type="checkbox"/> Partially      <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 29</b>	Promote overall regional cooperation and multi-stakeholder partnerships based on different levels of linkages such as government-to-government, municipality-to-municipality, industry-to-industry, (research) institute-to-institute, and NGO-to-NGO. Encourage technology transfer and technical and financial supports for 3Rs from developed countries to less developed countries.
<p><b><i>Q-1 Please provide a list of on-going bilateral/multi-lateral technical cooperation in 3R areas?</i></b></p> <ul style="list-style-type: none"> <li>- ASEAN-UNEP IETC Joint Activities on Waste Management Under ASEAN Working Group on Multilateral Environmental Agreement (AWGMEA)</li> <li>- Capacity Building Project on Environmental Management Among Local Regional And Central Authorities :JICA</li> </ul> <p><b><i>Q-2 What actions are being taken to promote inter-municipal or regional cooperation in areas of waste exchanges, resource recovery, recycling, waste-to-energy and trade of recyclables?</i></b></p> <ul style="list-style-type: none"> <li>- Developing master plan on solid and hazardous wastes management which include international cooperation</li> </ul>	
<p><b><i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i></b></p> <p>N/A</p>	
<p><b><i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i></b></p> <ul style="list-style-type: none"> <li>- Waste Landfill Planing Assistance for Thailand : JICA, Fukuoka.</li> </ul>	
<p><b><i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i></b></p> <ul style="list-style-type: none"> <li>- Draft National Waste Management Master Plan 2016-2021</li> </ul>	
<p><b><i>Is this Goal relevant for your country?</i></b>    <input checked="" type="checkbox"/> Highly            <input type="checkbox"/> Partially            <input type="checkbox"/> Not at all</p>	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 30</b>	Pay special attention to issues and challenges faced by developing countries including SIDS in achieving sustainable development.
<i>Q-1 Please describe any past and on-going cooperation with SIDS (Small Island Developing States) countries in 3R areas.</i>	
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<i>Q-2 Please list 3R related projects linked to climate change, biodiversity, disaster management and sustainable tourism. (This is to be reported by SIDS countries only)</i>	
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<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
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<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
-	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
-	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 31</b>	Promote 3R + “Return” concept which stands for Reduce, Reuse, Recycle and “Return” where recycling is difficult due to the absence of available recycling industries and limited scale of markets in SIDS, especially in the Pacific Region.
<i>Q-1 What specific policies, programme, including pilot projects, are implemented to promote 3R+ “Return” concept? (This is to be reported by SIDS countries only)</i>	
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<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
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<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
-	
<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
-	
<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	
-	



IV. 3R Goals for Cross-cutting Issues	
<b>Goal 32</b>	Complete elimination of illegal engagement of children in the <b>informal waste sector</b> and gradually <b>improve</b> the working conditions and livelihood security, including <b>mandatory provision of health insurance</b> , for all workers.
	<p><b><i>Q-1 What is the approximate market size (in US\$) of the informal waste sector?</i></b> Approximately 650,000 USD</p> <p><b><i>Q-2 Number of annual labor inspections in waste sector?</i></b> Around 100,000 people</p> <p><b><i>Q-3 Is health insurance a mandatory to all informal workers in waste sector by law?</i></b> Yes</p> <p><b><i>Q-4 What specific policies and enforcement mechanisms are in place to prevent illegal engagement of children in waste sector?</i></b> - Labor law and related notifications - Measures in Prevention and Suppression of Trafficking in Women and Children Act BE 2540 (1997) - Child Protection Act BE 2546 (2003)</p> <p><b><i>Q-5 Number of landfill sites accessible to register waste pickers?</i></b> 1500 sites</p> <p><b><i>Q-6 Average life span of informal waste workers?</i></b> N/A</p> <p><b><i>Q-7 Any government vaccination programmes for informal waste workers?</i></b> Yes , Local authority and the public health units</p> <p><b><i>Q-8 Any public awareness programmes for informal waste workers on health and safety measures?</i></b> Yes, running by Local authority</p>

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 32</b>	Complete elimination of illegal engagement of children in the <b>informal waste sector</b> and gradually <b>improve</b> the working conditions and livelihood security, including <b>mandatory provision of health insurance</b> , for all workers.
<b>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</b>	
<ul style="list-style-type: none"> <li>- Register informal waste sectors for supporting welfare</li> <li>- Manatory provision of health insurance is limited by finance.</li> </ul>	
<b>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</b>	
<ul style="list-style-type: none"> <li>- Promotion for green junk shops : <a href="http://www.pcd.go.th">www.pcd.go.th</a></li> <li>- Promotion health care for informal labor : website <a href="http://www.thaihealth.or.th/">http://www.thaihealth.or.th/</a></li> </ul>	
<b>Important policies/programs/projects/master plans the government plans to undertake within next five years (2015~2020)</b>	
Master Plan on National Health Care and Insurance.	
<b>Is this Goal relevant for your country?</b> <input type="checkbox"/> Highly <input checked="" type="checkbox"/> Partially <input type="checkbox"/> Not at all	

IV. 3R Goals for Cross-cutting Issues	
<b>Goal 33</b>	Promote 3Rs taking into account gender considerations.
<i>Q-1 Please give a brief assessment on how the national, provincial and municipal governments incorporate gender considerations in waste reduction, reuse and recycle.</i>	
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<i>Challenges (policy/ institutional/ technological/ financial) faced in implementation:</i>	
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<i>Examples of pilot projects, master plans and/or policies developed or under development – include websites where relevant</i>	
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<i>Important policies/programmes/projects/master plans the government plans to undertake within next five years (2015~2020)</i>	
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<i>Is this Goal relevant for your country?</i> <input type="checkbox"/> Highly <input type="checkbox"/> Partially <input type="checkbox"/> Not at all	