

出國報告（出國類別：其他）

參加 2014 OECD (Organization for
Economic Co-operation and
Development) 與日本環境省 EPR 全球論
壇報告

服務機關：行政院環保署

姓名職稱：洪榮勳 博士

派赴國家：日本

出國期間：103 年 06 月 16 日至 06 月 20 日

報告日期：103 年 08 月 10 日

參加 2014 OECD EPR 會議摘要報告

摘要

今年適逢日本加入國際經濟合作發展組織(The Organisation for Economic Co-operation and Development, OECD)五十週年，因此於今(103)年6月17日至19日在日本東京，由日本環境省與 OECD 共同舉辦『延長生產者責任(Extended Producer Responsibility)』全球論壇(Global Forum)。我國應 OECD 邀請，並由 OECD 與日本環境省負擔所有旅費，參加此次會議。

2010年10月25日 OECD 全球論壇在比利時麥哈倫，與比利時環境部共同舉辦，主題為 Sustainable Material Management (SMM)。當時我國應邀參加，並報告我國 SMM 的成績，同時擔任政策相關主題的評論員。今年因為政治考量，OECD 總監 Peter Borkey 表示無法安排我國上台報告。

本次大會由日本環境省副部長 Dr. Ryutaro Yatsu 及 OECD 環境部部長 Simon Upton 共同主持。與會代表除了 OECD 會員國家外，還有其他非會員國，包括亞洲、非洲、美洲、歐洲、澳洲、大洋洲共二百多位代表參加。中國大陸這次也有兩位代表與會。

第1天開幕式，由日本環境部副部長及 OECD 環境部部長主持開幕，分別致開幕詞後，即分別由 OECD 秘書處、歐盟、耶魯大學環境研究所等，從各個面向探討延長生產者責任的問題。

第2天在簡單說明 OECD、歐盟、加拿大、以及日本政策之後，全體成員分成四組，針對政策實行面的挑戰、經濟面的挑戰、EPR 開創時期的挑戰及新產品問題挑戰，進行分組討論。各組將結論分別具體化之後，再提交給 OECD 作為參考。

第3天上午閉幕式由日本環境省大臣 Ms. Tomoko Ukishima 及 OECD 環境部部長 Simon Upton 共同主持，聽取來自日本、歐洲及中國大陸在生產者責任方面之組織架構及執行經驗。

本次大會 OECD 因政治因素未安排我國上台報告，但我國積極參與及建言，獲得與會代表肯定，並有多國代表引用我國數據及案例作說明，最後亦將我國 EPR 政策及案例納入 OECD 建議文件。

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參加 2014 OECD 與日本環境省 EPR 全球論壇會議報告

壹、出國計劃名稱：參加 2014 OECD 與日本環境省 EPR 全球論壇會議

貳、會議地點：日本東京

參、參加人員：廢管處洪榮勳 博士

肆、會議時間：103 年 06 月 17 日至 06 月 19 日

伍、行程內容：

06 月 16 日：啟程前往日本東京

06 月 17、18、19 日：參加會議

06 月 20 日：返國

陸、會議過程：

2011 年 OECD (The Organisation for Economic Co-operation and Development) 內部小組更改名稱，我國應邀參加後，即獲 OECD 認可為當然成員，每年得以參加 OECD 在巴黎舉辦的專家會議。今年在日本舉行的『延長生產者責任論壇』是年度專家會議外，額外增加的一個論壇，因此，我國並沒有出國預算參加本次會議。今年年初曾經爭取要增加本次會議的費用，但沒有通過，因此，在隨後與 OECD 的信件來往中，即向 OECD 在法國總部告知，我國不克參加的訊息。到了五月，突然接到 OECD 來函表示日本環境省願意負擔我國

的旅費讓我過得以參加本次的全球論壇。

由於今年適逢日本加入國際經濟合作發展組織 OECD 五十週年，因此於今（103）年 6 月 17 日至 19 日在日本東京，由日本環境省與 OECD 共同舉辦『延長生產者責任(Extended Producer Responsibility)』全球論壇(Global Forum)。本次大會過程簡要分述如下：

1、第 1 天開幕式，由日本環境部副部長 Dr. Ryutaro Yatsu 及 OECD 環境部部長 Simon Upton 主持開幕，分別致開幕詞後，即開始分別由 OECD 秘書處、歐盟、耶魯大學環境研究所等從各個面向探討延長生產者責任的問題。日本環境省副部長在開幕致辭時，即引用我國的數據，這在過去的大型會議中鮮少發生。接下來耶魯大學環境管理研究所教授演講，法國代表演講，歐盟演講，日本演講，也多次提到我國在這方面的成就，獲得與會代表高度認同與肯定。

2、美國耶魯大學教授 Reid Lifset 常年研究 EPR，對於 EPR 的收費方法，將之分成四類，第一類屬於押金退費 deposit/refund，第二類是 advance disposal fees 預先處置費用，第三類是 material tax 物質稅，第四類上游混合稅制補貼系統 upstream combination tax subsidy。在他演講後，我們以我國 EPR 收費的制度向他提出一個意見：在他提出的四類方式裡，我們找不到一個完全契合我國系

統的系統。如果勉強要找一個，應該是第二類的 advance disposal fees 預先處置費用，但是以我國收費的意義，我們並不是要處置這些回收的物質，我國回收應是比較偏向 Advance recycling fee。這位教授在休息時間跑來找我，其實他對台灣的 EPR 系統已經研究多年，非常有心得，他也了解他的 Advance disposal fees 不能夠完全描述台灣的系統，但是他的 disposal 是比較廣義的 disposal，但是他也同意我們以從 recycling 的觀點來看這個收費制度是比較有正面效果。

3、日本神戶大學石川教授對我國收費系統也非常有興趣，這位教授在休息時間也來詢問有關我國 EPR 的問題，並表示曾有廠商向他反映我國收費偏高，我們向他解釋我國費率審議委員會的組成以及定期審議費率的情形，並且我們現在正在透過差別匯率的運作，希望能夠鼓勵環保設計產品事業。

4、第 2 天在簡單說明 OECD、歐盟、加拿大、以及日本政策之後，全體成員分成四組，針對政策實行面的挑戰、經濟面的挑戰、EPR 開創時期的挑戰及新產品問題挑戰，進行分組討論。各組將結論分別具體化之後，再提交給 OECD 作為參考。今年討論議題中，有一點被多個國家提出來的就是然後希望能夠在 EPR 系統裡面考慮到環境設計概念。我們也提供我國對於環保標章等環境設計環境友善產品

差別費率政策目前進行情形，以及碰到的一些問題。歐盟代表把這一段我們的說明納入第二天講稿簡報裡面。而且在他的簡報裡就打出來台灣，挑動了 OECD 的政治敏感話題。

5、與會代表這一次大會裡面，對於新的產品加入 EPR 系統多做討論，我們也提供與會代表我國的新規定，例如今年加入的平板電腦，外接硬碟制度以及近幾年我國與手機業者的協定，目前這些政策都正在進行中。

6、有代表提出，對於一些價值提高的產品是不是適合留在 EPR 制度中。我們也提供了我國在兩年前解除列管的潤滑油案例給大家參考，與會代表更將我國的建議具體的打在提給 OECD 的書面建議事項當中。

7、雖然由於政治考量，我國在這一次大會過程中，沒有能夠正式上台報告，但是，從與會各國對我國的肯定，值得我們欣慰。在第一天報告裡，多個會員國都以 Chinese Taipei 來稱呼我國，到了第二天，大家放鬆了，白紙黑字上面就直接打著 Taiwan 台灣，口頭上也都開始講台灣，畢竟用台灣稱呼我國對他們而言是比較習慣的用法。

8、在這一次報告中，有幾個問題受到與會代表的關注，一個是關於日漸興盛的網路購物問題，是不是會造成 EPR 收費系統的困

擾。第二個是在回收過程裡對於戰略物質的管制，由於有回收成本的考量，如何在政策的制定過程裡同時兼顧戰略物質的重要性，也是這一次討論沒有結果的議題。

9、這一次大會座位安排，是一大型圓桌討論方式，主要提供大家針對每個議題做深入討論，及案例分享。我國在累積十多年成功EPR經驗，在這一次論壇中充分扮演著積極貢獻者的角色，為其他與會國家提我國成功案例，寶貴經驗。受到與會各國高度肯定與興趣。

10、討論的過程中 OECD 的長期顧問公司 BIAC (Business Industry Adviser Committee) 的一位代表建議 OECD 應該試圖找出一個最好的 EPR 系統，給每一個 OECD 國家使用。大會主席在這位代表發言以後，即主動詢問我們的意見，我們向大會表示，由於世界各國文化的差異，經濟條件的不同，要找出一套適合每個國家最好的 EPR 系統比較困難，OECD 國家之間雖然同質性高，可能性比較大，但是由於各國的政治條件、環境因素、人民習性的差異，找出一套適合每個國家最好的 EPR 系統還是有一定的困難。我們建議 OECD 應該準備一個 guide line，列出在發展 EPR 的過程裡面應該注意的事項，例如，如何找到利害關係人，包括生產者、消費者、政府、環保團體的共同利益點，如何制定一套透明的制度，每個國家

地區應該因地制宜，找出最適合他們的系統。

11、第 3 天上午閉幕式由日本環境省大臣 Ms. Tomoko Ukishima 及 OECD 環境部部長 Simon Upton 共同主持，聽取來自日本、歐洲及中國大陸在生產者責任方面之組織架構及執行經驗。最後一天的評論，共有八位評論員，其中日本就佔了五位（包括主持人）。在這個評論過程裡面，我國的差別收費制度有助於環境設計 design for environment 的功能，美國代表也特別提出做了見證。

12、會後參觀本地的家電拆解回收系統 hyper cycle system，該系統是由三菱 Mitisubishi 公司設立，使用最新高科技達到家電系統的完全拆解再利用，達到零廢棄的目的，在拆解的過程該系統可以將家電裡面的高純度的鐵、銅分離出來，做最有效的再利用，甚至於在冰箱隔熱層裡的冷媒，也能夠做最有效的分離回收再利用。雖然我們去參觀的 hyper cycle system 號稱百分之百的回收，但是到了現場參觀以後發現，當他們把回收的東西百分之百交給了下游回收廠商以後，對他們而言就是百分之百回收。而且在回收冷媒裡面，也有必須要銷毀的部分。雖然他們號稱的百分之百回收，引起參觀大眾質疑，但是整個廠區乾淨整潔程度是大家一致稱讚。該廠成立於 1999 年，比台灣的晚了兩年，回收拆解的方法，與我國的【綠電再生】大同小異，但是作業的生產線流程，感覺上比台灣

緊湊有效率。其中電冰箱拆解，該廠一條生產線一天就可以處理 1000 台電冰箱。但可能也是因為如此，現場作業噪音遠比台灣作業環境來得高。這一點在會後討論時候，也引起部分參觀代表關心。

柒、建議事項：

本次大會 OECD 因政治因素未安排我國上台報告，但我國積極參與及建言，獲得與會代表肯定，並有多國代表引用我國數據及案例作為說明，最後亦將我國 EPR 政策及案例納入 OECD 建議文件。因應環境議題國際化，我國應積極主動參與國際會議，提供我國寶貴經驗與成功案例，爭取國際友誼，提高我國國際能見度。

捌、附件

附 件

附件一



參加2014年 OECD延長生產者責任(EPR)報告



洪榮勳
103年6月27日



我國代表位子

OECD



環境省

OECD Global Forum on EPR
Tokyo, 17-19 June 2014

Harvey HOUNG

日本環境省與OECD共同主辦，延長生產者責任（Extended Producer Responsibility）的全球論壇，我國應OECD邀請，並由OECD與日本環境省負擔所有旅費，參加此次會議。





❖ 這次大會由日本環境省副部長 Dr. Ryutaro Yatsu 及 OECD 環境部部長 Simon Upton 共同主持。致辭時副部長引用我國數據。



資源永續立目標 循環利用創新局

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❖ 與會代表除了 ODCE 會員國家外，還有其他非會員國，包括亞洲、非洲、美洲、歐洲、澳洲、大洋洲共二百多位代表參加。



資源永續立目標 循環利用創新局

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日本環境省副部長在開幕致辭時，即提到我國廢棄物管理，這在過去的大型會議中比較少發生的。



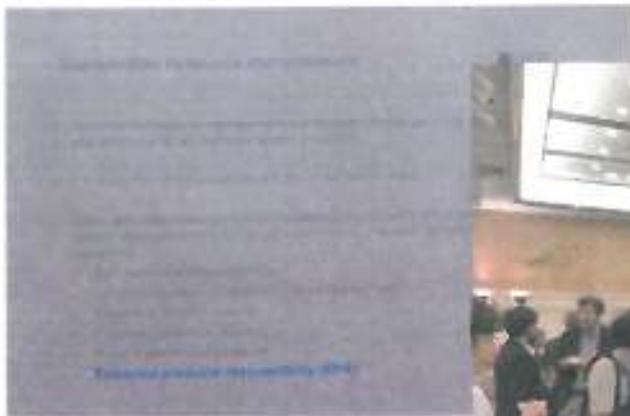
資源永續立目標



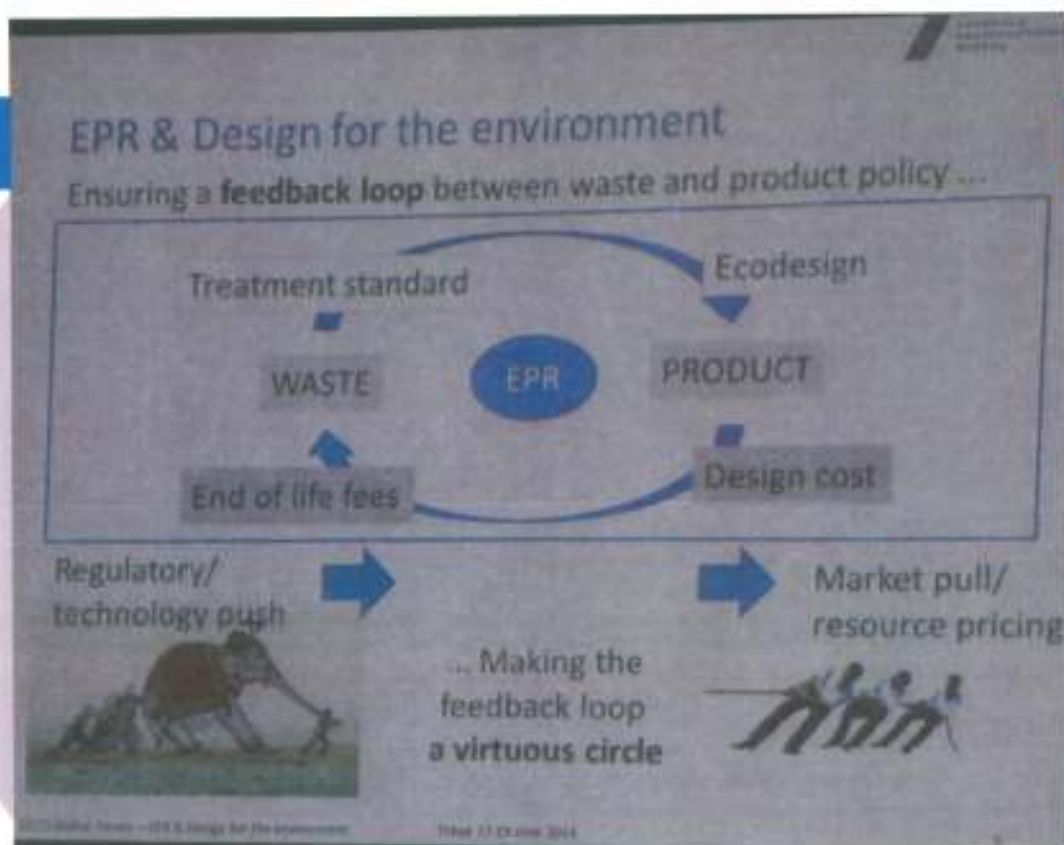
中國大陸這次有兩位代表與會，分別為環保部固體廢棄物與化學品管理技術中心鄭洋高級工程師、及清華大學環境學院陳源教授。鄭先生分別在第一天及閉幕會上作了兩個報告，是論壇唯一作兩個報告者。



資源永續立目標 循環利用創新局



美國耶魯大學教授Reid Lifset多年研究EPR，對於EPR的收費方法，將之分成四類，第一類屬於押金退費deposit/refund，第二類是advance disposal fees預先處置費用，第三類是material tax物質稅，第四類上游混合廢置補貼系統upstream combination tax subsidy。我們以我國EPR收費的制度向他提出意見，Lifset 教授欣然接受，並前來致意。



今年討論議題中，有一點被多個國家提出來的就是然後希望能夠在EPR的系統裡面考慮到環境設計的概念。





我們也提供他們環保標章等環境設計環境友善產品的差別費率政策目前進行的情形，以及碰到的一些問題。



Operational approaches to make EPR work for DfE

- More consistency between ecodesign requirements and treatment standards (e.g in Europe: Packaging & packaging waste law; Ecodesign & WEEE)
- Modulation of end of life fees / Individualisation of EPR (e.g in Europe: French way of developing EPR schemes, Taiwan and ADF differentiation)
- Performance contract for B2B /Leasing B2C (e.g all over the world. Paying for the copiers service)
- End of life fees paid according to return rate (experience still to be documented... Oregon and Washington mentioned)

環境設計的概念，我國的做法也提供他們參考，歐盟代表把這一段我們的說明納入第二天的講稿裡面。而且在他的講稿裡就打出來台灣。



第二天，在簡單的說明後，分成四組，針對1、政策實行面的挑戰2、經濟面的挑戰3、EPR開創時期的挑戰4、新產品問題挑戰等，分組進行討論



資源永續立目標 循環利用創



- ❖ 提供與會代表我國今年加入的平板電腦，外接硬碟的制度以及幾年前我國與手機業者的協定，以及廢潤滑油的解禁。



資源永續立目標 循環利用創新局

Recommendations to OECD

Addressing emerging issues

- **Waste as a valuable resource**
 - EPR schemes generally needed, but valuable products might have zero fee when material prices are high
 - Phase out EPR schemes only in exceptional cases when cost of running EPR schemes outweighs benefits (e.g. Taiwan on motor oil)
 - Regulation should clarify material ownership, e.g. sharing material value/revenues along the recycling chain
 - Voluntary EPR for valuable materials (e.g. Taiwan mobile-phones, buy-back system for batteries in India)
- **Additional issues**
 - Integrating new materials entering the market
 - Regular review of targets (reflecting market developments)

OECD Workshop
Taipei, 17-18 June 2014

Workshop of Experts

各組將所得的結論分別具體化以後，再回到大會會場提出給 OECD 作為參考，其中提到兩次台灣見諸文字。



閉幕式則由日本環境大臣 Ms. Tomoko Ukishima 及 OECD 的環境部部長 Simon Upton 共同主持。





最後一天共有9位評論員，其中日本佔了5位。評論過程，我國的差別收費制度有助於 design for environment 的功能，美國代表也特別提出作為案例。



資源永續立目標 循環利用創

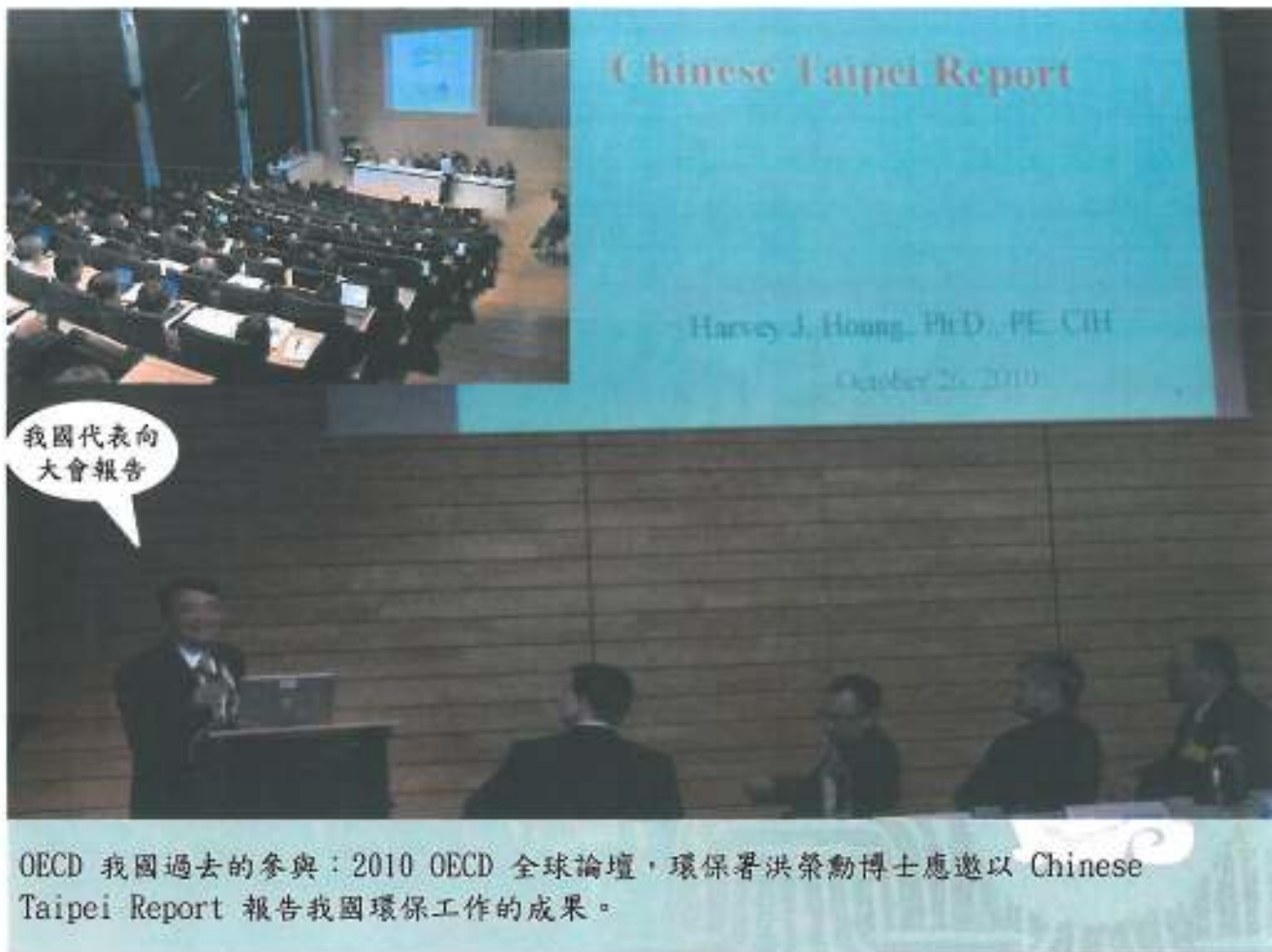


OECD總監及環境與經濟處長



資源永續立目標 循環利用創新局





我國代表向大會報告

OECD 我國過去的參與：2010 OECD 全球論壇，環保署洪榮勳博士應邀以 Chinese Taipei Report 報告我國環保工作的成果。

2008 03 20 聯合報

中華民國九十七年三月二十日 星期三

新聞 要聞

中共施壓 吳釗燮吃閉門羹

五名前美國國務卿 拒與吳釗燮同桌 OECD中共也運作簽署諒解備忘錄 對我「七不」

【本報記者張文攝】中共對台灣加入OECD一事，一直採取強硬態度。據悉，五名前美國國務卿，包括前國務卿萊特希澤、前國務卿萊特希澤、前國務卿萊特希澤、前國務卿萊特希澤、前國務卿萊特希澤，均拒絕與吳釗燮同桌。此外，OECD中共也運作簽署諒解備忘錄，對我「七不」。

- 中共要求OECD承諾對台「七不」
- 不接受臺灣為會員
- 不接受臺灣為觀察員
- 不接受臺灣人員成為OECD官員
- 不在臺灣召開會議或活動
- 不與臺灣共同召開會議與活動
- 不接受OECD官員訪臺
- 不接受臺灣官員訪問OECD

2008年，OECD SMM大會



結論

- ◆ 上一次 OECD 舉辦的全球論壇，是2010年10月25日在比利時麥哈倫舉辦，主題是Sustainable Material Management 永續物料管理。當時我國應邀參加，並獲邀上台報告我國在永續物料管理的成績，同時擔任政策相關主題的評論員。今年因為政治考量，OECD 沒有安排我國上台報告，但會議過程，我國充分建言，得到許多與會代表積極回應與支持。
- ◆ 我國廢棄物及資源管理政策能與 OECD 國家同聚一堂討論，尤其是，我們有些政策更是走在世界前茅，是我國人之驕傲。
- ◆ 這次我國的 EPR 政策及做法一再被與會代表提及，甚至具體化為文字，寫在給 OECD 的建議文件中，高度的肯定我國。
- ◆ 雖然我國的努力受到與會各國代表及 OECD 總監及環境與經濟處長的肯定，但是他們也私下透露，其高層對我國參加 OECD 活動的疑慮。



附件二

AGENDA

GLOBAL FORUM ON ENVIRONMENT: PROMOTING SUSTAINABLE MATERIALS MANAGEMENT THROUGH EXTENDED PRODUCER RESPONSIBILITY (EPR)

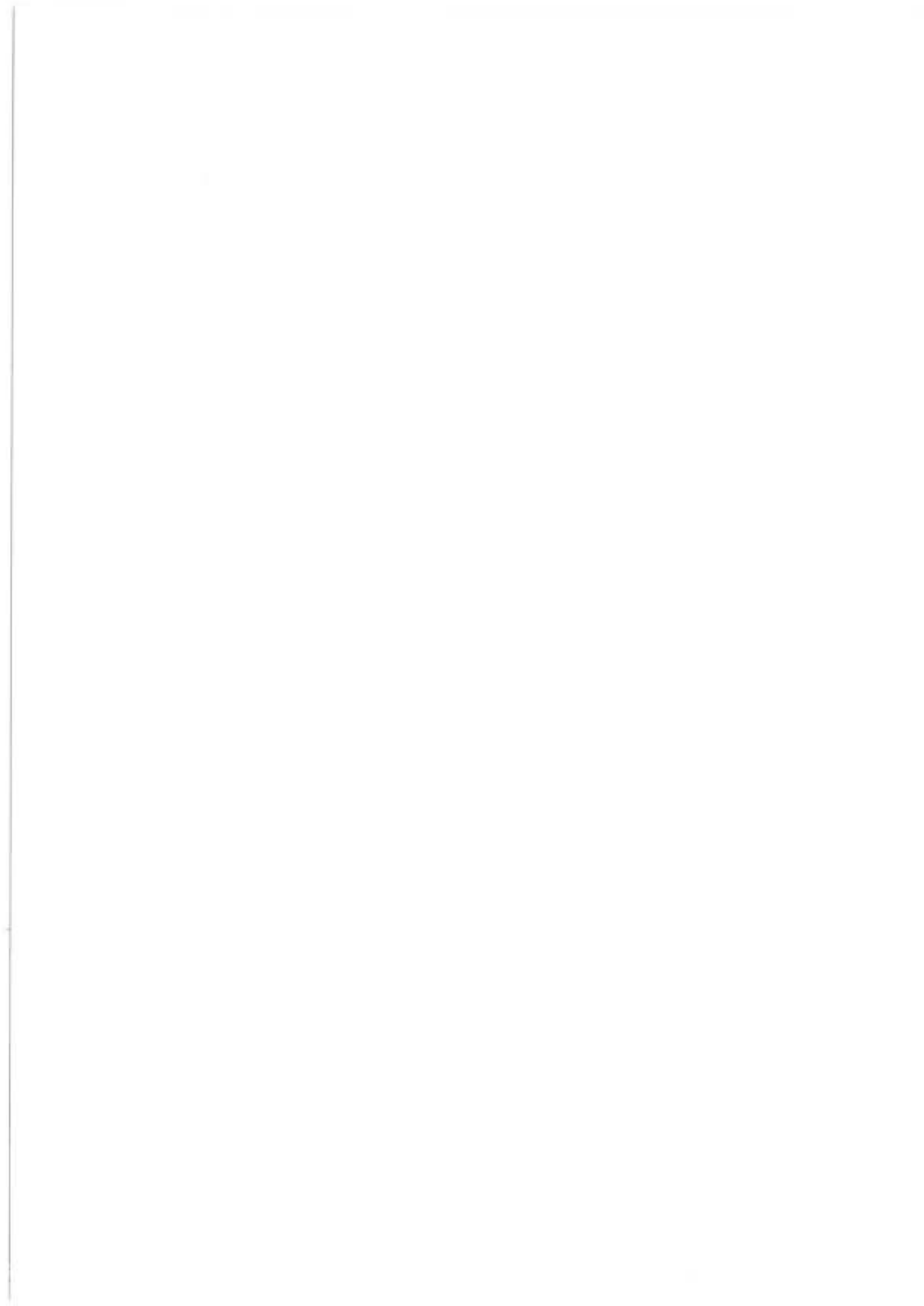
17-19 June 2014, Tokyo, Japan



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This OECD Global Forum on Environment is carried out with funding by the European Union



GLOBAL FORUM ON ENVIRONMENT: PROMOTING SUSTAINABLE MATERIALS MANAGEMENT THROUGH EXTENDED PRODUCER RESPONSIBILITY (EPR)

17-19 June 2014

Tokyo Prince Hotel, Tokyo, Japan

Background

The total volume of material resources extracted or harvested worldwide reached nearly 60 billion metric tonnes (Gt) in 2007, a 65% increase from 1980 and an estimated 8 fold increase over the last century. Going for green growth and establishing a resource efficient economy is therefore a major environmental, development and macroeconomic challenge today. In this context, putting in place policies that ensure sustainable materials management building on the principle of the 3Rs – Reduce, Reuse, Recycle – is crucial. Approaches such as the Circular Economy, the Sound Material-Cycle Society and Sustainable Materials Management can help to reduce the amount of resources that human economic activity requires as well as diminishing the associated environmental impacts and minimising waste from production and consumption. More broadly, resource efficiency policies can help to improve competitiveness, contribute to addressing resource security concerns and create growth and jobs.

In many OECD countries, the concept of “extended producer responsibility” (EPR) has been an established principle of environmental policy since the middle of the 1990s. EPR is an environmental policy approach in which the responsibility of producers for their products is extended to include the social costs of waste management, including the environmental impact of waste disposal of their products. In many countries, extended producer responsibility policies are playing an important role in supporting national resource efficiency strategies. While usually effective at transferring part of the financial burden for waste management to the private sector, there is a risk that EPRs – if poorly implemented – could lead to sub-optimal levels of material recovery, absence of environmental incentives, excessive costs, disruption of existing material markets, as well as rent-seeking. Hence, there appears to be a significant need for guidance in the use of EPR schemes across major OECD and emerging market economies. To address this need, the OECD is currently updating and expanding on the OECD Guidance Manual for Governments on EPR that was published in 2001. As part of this work, a number of country case studies are being developed. These will be used to analyse recent real-world experience with EPR as a basis for deriving updated policy guidance.

Objectives

In this context, the aim of this Global Forum on Environment is to support ongoing OECD work on EPR by taking stock of recent EPR implementation experiences and to provide a multi-stakeholder arena within which OECD and partner countries can discuss draft guidance. A key expected outcome of the Global Forum is a set of guiding principles for the use and design of EPRs.

Co-Organisers

This Global Forum on Environment is co-organised by the OECD Working Party on Resource Productivity and Waste (WPRPW) and the Ministry of the Environment of Japan (MOEJ). It is carried out with funding from the European Union, and other partners.

Participants

The Global Forum is a multi-stakeholder event that brings together EPR experts from governments (ministries and local governments), NGOs, international organisations and the private sector, from OECD member countries and elsewhere.

AGENDA

GLOBAL FORUM ON ENVIRONMENT: PROMOTING SUSTAINABLE MATERIALS MANAGEMENT THROUGH EXTENDED PRODUCER RESPONSIBILITY

17-19 June 2014, Tokyo Prince Hotel (Tokyo, Japan)

Day 1 Tuesday 17 June 2014	
8:30	REGISTRATION & COFFEE / TEA
9:00	<p>OPENING SESSION</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Ryutaro Yatsu, <i>Vice-minister, Ministry of the Environment, Japan</i> • Simon Upton, <i>Director of Environment Directorate, OECD</i>
9:30	<p>Session 1: THE LANDSCAPE OF EXTENDED PRODUCER RESPONSIBILITY</p> <p>Global Forum Co-Chairs: Simon Upton, <i>Director of Environment Directorate, OECD</i>; and Ryutaro Yatsu, <i>Vice-minister, Ministry of the Environment, Japan</i></p> <p>Speakers:</p> <ul style="list-style-type: none"> • Background on OECD's work on EPR: Shardul Agrawala, <i>OECD Secretariat</i> • Policy context in the EU: Michel Sponar, <i>EU Commission</i> • Insights from the Literature: Reid Lifset, <i>Yale School of Forestry and Environmental Studies</i> • A Practitioner's View: Christophe Vanderstricht, <i>Ernst&Young</i> <p>Discussion</p> <p>Key Issues</p> <ul style="list-style-type: none"> • How is EPR used across the globe? Which product groups are addressed? How have they been designed and implemented in various countries and regions? • What challenges do countries face when designing and implementing EPR policies, and what insights are available from the literature?
11:00	BREAK
11:30	<p>Session 1 continued</p> <p>Discussion</p>
12:30	LUNCH (provided by Japan)

14:00	<p>Session 2: KEY ISSUES AND LESSONS LEARNED IN THE OECD</p> <p>Chair: Rasio Ridho Sani, <i>Deputy Minister for Hazardous Substances Hazardous Waste and Solid Waste Management, Ministry of the Environment, Indonesia</i></p> <p>Speakers:</p> <ul style="list-style-type: none"> • Insights from the Asia Pacific Region - Examples from Japan: Tomohiro Tasaki, <i>National Institute for Environmental Studies</i> • Insights from the EU - Examples from France: Baptiste Legay, <i>Ministry of Ecology, Sustainable Development, Transport and Energy, France</i> • Insights from North America: Scott Cassel, <i>Product Stewardship Institute</i> <p>Discussion</p> <p>Key Issues</p> <ul style="list-style-type: none"> • What are the key factors that contribute to successful EPR implementation? • What challenges have been encountered? • What have some of the responses to these challenges been, and what lessons can be drawn from such experiences?
15:40	BREAK
16:10	<p>Session 3: KEY ISSUES AND LESSONS IN EMERGING ECONOMIES</p> <p>Chair: Yu-ran Kim, <i>Deputy Director, Resource Recirculation Policy Division, Ministry of Environment, Korea</i></p> <p>Speakers:</p> <ul style="list-style-type: none"> • China's e-waste management scheme: Yang Zheng, <i>Ministry of Environmental Protection, People's Republic of China</i> • A Kenyan case study: Klaus Hieronymi, <i>E-waste Solutions Alliance for Africa</i> • Colombian EPR experience: Francisco Gomez, <i>Ministry of Environment and Sustainable Development, Colombia</i> <p>Discussion</p> <p>Key Issues</p> <ul style="list-style-type: none"> • What are the key factors that contribute to the successful implementation of EPR? • What challenges do emerging economies encounter and how do they differ from those encountered in more advanced economies? • What are some specific responses to these challenges?
17:50	<p>KEY THEMES from Day 1</p> <p>Peter Börkey, <i>Environment Directorate, OECD Secretariat</i></p>
18:00	WELCOME RECEPTION
END OF DAY 1	

Day 2 Wednesday 18 June 2014

9:00	<p>Session 4: TOWARDS GUIDANCE FOR POLICY MAKERS</p> <p>Chair: Cecilia Mattsson, <i>Senior Advisor, Swedish Environmental Protection Agency</i></p> <p>This session will begin in plenary with the presentation of some guiding principles, position papers and stakeholder perspectives, before breaking up into smaller groups for in-depth discussions. After each intervention, the floor will be open for discussion.</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Policy guidance emerging from OECD work: Andrew Prag, <i>Environment Directorate, OECD</i> • Guiding principles from EU countries' experience: Michel Sponar, <i>European Commission</i> • Guiding principles from a producer perspective: Shelagh Kerr, <i>Electronics Product Stewardship Canada</i> • Policy concerns of Recyclers: Ana Durquety, <i>FEDEREC</i> • An NGO perspective on policy guidance Stephane Arditi, <i>European Environmental Bureau (EEB)</i> • Experiences of a city municipality Reiji Hitsumoto, <i>Kitakyushu City, Japan</i> <p>Key Issues</p> <ul style="list-style-type: none"> • What guiding principles for successful EPR schemes can be identified from the body of experience that has been assembled, both in advanced and emerging economies? • Which new issues merit further attention?
11:00	BREAK
11:30	<p>Breakout sessions: how to address key challenges in the design of EPR</p> <p>Each of the 4 parallel groups will focus on all the following issues:</p> <ol style="list-style-type: none"> 1. Governance and administrative challenges 2. Economic challenges 3. Issues specific to the start-up phase of EPR 4. New and emerging issues
12:30	LUNCH (provided by Japan)
14:00	Breakout sessions continued
16:00	BREAK
16:30-18:00	<p>Closing Session: FEEDBACK AND WRAP-UP</p> <p>Global Forum Co-Chairs: Simon Upton, <i>Director of Environment Directorate, OECD</i>; and Ryutaro Yatsu, <i>Vice-minister, Ministry of the Environment, Japan</i></p> <p>Facilitators and rapporteurs from the breakout groups report on their discussions, followed by a plenary discussion.</p> <p>Co-chairs will do a wrap-up.</p>
END OF DAY 2	

Day 3 Thursday 19 June 2014

KEY OUTCOMES OF THE FORUM, MOVING FORWARD & NEXT STEPS

This session aims to engage a wider Japanese audience in a discussion of the key conclusions emerging from the first two days of the Forum. It will also outline ideas for moving forward with EPR, with a focus on Asia.

9:00	<p>OPENING <i>Tomoko Ukishima, Parliamentary Vice-Minister of the Environment, Japan</i></p>
9:05	<p>Keynote Speech: THE OUTPUTS OF THE GLOBAL FORUM AND REVISION OF THE OECD GUIDANCE MANUAL <i>Simon Upton, Director of Environment Directorate, OECD</i></p>
9:30	<p>Introduction of Case Studies:</p> <ul style="list-style-type: none"> • Experience from Japan: Prof. Akemi Ori, <i>Kanto Gakuin University</i> • Experience from PROs in Europe: Joachim Quoden, <i>EXPRA</i> • Experience from People's Republic of China: Zheng Yang, <i>Ministry of Environmental Protection</i>
10:30	<p>Panel Discussion: PRESENT STATE AND CHALLENGES OF EPR SCHEMES IN OECD COUNTRIES AND EMERGING ECONOMIES Facilitator: <i>Tomohiro Tasaki, National Institute for Environmental Studies</i></p> <p>Panel Speakers:</p> <ul style="list-style-type: none"> • Baptiste Legay, <i>Ministry of Ecology, Sustainable Development, Transport and Energy, France</i> • Shruti Rai Bhardwaj, <i>Ministry of Environment and Forests, India</i> • Garth Hickle, <i>Minnesota Pollution Control Agency, USA (State Government)</i> • Masanobu Ishikawa, <i>Professor, Kobe University</i> • Hideaki Kikuchi, <i>Keidanren (Japan Business Federation)</i> • Atsushi Ohira, <i>Japan Food Industry Association</i> • Shinichi Kawaguchi, <i>The Japan Automobile Manufacturers Association</i> • Yuko Sakita, <i>NGO "Genki Network for Creating a Sustainable Society"</i> <p>Introduction (3 min. each) and Discussion</p> <p>Key Issues</p> <ul style="list-style-type: none"> • What are the key factors that contribute to the successful implementation of EPR, and which ones appear to be particularly important in Asia?
11:50	<p>MOVING FORWARD WITH EPR IN ASIA Ideas on next steps for EPR, particularly for Asia</p> <p>Speaker: <i>Tomohiro Tasaki, National Institute for Environmental Studies</i></p>
12:00	LUNCH BREAK (not provided)
13:30-17:30	<p>SITE VISITS (optional outings, choice of one; details tbc on site) HYPER CYCLE SYSTEMS CORPORATION or PET REFINE TECHNOLOGY</p>
END OF DAY 3	

www.oecd.org/env/waste/gfenv-extendedproducerresponsibility-June2014.htm

附件三

SYMPOSIUM
GLOBAL FORUM ON ENVIRONMENT :
PROMOTING SUSTAINABLE MATERIALS MANAGEMENT
THROUGH EXTENDED PRODUCER RESPONSIBILITY (EPR)

公開シンポジウム
環境に関するグローバル・フォーラム：
拡大生産者責任による持続可能な物質管理の促進



KEY OUTCOMES OF THE FORUM,
MOVING FORWARD & NEXT STEPS

THURSDAY 19 JUNE 2014

KEY OUTCOMES OF THE FORUM, MOVING FORWARD & NEXT STEPS

Thursday 19 June 2014

This session aims to engage a wider Japanese audience in a discussion of the key conclusions emerging from the first two days of the Forum. It will also outline ideas for moving forward with EPR, with a focus on Asia.

- 9:00 OPENING**
Tomoko Ukishima, Parliamentary Vice-Minister of the Environment, Japan
- 9:05 Keynote Speech : THE OUTPUTS OF THE GLOBAL FORUM AND REVISION OF THE OECD GUIDANCE MANUAL**
Simon Upton, Director of Environment Directorate, OECD
- 9:30 Introduction of Case Studies:**
Experience from Japan : Akemi Ori, Professor, Kanto Gakuin University
Experience from PROs in Europe : Joachim Quoden, EXPRA
Experience from People's Republic of China : Zheng Yang, Ministry of Environmental Protection
- 10:30 Panel Discussion : PRESENT STATE AND CHALLENGES OF EPR SCHEMES IN OECD COUNTRIES AND EMERGING ECONOMIES**
Facilitator : Tomohiro Tasaki, National Institute for Environmental Studies
Panel Speakers : Baptiste Legay, Ministry of Ecology, Sustainable Development, Transport and Energy, France
Shruti Rai Bhardwaj, Ministry of Environment and Forests, India
Garth Hickle, Minnesota Pollution Control Agency, USA (State Government)
Masanobu Ishikawa, Professor, Kobe University
Hideaki Kikuchi, Kaidanren (Japan Business Federation)
Atsushi Ohira, Japan Food Industry Association
Shinichi Kawaguchi, The Japan Automobile Manufacturers Association
Yuko Sakita, NPO "Genki Network for Creating a Sustainable Society"
- Introduction (3min. each) and Discussion**
Key Issues : What are the key factors that contribute to the successful implementation of EPR, and which ones appear to be particularly important in Asia?
- 11:50 MOVING FORWARD WITH EPR IN ASIA**
Ideas on next steps for EPR, particularly for Asia
Speaker : Tomohiro Tasaki, National Institute for Environmental Studies
- 12:00 END**

今後に向けたグローバル・フォーラムの成果

2014年6月19日(木)

当セッションは多くの日本からの参加者とともグローバル・フォーラムにおける成果を議論することを目的としています。また、特にアジアに焦点をあてて、拡大生産者責任の推進についての考えをまとめるものです。

9:00 開会挨拶

浮島 智子 環境大臣政務官

9:05 基調講演：グローバル・フォーラムの成果及びガイダンス・マニュアルの検討

サイモン・アプトン OECD環境局長

9:30 取組紹介：日本の経験 織 朱實 関東学院大学

ヨーロッパのPROの経験 ヨアヒム・クウォーデン ヨーロッパ生産者責任機構

中国の経験 鄭洋 中国環境保護省

10:30 パネル・ディスカッション：OECD加盟国及び途上国における拡大生産者責任の現状と課題

ファシリテーター：田崎 智宏 独立行政法人 国立環境研究所

パネリスト：バプティスト・レゲイ フランス・エコロジー・持続可能な発展・運輸・エネルギー省

シュラ・レイ・バードワジ インド環境・森林・気候変動省

ガス・ヒックル 米国ミネソタ州汚染管理局

石川 雅紀 神戸大学大学院

菊池 英明 一般社団法人 日本経済団体連合会

大平 博 一般社団法人 食品産業センター

川口 慎一 一般社団法人 日本自動車工業会

崎田 裕子 NPO法人 持続可能な社会をつくる元気ネット

紹介(各者3分)及びディスカッション

論点：拡大生産者責任の実施における成功要因は何か？アジアにおいて特に重要なものは何か？

11:50 アジアにおける今後の拡大生産者責任

特にアジアにおける、拡大生産者責任の今後についての考え

発表者：田崎 智宏 独立行政法人 国立環境研究所

12:00 閉会

Ms. Tomoko UKISHIMA

浮島 智子

Parliamentary Vice-Minister of the Environment, Japan

環境大臣政務官



Tomoko Ukishima was appointed Parliamentary Vice-Minister of the Environment (MOE), Japan in 2013. Prior to her appointment, she served as Member of the House of Representatives (2nd), Chairman, Policy Research Council on Education, Culture, Sports, Science and Technology, New Komeito in 2012. Her previous assignment with the Government of Japan was in 2008 at Parliamentary Vice-Minister of Education, Culture, Sports, Science and Technology (Reshuffled Fukuda Cabinet and Aso Cabinet).

2013年に環境大臣政務官に就任。就任前は、2012年に第46回衆議院選挙にて2期目当選(比例近畿ブロック)し、公明党文部科学部会長を、2008年に文部科学大臣政務官(福田改造内閣、麻生内閣)を務めた。

Mr. Simon Upton

サイモン・アプトン

Director of Environment Directorate, OECD

経済協力開発機構(OECD) 環境局長



Simon Upton is the Environment Director at the Organisation for Economic Co-operation and Development (OECD). The Environment Directorate is responsible for Environmental Performance Reviews of OECD member countries, the economic analysis of policy instruments used to improve environmental outcomes and a wide range of work related to water, waste, biodiversity, climate change and chemicals. Mr. Upton played a key role in the development of the OECD's Green Growth Strategy.

サイモン・アプトン氏は経済協力開発機構(OECD)環境局長を務める。環境局はOECD加盟国の環境パフォーマンスレビュー、環境成果の改善を促す政策手段の経済分析、および水、廃棄物、生物多様性、気候変動、化学物質に関連する幅広い活動を担当。同氏はOECDのグリーン成長戦略の策定で中核的役割を果たした。

Dr. Akemi Ori 織 朱實

Ph.D.Professor, KANTO GAKUIN UNIVERSITY

関東学院大学法学部 教授



Akemi Ori graduated the Faculty of Law, Waseda University in 1986. Working at Tokio Marine, Co.Ltd. as risk consultant. Getting Ph.D. (Law) at Hitotsubashi University in March 2003. Professor of Law at KANTO GAKUIN UNIVERSITY. Professional, administrative law and environmental law. Visiting Research Fellow of Mansfield College, Oxford University 2009-2010. From April 2003,

Member of the Ministry of the Environment, Central Environment Council, Waste and Recycling Committee, Ministry of Economy, Trade and Industry, Industrial Structure Council, Committee of Environment, Waste and Recycling Subcommittee Involved in the discussions for the legislation of The Containers and Packaging Recycling Law, from the beginning as a Council Member.

早稲田大学法学部を1986年に卒業。その後、東京海上火災保険会社で勤務。リスクマネジメント業務に従事する。2003年3月、一橋大学で法学博士を取得。2003年4月より関東学院大学、オックスフォード大学マンスフィールドカレッジで、2009-2010年にかけて客員研究員。専門は、環境法、行政法、化学物質、廃棄物等環境関連の産業構造審議会、中央環境審議会の諮問委員を務め、容器包装リサイクル法の審議には、法制定当時から関わっている。

Mr. Joachim Quoden ヨアヒム・クウォーデン

Managing Director, EXPRA

ヨーロッパ生産者責任機構 理事



Mr. Joachim Quoden has extensive experience in packaging waste management, dating from 1992 when he spent 4 months in the German Federal Ministry of Environment working on packaging issues including the German Packaging Ordinance. From 1993 to 2006, Mr. Quoden worked with Der Grüne Punkt - Duales System Deutschland GmbH (DSD), where he was appointed head of International Affairs in 2001. Between 2001 and 2013, he also became Secretary General and later Managing Director of PRO EUROPE, the umbrella organisation of 35 packaging recovery organisations. Since 2013, Mr. Quoden has been the Managing Director of EXPRA, a new alliance of PRO's from currently more than 18 countries. Besides the above, Mr. Quoden is working since 1995 as independent lawyer in Germany specializing in international EPR legislation, chairperson of ISWA's legal working group, and has served as an expert in ISO global standardisation project SIS/TK 165/AG 10 Packaging and Environment.

ヨアヒム・クウォーデン氏はドイツ連邦環境省に4ヶ月在籍しドイツの包装条例を含む包装問題に取り組んだ1992年以降、包装廃棄物管理の分野で豊富な経験を持つ。1993年から2006年までグリーンドット - デュアルシステムドイツ社に勤務。2001年に国際業務のトップに任命される。2001 - 2013年の間、傘下に35の包装・回収団体を擁するヨーロッパ包装回収組織(PRO EUROPE)の事務局長、後に理事(Managing Director)に就任。2013年以降、18か国以上の国々のPROによる新しい国際同盟EXPRAの理事(Managing Director)を務める。そのほか1995年以降、国際EPRの立法に携わるドイツの独立弁護士、ISWAの法務作業部会の会長として活動する傍ら、ISO国際標準化プロジェクト[SIS/TK165/AG10の包装と環境]に専門家として従事。

Mr. ZHENG Yang

鄭洋

Senior Engineer, Solid Waste and Chemicals Management Center, Ministry of Environmental Protection, P.R.China
中国環境保護省 固形廃棄物・化学物質管理センター シニア・エンジニア



ZHENG Yang serves as the Section Chief of E-waste Management Division of SCC-MEP. SCC-MEP is a technical support organization of MEP in the field of waste, chemicals, contaminated sites and heavy metals. Mr. Zheng's division is responsible for e-waste management policy research and enforcement of e-waste regulations in China. Prior to his current position, Mr. Zheng did a lot in the field of waste import & export management and policy research for MEP.

鄭洋(ZHENG Yang)氏は中国環境保護省、固形廃棄物・化学物質管理センターのシニアエンジニアで、同センター電子廃棄物管理課の課長を務める。同センターは廃棄物、化学物質、汚染地域・重金属の分野における環境保護省の技術支援機関である。電子廃棄物管理課は中国の電子廃棄物政策研究、電子廃棄物規制の実施を担当。現職に就く前は、環境保護省の廃棄物の輸出入管理や政策研究の分野に数多く携わっていた。

Dr. Tomohiro Tasaki

田崎 智宏

Head of Sustainable Material Cycle Systems Section, Center for Material Cycles and Waste Management Research, National Institute for Environmental Studies, Japan

独立行政法人 国立環境研究所 資源循環・廃棄物研究センター・循環型社会 システム研究室長



Dr. Tasaki has been a researcher at National Institute for Environmental Studies (NIES) since 2001. His research includes evaluation of recycling acts and waste prevention activities, and material flow analysis in the field of waste management. One of his recent studies is an international survey on stakeholders' perception of extended producer responsibility. He serves as a member of a committee to examine the revision of the Electrical Home Appliance Act of Japan now.

田崎博士は、2001年から国立環境研究所の研究員をしており、リサイクル法の評価や廃棄物発生抑制の取組の効果計測、廃棄物分野における物質フロー分析などの研究に従事してきた。最近の研究では、拡大生産者責任についてのステークホルダーの認識の国際調査を行っている。現在、家電リサイクル法の見直しの審議会での委員も務めている。

Mr. Baptise Legay バプティスト・レゲイ

Senior environmental manager, Ministry of Ecology, Sustainable Development, Transport and Energy, France
フランス・エコロジー・持続可能な発展・運輸・エネルギー省 シニア環境マネージャー



Baptiste LEGAY is a senior environmental manager working at the French Ministry of Ecology, Sustainable Development and Energy, with a scientific background in chemistry and ecology. He was part of the EU negotiating team for UN climate change discussions from 2007 to 2011, on behalf of the French Ministry of Ecology and of the European Commission, where he specialised in strategy and mitigation actions. From 2012, he was Head of the Waste Prevention and Management Policy Division at the French Ministry of Ecology, Sustainable Development and Energy, including a hands-on experience of the management of the 14 French EPR schemes, the French Waste Prevention and Waste Management Plans, and enforcement of French legislation on waste treatment sites.

バプティスト・レゲイ氏は化学・生態学の専門家であり、フランスの生態・持続的開発・エネルギー省のシニア環境マネージャーである。2007-2011年、国連気候変動について話し合うため、同省及び欧州委員会の代表として欧州連合の交渉チームに加わり、温暖化防止の戦略行動計画を担当した。2012年以降、同省廃棄物防止・管理課長としてフランスの14のEPR制度、廃棄物防止計画、廃棄物管理計画、廃棄物処理場に関する同国の法律施行などを担当している。

Dr. Shruti Rai Bhardwaj シュラ・レイ・バードワジ

Joint Director, Ministry of Environment, Forests and Climate Change, Government of India
インド環境・森林・気候変動省 共同ディレクター



Dr. Shruti Rai Bhardwaj is Joint Director, Ministry of Environment, Forests and Climate Change, Government of India. She has more than 10 years of professional experience and specializes in the fields of environmental policy design & coordination, multilateral environmental conventions and multilateral funded programme management. She has worked in various environmental sectors including Hazardous waste management. Currently she is working with Hazardous Substance Management Division of the Ministry. She is responsible for implementation of various regulatory provisions pertaining to management, handling and transboundary movement of hazardous and e-waste in her country. In addition to this she is also involved in the implementation of country's obligations under Basel Convention.

シュラ・レイ・バードワジ (Shruti Rai Bhardwaj) 博士はインド環境・森林・気候変動省の共同ディレクター。環境政策の企画・調整、多国間環境条約や多国間の融資計画管理に精通し、専門家として10年以上の経験有する。有害廃棄物管理を含む様々な環境分野に従事。現在は、環境・森林・気候変動省の有害物質管理課に在籍し、インドの有害・電子廃棄物の管理、取り扱い、越境移動に係る様々な規制条項の実施責任者、バーゼル条約のインド政府の義務の遂行も担当。

Mr. Garth Hickle

ガス・ヒックル

Minnesota Pollution Control Agency, USA (State Government)

米国ミネソタ州汚染管理局



Garth Hickle is the product stewardship team leader with the Minnesota Pollution Control Agency (MPCA) in the United States. He has been with the MPCA since 1996 and is responsible for implementation of EPR programs for electronics, rechargeable batteries and paint. He is a board member of the Global Product Stewardship Council as well as Sustainable Electronics Recycling International (SERI). He has published articles in the Journal of Industrial Ecology, the Journal for Cleaner Production, Corporate Environmental Strategy and Environmental Quality Management. Garth holds degrees from the College of Wooster, Vermont Law School and Hamline University and is a Doctoral Candidate in Industrial Ecology and Sustainability at Erasmus University in Rotterdam, The Netherlands.

ガス・ヒックル氏は、米国のミネソタ州汚染管理局(MPCA)の製品管理チーム・リーダーを務める。1996年以来、MPCAに在籍し、エレクトロニクス、充電式電池、塗料のEPRプログラムの実施担当責任者、グローバル製品管理評議会(Global Product Stewardship Council)及び持続可能な電子機器国際リサイクル(SERI = Sustainable Electronics Recycling International)の委員を兼務、「ジャーナル・オブ・インダストリアル・エコロジー」、「ジャーナル・フォー・クリーナー・プロダクション」、「コーポレート・エンバイロメンタル・ストラテジー・アンド・エンバイロメンタル・クウォリティ・マネジメント」に多数の記事を掲載。ウースター大学、バーモント法科大学院、ハムリン大学で学位取得。エラスムス大学(オランダ・ロッテルダム)の産業エコロジー及びサステナビリティの博士候補生でもある。

Dr. Masanobu Ishikawa

石川 雅紀

Professor, Kobe University

神戸大学大学院経済学研究科 教授



Masanobu Ishikawa is a professor at the graduate School of Economics, Kobe University since 2003, and the founder of NPO Gomi-Japan which aims prevention of waste generation by voluntary scheme. He has been working in the areas of LCA, recycling and waste management for more than 25years, and not only publishing papers but contributing policy making process as a member of government councils for three recycling laws: packaging, home electric appliances and food for around 15 years.

石川雅紀氏は2003年以降、神戸大学大学院経済学研究科の教授を務める傍ら、廃棄物発生の抑制を目指すNPO法人「ごみじゅばん」を立ち上げボランティア活動を展開。25年以上に渡りライフ・サイクル・アセスメント、リサイクル、廃棄物管理の分野で活動を続けると共に、約15年間政府審議会の委員として政策決定に携わり、3つの個別リサイクル法(包装、家電、食品)の策定に貢献した。

Mr. Hideaki Kikuchi

菊池 英明

Working Group on Waste Management and Recycling, Committee on Environment and Safety, KEIDANREN
一般社団法人 日本経済団体連合会 環境安全委員会 廃棄物リサイクルワーキンググループ 委員



Hideaki Kikuchi (Councilor of the Environment & Quality Public Affairs Office, Environment & Quality Center, Panasonic Corporation) was appointed Chair of Industrial Waste & Recycling Management Committee Four Electrical and Electronic Industry Associations in Japan (JEMA, JEITA, CIAJ, JBMIA), in April 2014.

And he has been served as Member, Working Group on Waste Management and Recycling, Committee on Environment and Safety, KEIDANREN, since 2012.

菊池英明氏は、パナソニック株式会社 モノづくり本部 環境・品質センター 環境・品質渉外室 参事で、2014年4月電機・電子4団体 環境戦略連絡会 廃棄物・リサイクル対策専門委員会 委員長 (JEMA, JEITA, CIAJ, JBMIA)に任命された。2012年以降、経団連環境安全委員会 廃棄物リサイクルワーキンググループ 委員を務めている。

Mr. Atsushi Ohira

大平 惇

Japan Food Industry Association

食品産業センター 環境委員 (兼 全国清涼飲料工業会 相談役)



Deeply involved in the legislation of the Packaging Recycling Law of Japan as Environment Manager of Coca-Cola (Japan), in the first review of the Law as Planning/Research Manager of Japan Packaging and Containers Recycling Association and as Executive Director of Japan Soft Drink Association, and in the current second review of the Law as Senior Adviser of JSDA. Wrote a book "Record of Legislation and Amendment of Packaging Recycling Law", and articles "Analysis of EPR in Packaging Recycling Law", "EPR in the U.S.A.", "Packaging Recycling System in Europe", and "Deposit Refund System Overseas".

日本コカ・コーラ社の環境部長として日本の容器包装リサイクル法の制定に深く関与したほか、日本容器包装リサイクル協会の企画調査部長及び全国清涼飲料工業会専務理事として同法の第一次改訂、同工業会の相談役として第二次改訂に関与。著書に「容器包装リサイクル法 制定と見直しの実録」、雑誌記事に「容器包装リサイクル法見直しにおける拡大生産者責任(EPR)論の分析」、「アメリカにおけるEPR(拡大生産者責任)の動向」、「ヨーロッパにおける容器包装リサイクル制度の実情」、「海外の飲料容器デポジット制度」など。

Mr. Shinichi Kawaguchi 川口 慎一

Vice-chairperson, Recycling & Waste Reduction Subcommittee, Environment Committee, Japan Automobile Manufacturers Association, INC. (JAMA)

一般社団法人 日本自動車工業会 環境委員会 リサイクル・廃棄物部会 副部長



Shinichi Kawaguchi is the Manager of Environment and Energy Engineering Department, Vehicle Production Engineering Division, Nissan Motor Co., Ltd.

He was appointed to the vice-chairperson of Recycling & Waste Reduction Subcommittee of JAMA in April 2014.

He participated in the Airbag WG of the subcommittee to discuss establishing the legislative and infrastructure system on airbags under the Act on Recycling of End-of-Life Vehicles in 2002.

He has been engaged in establishing the recycling-related systems, such as the battery recycling experts group, after the Act implemented.

日産自動車株式会社 車両生産技術本部 環境エネルギー技術部 主担。2014年4月より日本自動車工業会 環境委員会 リサイクル・廃棄物部会の副部長に就任。2002年より同部会エアバッグWGにて、自動車リサイクル法のエアバッグ類に関する制度構築の検討に参加。自動車リサイクル法施行後も、バッテリーリサイクル検討会など、リサイクル関連の制度構築に従事してきた。

Ms. Yuko SAKITA 崎田 裕子

President, NPO Genki Network for Creating a Sustainable Society

NPO法人 持続可能な社会をつくる元気ネット 理事長



"NPO Genki Net" has been holding the Eco-Conscious Community Genki Grand Awards since 2001. We have been supporting advanced activities conducted towards the creating of a sustainable society.

Yuko Sakita is a Member of Central Environment Council / Sound-Material Cycle Society Committee / Sub-committee on Food Waste Recycling / Sub-committee on 3Rs of Container and Packaging / Electrical and Electronic Equipment recycling WG / Ministry of the Environment JAPAN. Member of Basic Policy Subcommittee, General Committee for natural resources and energy / Ministry of Economy, Trade and Industry JAPAN. (Journalist & Environmental counselor)

"NPO元気ネット"は、2001年以来、「市民が創る環境のまち元気大賞」を主宰し、持続可能な社会をめざす全国の先進的な取り組みを応援している。

理事長の崎田裕子は、環境省の中央環境審議会・循環型社会部会委員はじめ、食品リサイクル法、容器包装リサイクル法、家電リサイクル法などの審議や、資源エネルギー庁の総合資源エネルギー調査会でエネルギー基本計画の策定にも関わっている。ジャーナリスト・環境カウンセラー。

附件四

SPEAKER BIOS

**GLOBAL FORUM ON ENVIRONMENT:
PROMOTING SUSTAINABLE MATERIALS MANAGEMENT
THROUGH EXTENDED PRODUCER RESPONSIBILITY (EPR)**

17-19 June 2014, Tokyo, Japan



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This OECD Global Forum on Environment is carried out with funding by the European Union

SPEAKER BIOS

GLOBAL FORUM ON ENVIRONMENT: PROMOTING SUSTAINABLE MATERIALS MANAGEMENT THROUGH EXTENDED PRODUCER RESPONSIBILITY (EPR)

17-19 June 2014

Tokyo Prince Hotel, Tokyo, Japan



Simon Upton, Co-chair
Director, Environment Directorate, OECD

Mr. Upton is responsible for the Environmental Performance Reviews of OECD member countries, the economic analysis of policy instruments used to improve environmental outcomes and a wide range of work related to water, waste, biodiversity, climate change and chemicals. Mr. Upton played a key role in the development of the OECD's Green Growth Strategy.



Ryutaro Yatsu, Co-chair
Vice-minister, Ministry of the Environment (MOE), Japan

Dr. Yatsu was appointed Vice-minister, Ministry of the Environment (MoE), Japan, in July 2013. Prior to his appointment, Dr. Yatsu served as MOE's Vice-Minister for Global Environmental Affairs in 2012 and Secretary-General, Minister's Secretariat in 2010. His initial assignment with the Government of Japan dates back to 1976 at the Environment Agency, Japan.



Tomoko Ukishima
Parliamentary Vice-Minister for the Environment (MOE), Japan

Ms. Ukishima was appointed Parliamentary Vice-Minister of the Environment and Parliamentary Vice-Minister of the Cabinet Office, Japan, in 2013. Prior to her appointments, Ms. Ukishima served as Parliamentary Vice-Minister of Education, Culture, Sports, Science and Technology, and Member of the House of Representatives, Chairman of Policy Research Council on Education, Culture, Sports, Science and Technology in 2012.



Shardul Agrawala
Head of Division for Environment and Economy Integration, Environment Directorate, OECD

At the OECD since 2002, Mr. Agrawala has previously served as Senior Advisor to the OECD Secretary General, and as Senior Economist on climate change. He holds a Ph.D. from Princeton University and has previously served as Co-ordinating Lead Author (CLA) for the Fourth and the Fifth Assessment Reports of the IPCC.



Stéphane Arditi
Senior Policy Officer, Products & Waste, European Environment Bureau (EEB)

Since joining EEB in 2009, Mr. Arditi has been in charge of product and waste policy, where he monitors the development of legislation and economic instruments at European level to support a transition towards a circular economy and a zero waste society. He has an educational background in three areas: urban geography, philosophy and environmental management, with 10 years of experience in the automobile industry.



Shruti Rai Bhardwaj
Joint Director, Ministry of Environment, Forests and Climate Change, India

Ms. Bhardwaj has more than 10 years of professional experience and specializes in the fields of environmental policy design & coordination, multilateral environmental conventions and multilateral funded programme management. She has worked in various environmental sectors including Hazardous waste management. Currently she is working with in the Hazardous Substance Management Division at the Ministry. She is responsible for implementation of various regulatory provisions pertaining to management, handling and transboundary movement of hazardous and e-waste in India. In addition, she is involved in the implementation of India's obligations under the Basel Convention.



Peter Borkey

Principal Administrator, Environment Directorate, OECD

Mr. Borkey is leading OECD work on waste management and resource productivity, with a strong focus on sustainable materials management, nanowaste and economic instruments for waste management. Prior to this, Mr Borkey led the OECD's co-operation with countries in Eastern Europe, Central Asia and the Caucasus in the area of water management, as well as the work in the framework of the OECD Horizontal Water Programme focusing on the financing of water supply and sanitation in developing countries.



Scott Cassel

CEO and Founder of the Product Stewardship Institute (PSI)

Mr. Cassel has over 30 years of experience in addressing and advising on waste management issues in the public, private, and non-profit sectors. Prior to founding PSI in 2000, he served seven years as the Director of Waste Policy and Planning for the Massachusetts Executive Office of Environmental Affairs. Mr. Cassel holds a master's degree in Environmental Policy and Dispute Resolution from the Massachusetts Institute of Technology, and a bachelor's degree in Geology and Environmental Studies from the University of Pennsylvania.



Ana Durquety

Technical Department Manager, FEDEREC (Federation of French Recyclers)

Ms. Durquety joined FEDEREC in 2011 as a project manager in charge of paper, board and plastic issues as well as several EPR schemes. She holds a Master's in environmental management projects and has previously worked at ERDF (Électricité Réseau Distribution France).



Francisco Gomez Montes

Director of Environmental, Sectoral and Urban Affairs, Ministry of Environment and Sustainable Development, Colombia

Mr. Gomez holds a Master's degree in Sustainable Energy Systems at the University of Edinburgh in the UK. He has extensive experience in engineering, mainly in the development of technical and environmental projects.



Garth Hickie

Product Stewardship Team Leader, Minnesota Pollution Control Agency (MPCA), USA

Mr. Hickie has been with the MPCA since 1996 and is responsible for implementation of EPR programs for electronics, rechargeable batteries and paint. He is a Board Member of the Global Product Stewardship Council as well as Sustainable Electronics Recycling International (SERI). He has published articles in the Journal of Industrial Ecology, the Journal for Cleaner Production, Corporate Environmental Strategy and Environmental Quality Management. He holds degrees from the College of Wooster, Vermont Law School and Hamline University and is a Doctoral Candidate in Industrial Ecology and Sustainability at Erasmus University in Rotterdam, The Netherlands.



Klaus Hieronymi

Global Resource Efficiency Strategies, Hewlett-Packard

Mr. Hieronymi is responsible for HP's global strategies for a resource efficient and circular economy. He mainly focuses on the role of producers take back / recycling of electronic goods and is leading HP's global activities regarding the Basel Convention.



Reiji Hitsumoto

Director, Office for International Environmental Strategies, Japan

Mr. Hitsumoto has worked in many different departments at the municipality of Kitakyushu, including the Industrial Waste Management Division, the Environment Bureau, the Sewage Bureau and the Environmental Pollution Control Bureau. He has also worked at the the United Nations Centre for Regional Development (UNCRD) on the Solid Waste Management in Asia project.

**Shelagh Kerr**

President and CEO, Electronics Product Stewardship, Canada

Ms. Kerr has extensive experience in government and public affairs and environmental stewardship with a BSc from the University of Ottawa. As President of the Electronics Product Stewardship, she has been instrumental in establishing a national operational programme to recover electronic products, replacing the need for 10 separate Provincial programs. Ms. Kerr has also worked for Coca-Cola and the Technical of Grocery Products Manufacturers of Canada.

**Hideaki Kikuchi**

Councilor of the Environment & Quality Public Affairs Office, Environment & Quality Center, Panasonic Corporation

Mr. Kikuchi was appointed Chair of Industrial Waste and Recycling Management Committee for Electrical and Electronic Industry Associations in Japan (JEMA, JEITA, CIAJ, JBMLA) in April 2014. He has also served as Member, Working Group on Waste Management and Recycling, Committee on Environment and Safety, KEIDANREN since 2012

**Baptiste Legay**

Head, Waste Prevention and Management Policy Division, Ministry of Ecology, Sustainable Development and Energy, France

His current work focuses on the management of the 14 French EPR schemes, the French Waste Prevention and Waste Management Plans, and on the enforcement of French legislation on waste treatment sites. Previously, Mr. Legay was part of the EU negotiating team for the UN climate change discussions from 2007 to 2011, on behalf of the French Ministry of Ecology and of the European Commission. He specialises in strategy and mitigation actions.

**Reid Lifset**

Associate Director, Industrial Environmental Management Programme, School of Forestry & Environmental Studies, Yale University

Mr. Lifset is a Resident Fellow in industrial ecology and Editor-in-Chief of Yale's Journal of Industrial Ecology. Mr. Lifset is also a member of the governing council of the International Society for Industrial Ecology (ISIE). His areas of research focus on the application of industrial ecology to novel problems and research areas, the evolution of extended producer responsibility (EPR), and the characterisation of global metal cycles. Mr. Lifset graduated in political science at the Massachusetts Institute of Technology and in management at Yale University.

**Cecilia Mattsson**

Senior Advisor, Swedish Environmental Protection Agency (EPA)

Before joining the EPA in 2004, Ms. Mattsson has worked as a community organiser for the Clean Water Action in Denver, as a research assistant at Dalarna University College in Sweden and as a field work assistant at the Swedish Agricultural University. She has an MSc in Agricultural Engineering from the Swedish University of Agriculture and a PhD in Environmental Sciences from Chalmers University of Technology, Sweden.

**Atsushi Ohira**

Environment Manager of Coca-Cola, representing the Japanese Food Industry Association

Mr. Ohira is involved in the legislation of the Packaging Recycling Law of Japan as Environment Manager of Coca-Cola (Japan), in the first review of the Law as Planning/Research Manager of Japan Packaging and Containers Recycling Association and as Executive Director of Japan Soft Drink Association, and in the current second review of the Law as Senior Adviser of JSDA. He wrote a book "Record of Legislation and Amendment of Packaging Recycling Law", and his published articles include "Analysis of EPR in Packaging Recycling Law", "EPR in the U.S.A.", "Packaging Recycling System in Europe", and "Deposit Refund System Overseas".

**Andrew Prag**

Policy Analyst, Environment Directorate, OECD

Andrew has been working at the OECD for four years and has worked on a broad portfolio of environment issues including international climate negotiations and trade policy in addition to EPR. He has an MSc in environmental technology from Imperial College, London, and previously worked in the energy sector with Shell.



Joachim Quoden
Managing Director, EXPRA

Mr. Quoden has extensive experience in packaging waste management, dating from 1992 when he spent 4 months in the German Federal Ministry of Environment working on packaging issues, including the German Packaging Ordinance. From 1993 to 2006, he worked with Der Grüne Punkt - Duales System Deutschland GmbH (DSD), where he was appointed head of International Affairs in 2001. Between 2001 and 2013, he also became Secretary General and later Managing Director of PRO EUROPE, the umbrella organisation of 35 packaging recovery organisations. Since 2013, he is the Managing Director of EXPRA, a new alliance of PRO's from currently more than 18 countries.



Michel Sponar
Policy Officer, General Environment Directorate, European Commission

Mr. Sponar currently works on the review of the targets for the Waste Directives and on the review of EPR schemes across EU Member States. He is also leading various horizontal actions related to improved waste management, including a project on the use of economic instruments related to the application of the waste hierarchy, the development of a reference model on waste generation and management for the European Union, and the analysis of the application of the producer responsibility schemes at the European and OECD levels. Before joining the Commission in 2002, Mr. Sponar was Deputy Head of the Environment Minister at the Brussels region. He is a Bio Engineer with a complementary degree in Business Management.



Rasio Ridho Sani
Deputy Minister for Hazardous Substances, Management Ministry of the Environment, Indonesia

Mr. Sani has worked at the Ministry of the Environment since 2002, where previous posts include head of bureau for planning and international cooperation, assistant deputy for mining, energy, oil and gas, executive secretary PROPER programme, and acting assistant deputy for data and information. He has a bachelor in Chemical Science from the University of Indonesia, a Masters of Commerce from the University of Sydney as well as a Masters of Public Management from the University of Potsdam. He is also a Doctorate candidate in Public Administration at the University of Indonesia.



Tomohiro Tasaki
Head of Sustainable Material Cycle Systems Section, National Institute for Environmental Studies (NIES), Japan

Mr. Tasaki is a Visiting Associate Professor at the Department of Environment Systems in the Graduate School of Frontier Sciences of the University of Tokyo, Japan. His research focuses on System Analysis and Evaluation of Product/Material/Waste Management policies and Sustainability Studies.



Christoph Vanderstricht
Ernst & Young

Since 1994, Mr. Vanderstricht has built up a wide consultancy experience in private sector (companies and industry sectors) and public sector on policy design and effectiveness improvement, compliance strategy and implementation of EPR models and solid waste management regulations; governance, financing; organisation; logistics; legal, tax; negotiations; position papers. He has extensive experience with all organisational levels in more than 35 countries in South America, Asia and Europe, and provided him with a deep understanding of the diversity of cultures and drivers of people. He is a member of the OECD expert group on EPR and resource management.



Yang Zheng
Section Chief, Division of E-Waste Management, Ministry of Environmental Protection (MEP), People's Republic of China

As Section Chief of E-waste Management Division of SCC-MEP which is a technical support organisation of MEP in the field of waste, chemicals, contaminated sites and heavy metals, he has conducted many researches for MEP in the field of waste, import & export management and policy.

Speakers not pictured above:

- Masanobu Ishikawa, *Professor, Kobe University*
- Shinichi Kawaguchi, *The Japan Automobile Manufacturers Association*
- Prof. Akemi Ori, *Kanto Gakuin University*
- Yuko Sakita, *Genki Network for Creating a Sustainable Society*
- Tomoko Ukishima, *Parliamentary Vice-Minister of the Environment, Japan*

附件五

Issues Paper

**The State of Play on Extended Producer Responsibility (EPR):
Opportunities and Challenges**

*Global Forum on Environment: Promoting Sustainable Materials Management
through Extended Producer Responsibility (EPR)*

17-19 June 2014, Tokyo, Japan



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This OECD Global Forum on Environment is carried out with funding by the European Union

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1. Introduction

Extended Producer Responsibility (EPR) is increasingly recognised worldwide as an efficient waste management policy to help improve recycling and reduce landfilling of products and materials. The basic feature of EPR is that producers assume responsibility for managing the waste generated by their products put on the market. Since its first developments in the early 1990s, such schemes have contributed to significant increases in recycling rates and reductions of public spending on waste management in many countries. In addition, producers under an EPR scheme are incentivised to maximise the material benefits from their products throughout the value chain.

OECD's work on EPR began in 1994. At that time, the objective was to identify the legal and administrative issues which OECD Member countries would be confronted with when developing and implementing such approaches, based on the experience of a few European countries. In 2001, the OECD published a Guidance Manual for Governments on Extended Producer Responsibility, in which EPR is defined as "*an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle*". The 2001 Guidance provided governments with a broad overview of the key issues, general considerations, and the potential benefits and costs associated with EPR.

Almost fifteen years later, the OECD is now engaging in a review and update of its guidelines on EPR. Since 2001, considerable experience has been built up as the use of EPR policies has developed both in terms of geographic expansion and product coverage. Most OECD countries have now implemented EPR policies in key sectors such as packaging, electronics, batteries and vehicles. Certain emerging economies in Asia, Africa and South America have also started to develop EPR programmes in recent years. The spread of such schemes beyond OECD countries makes it relevant for the guidance to address the differing policy context for EPR in developing countries. The review of the guidelines will also allow the OECD to take into account recent efforts undertaken by governments to better assess the cost and environmental effectiveness of EPR and its overall impact on the market. In addition, the broader global context has also evolved and presents new challenges and opportunities for policy makers designing of EPR policies. These developments include the increasing connectivity and interdependence of the world's markets, the emergence of new economic powers, and the rise of technological innovations and internet sales.

This review of the EPR guidance forms part of the OECD's broader work on Sustainable Materials Management (SMM). The aim of SMM approaches is to support sustainable decision-making by addressing the social, environmental and economic impacts of products and materials throughout their life-cycle. These efforts are essential in the global context of increasing resource scarcity. The total volume of material resources exploited worldwide reached nearly 60 billion metric tonnes (Gt) in 2007, a 65% increase since 1980 and an estimated 8 fold increase over the last century. As the world population continues to grow, the pressure on resources is expected to increase further. These developments contribute to the over-exploitation of land and water, the exhaustion of natural resources stocks, damages to biodiversity, and significant increases in the amount of waste. Going for green growth and a resource efficient economy is therefore a major environmental, development and macroeconomic challenge today. In that context, EPR is identified as an effective policy instrument to engage producers in the broader efforts on SMM, by encouraging them to improve the life-cycle efficiency of their products and materials. In addition, the increasing scarcity of resources and rising commodity prices encourages producers to find new ways to recover used products and to turn waste into a resource.

This paper provides an overview of the key issues that will be discussed at the Global Forum on EPR taking place in Tokyo on 17-19 June 2014. The first section evaluates the state of play and implementation of EPR around the world including the different policy instruments and characteristics of EPR schemes. Section 2 highlights what has already been achieved with EPR and identifies potential further opportunities for EPR programmes. Section 3 outlines some of the challenges that policy makers in OECD and non-OECD countries would likely face when developing and implementing EPR. These include economic, governance and administrative issues, issues specific to the start-up phases of EPR programmes, as well as new and emerging challenges arising in a global environment in rapid evolution. The challenges identified in the paper provide possible explanations as to why the opportunities embodied in EPR may not be fully realized in every EPR scheme. The diversity of experiences documented among different countries highlights the value of exchanging on lessons learned and identifying best practices.

Key terminology

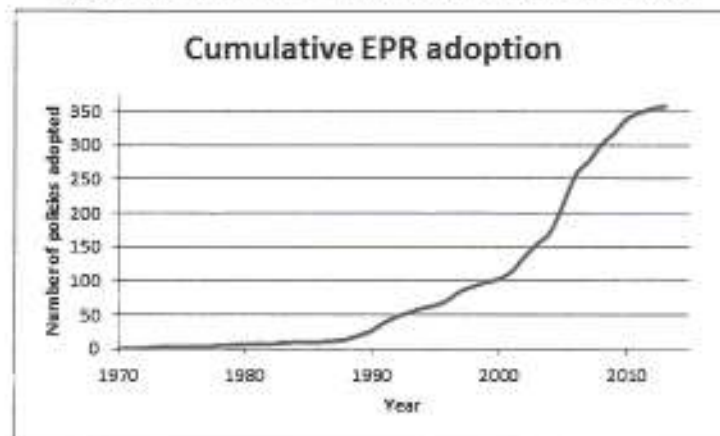
- ❖ *Extended Producer Responsibility (EPR)* is defined in the 2001 OECD Guidance as “an environmental policy approach in which a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle”.
- ❖ *Sustainable Materials Management (SMM)* is a policy approach that aims to address the social, environmental and economic considerations throughout the life-cycle of a product or material, thereby improving resource security and competitiveness through better resource productivity. This is sometimes referred to as *Sound Material-Cycle Society*.
- ❖ *The 3Rs (Reduce, Re-use, Recycle)* form part of the waste hierarchy and encourages the prioritisation of waste reduction ahead of the re-use and recycling of materials, to the extent that this is economically feasible.
- ❖ *Circular Economy* is a concept that aims at closing materials loops and extending the lifespan of materials through longer use and the increased use of secondary raw materials.
- ❖ *The Polluter Pays Principle (PPP)* is an environmental policy principle which requires that the costs of pollution be borne by those who cause it.

2. State of play

2.1 EPR landscape around the world

EPR requirements first appeared in policy and law in the early 1990s in several European countries, including Germany, Sweden, and France. However, it is during the last decade that EPR programmes have spread and developed rapidly around the world. Policy makers in OECD and emerging economies are now implementing EPR policies as an efficient target-oriented environmental tool along with traditional instruments and regulations such as landfill taxes or emission standards for waste treatment facilities. According to Figure 1¹, more than 70% of the 384 EPR policies sampled in the graph were implemented since the publication of the OECD Guidance in 2001², of which 11% were implemented in the last four years.

Figure 1. Cumulative EPR policy adoption over time.



¹ Based on a sample of 384 EPR policies across industries and regions. Daniel Kaffine and Patrick O'Reilly, What Have We Learned About Extended Producer Responsibility in the Past Decade? A Survey of the recent EPR Economic Literature, May 2013.

² OECD (2001), *Extended Producer Responsibility: A Guidance Manual for Governments*, OECD Publishing. doi: 10.1787/9789264189867-en <http://www.oecd.org/env/waste/extendedproducerresponsibility.htm>

Today, most OECD countries and many emerging economies have EPR programmes and policies in place. Such programmes are also in the scoping stage in some developing countries in Asia, Africa and South America. Nonetheless, the specific features and outcomes of these measures vary significantly across regions, countries and industries.

At the *European Union (EU)* level, all Member States have implemented EPR schemes on the four waste streams for which EU Directives recommend the use of EPR policies (packaging, batteries, End-of-Life Vehicles (ELVs) and Electrical and Electronic Equipment (WEEE)). In addition, a number of Member States have put in place additional schemes for products that are not directly addressed in EU-wide legislation e.g. for tyres, graphic paper, oil and medical waste.

EU EPR policy framework

Several EU directives refer to EPR as a recommended policy instrument. The EU Waste Framework Directive provides the overall framework for waste management in the EU and four other Directives set out collection and recycling targets in specific industries i.e. Packaging, Batteries, ELVs and WEEE. This legislation encourages or requires the implementation of EPR measures for the prevention, recycling and recovery of waste. Other European instruments have an indirect effect on EPR policies across the EU, such as the EU Ecodesign Directive (2009), which provides EU-wide rules for improving the environmental performance of energy-related products. In the course of 2014, the EU is undertaking a broad review of its waste policy, including on the key targets outlined in the Directives.

In *North America*, the United States and Canada EPR programmes cover a wide array of products and are primarily designed and implemented at sub-national level (i.e. by states and provinces)³. The Canadian provincial approach, as harmonized in the 2009 Canada-wide action plan for EPR, emphasizes an outcome-driven model that has mostly resulted in collective responsibility schemes, governed and implemented by provincial governments. In the US, there is no federal law governing EPR so that individual states have developed and implemented their own policies, reflecting local conditions and each state's specific political dynamics. Between 1991 and 2011, US states have enacted more than 70 EPR laws, which generally require manufacturers to implement EPR programmes, though without specifying recycling targets. In parallel, producers have themselves implemented voluntary programmes and stewardships in order to organise the collection and recycling of their products.

In *Latin America and the Caribbean (LAC)*, several countries including OECD members Chile and Mexico, as well as Brazil, Argentina and Colombia have implemented their first EPR schemes in recent years, in particular covering the large markets for potentially hazardous electronic waste (e-waste) market. Chile in particular was requested to improve its environmental framework and solid waste management as a prerequisite to OECD accession in 2010; last year, the Chilean government submitted a specific EPR principle bill for consideration by Congress. Most EPR policies in the LAC region are however only partially implemented to date, and are complemented by voluntary initiatives of the private sector.

The current landscape of EPR in *Asia* varies significantly across countries and between OECD and non-OECD members. Industrialized OECD economies like Japan and the Republic of Korea have already well-established EPR schemes and regulations in place on the key waste streams, supported by a solid monitoring and enforcement framework. Some rapidly emerging economies, such as the People's Republic of China (PRC), India and Indonesia have started to develop EPR programmes even though these are generally not yet fully implemented and functioning. Malaysia and Thailand are also embarking the path towards EPR for e-waste, although these initiatives generally rely on voluntary participation of producers.

In *Africa*, EPR, and waste management policies in general, remain at a less advanced stage, with the exception of South Africa. E-waste is however a growing concern on the whole continent, and is generally

³ There are no reported EPRs in Mexico

handled by rudimentary and unofficial recyclers who tend to focus exclusively on extracting the valuable fractions of waste, often without concern for environmental safety. In South Africa, a broad waste management act was introduced in 2009, which empowers the environment minister to require EPR measures on a product-by-product-basis. Although EPR initiatives in South Africa have been mostly initiated by industry, the government has sometimes intervened by enacting regulations to ensure enforcement of these initiatives; this was for example the case of the industry-led tyres recycling initiative⁴.

In general, improving waste management policies is becoming increasingly important in non-OECD countries around the world in view of the rapidly growing municipal solid waste and particularly e-waste on their territory in recent years. This trend is in part due to the increasing spending power of the population in emerging countries and the rising demand for electronic goods. In the PRC for example, e-waste mainly generated by television sets is expected to grow from 50 million units in 2010 to 137 million units by 2020. In addition to household waste, emerging economies also often have to handle large amounts of e-waste exported sometimes illegally by industrialized countries.

2.2 Design of EPR schemes

EPR generally has two key objectives: the first being to increase collection and recycling rates of the products and materials targeted; the second one being to shift financial responsibility from municipalities to producers and thereby incentivise Design-for-Environment (DfE) activities and innovation. In order to realize these objectives, policy makers have a range of policy instruments at hand that could encourage or require manufacturers to bear the financial or organisational responsibility for their products throughout their life-cycle. In that sense, EPR can be described as a framework or a mix of instruments rather than as a single policy.

There are four broad categories of EPR instruments at the disposal of policy makers. These typically address specific aspects of waste management, and can be implemented concurrently:

- **Product take-back requirements.** Take-back policies require the producer or retailer to collect the product at the post-consumer stage. This objective can be achieved through recycling and collection targets of the product or materials and through incentives for consumers to bring the used product back to the selling point.
- **Economic and market-based instruments.** These include measures such as deposit-refund schemes, Advanced Disposal Fees (ADF), material taxes, and upstream combination tax/subsidy (UCTS) that incentivize the producer to comply with EPR. In South Korea for example, ADFs are imposed on importers and producers of products that are hazardous and more difficult to recycle.
- **Regulations and performance standards** such as minimum recycled content. Standards can be mandatory or applied by industries themselves through voluntary programmes.
- **Accompanying information-based instruments.** These policies aim to indirectly support EPR programmes by raising public awareness. Measures can include imposing information requirements on producers such as reporting requirements, labelling of products and components, communicating to consumers about producer responsibility and waste separation, and informing recyclers about the materials used in products.

Instruments across these four categories can be implemented by governments as mandatory policies or alternatively be applied on a voluntary basis by producers themselves. The chosen mix of instruments will be different from one country, region and industry to the other, based upon political priorities, as well as on the social, economic, legal and cultural context. For example, if a government's priority is to improve waste collection, the objective could be reached through the introduction of an ADF or mandatory collection targets. By contrast, if the priority is to stimulate eco-design activities, this could more appropriately be stimulated

⁴ In 2002, the tyre industry in South Africa formed the South African Tyre Recycling Process Company (SATRPCo), which aims to manage the collection and distribution of waste tyres to recycling and reprocessors on behalf of the tyre industry.

through policies that target products' characteristics such as minimum recycled content requirements. The scope and target of a policy should also be carefully assessed. Indeed, imposing industry-wide recycled-content standards uniformly across firms may not be efficient when it is considerably cheaper for some firms to use recycled content than for others. Policy makers could then impose company-specific requirements, or allow for individual firms to trade recycling credits subject to industry-wide targets.

The chosen mix of instruments provides the overall policy framework under which EPR schemes will be developed and organized by producers in order to comply with their legal obligations. The design of an EPR scheme varies according to a number of factors, in particular:

- **Product or range of products targeted.** EPR obligations may cover either specific products or a broader category of products or industries. Small consumer electronics appear to be the most prevalent product covered under EPR across the world.⁵ These are followed by packaging (including beverage containers), tires, vehicles and lead-acid batteries. Less common products targeted by EPR include used oil, paint, chemicals, large appliances and fluorescent light bulbs.
- **Voluntary or mandatory nature of the scheme.** Governments may establish an EPR programme through a voluntary agreement with the industry instead of imposing legislation and mandatory requirements. Programmes under which producers operate voluntarily are often referred to as "Stewardship programmes". These can be initiated by manufacturers and encourage all stakeholders (manufacturers, retailers, consumers, recyclers) to share responsibility for a product's overall environmental and social impact.
- **Individual or collective scheme (PRO).** Individual collection and treatment schemes are mostly applied in business-to-business contexts characterized by a limited number of actors. Usually, though, producers organize and finance collective Producer Responsibility Organizations (PROs) that will carry out the collection and/or recycling of end-of-life products on behalf of their members. Between 1998 and 2007, it is estimated that more than 260 PROs were established in Europe⁶. The number of PROs per sector varies a lot across countries: in France for example, 1 PRO is in charge of household packaging waste, compared to 29 PROs in the UK for the same sector.
- **Organisational versus financial responsibility.** The responsibility for waste management imposed on producers may either be financial or organizational, or both. In the first case, individual producers or PROs pay fees to municipalities, which remain in charge of waste management operations (usually the collection), while recycling is outsourced to specialist contractors. In the case of organisational responsibility, producers and PROs will finance and organise waste management operations and contract directly with recyclers.
- **Allocation of responsibility among stakeholders.** The main objective of EPR is to shift responsibility for managing a product's end-of-life from municipalities to producers. In most schemes, however, municipalities remain in charge for some aspects of the organisation of waste management. Other actors, such as consumers and waste management operators, are usually also involved. In Japan, the Packaging Recycling Act clearly defines the roles and responsibilities of every stakeholder: consumers have responsibility for sorting their waste, municipalities take charge of sorted collection, and producers handle recycling. In Germany, the role of municipalities differs for EPR schemes on WEEE (shared responsibility as producers handle the WEEE collected by municipalities) and on packaging, batteries and ELVs (full producer responsibility).
- **Cost coverage.** The cost coverage of waste management operations refers to two issues: first, how to define and calculate the full costs of managing a product's end of life under EPR; and second, whether producers bear the full costs, and if not what should be the allocation of costs assumed by different

⁵ OECD, Daniel Kaffine and Patrick O'Reilly, What Have We Learned About Extended Producer Responsibility in the Past Decade? A Survey of the recent EPR Economic Literature, May 2013

⁶ Kieren Mayers, Strategic, Financial, and Design implications of Extended Producer Responsibility in Europe: a Producer Case Study. Journal of Industrial ecology, July 2007

stakeholders. Typically, the concept of full costs includes the costs of waste management (collection, treatment, recycling) as well as a range of other costs depending on the scheme, such as the costs for public information and awareness campaigns, waste prevention actions, and the monitoring and surveillance of schemes. In line with the polluter pays principle (PPP), it is generally agreed that producers should at least bear the net costs of waste management for their products, i.e. costs for collection and recycling minus revenues from recovered materials. In certain schemes, producers do also bear other aspects of the full costs. In South Korea for example, the collection, treatment and administrative costs are fully covered by PROs, of which 70-90% of the fees paid by producers are used to remunerate recyclers, and 1-5% allocated to information campaigns. In other schemes however, producers bear only a share of the full costs, the remainder being covered by municipalities. In France for example, the aim is for producers to bear 80 % of the costs of household packaging waste, with 20% falling to municipalities. Accordingly, the allocation of full costs within a scheme will depend upon the allocation of financial and organizational responsibility among stakeholders, and on where the tasks can be most efficiently handled.

Questions for discussion:

- ✓ **What are the key characteristics of EPR schemes across regions and production groups?**
- ✓ **What are the most important criteria on which EPR programmes differ and how might it affect their impact and efficiency?**

3. Key EPR achievements and opportunities

The key objective of EPR is to support improvements in the environmental efficiency of products throughout their life-cycle. The shift of responsibility encompassed in EPR encourages producers to improve the overall cost efficiency of collection and recycling processes, to increase the recyclability of their products, to diminish the amount of material used in production and to find ways to reduce waste and recover used products. These objectives contribute to a move towards sustainable consumption and production practices.

This section outlines the main policy goals that could be achieved with EPR, as well as highlighting where well-designed EPR schemes have already realized these opportunities to various degrees. The achievements and best practices observed in OECD countries can be instructive to policy makers in emerging and developing economies for the design and running of EPR programmes. However, the methods required to achieve the opportunities of EPR are likely to differ across countries, regions and sectors.

- **Increased collection and recycling rates (environmental effectiveness).** Countries and regions that have implemented EPR policies have generally achieved higher collection and recycling rates. In Japan for example the recycling of containers and packaging waste increased by 27% between 1997 and 2000 (1.25 to 1.59 million tonnes). EPR encourages producers to improve the recyclability of products and materials, and to convert collected used products into a resource, thereby generating higher quality waste streams. In order to minimize costs, producers are incentivized to diminish the amount of virgin resources used in production. Certain EPR schemes are complemented with specific tools to further increase recycling rates. For example, the Minnesota Electronics Recycling Act includes a system of recycling credits earned by producers when they collect more than their annual obligations. The environmental benefits of increasing recycling rates have encouraged OECD governments to keep expanding the scope of products covered by EPR programmes. In France for example, 14 EPR schemes are currently implemented covering both household and professional waste. The extension of EPR is particularly valuable for improving the treatment of hazardous and special wastes, which are inappropriate for landfill disposal or incineration. Yet, the precise environmental impacts of EPR policies are usually difficult to determine since they involve a mix of different instruments.

- **Reduction of public spending on waste management.** The rationale behind EPR is to shift responsibility from local public authorities onto producers (and ultimately to consumers), thereby reducing public spending, i.e. taxpayers' money, on waste management operations. France for example has managed to reduce its public spending spent on waste management by almost 15% (by 2015, EPR schemes are expected to collect EUR 1.4 billion out of total waste management costs of EUR 9.4 billion).
- **Reduction in overall waste management costs.** Beyond a reduction in public spending, EPR is expected to lead to reductions in the overall costs spent on waste management. Producers are indeed incentivized to optimize the cost efficiency of collection and recycling operations. Japanese producers of PET bottles for example have reduced the amount of materials used in production and the use of material that is difficult to recycle in order to reduce costs (see box). EPR programmes can also lead to a reduction in non-monetary and indirect costs of waste management such as polluting emissions, inconvenience to local residents, and health effects caused by landfills and incinerators. The overall costs and benefits of EPR programmes vary from one scheme to the other and could be highlighted through a specific cost effectiveness analysis.

Cost Reductions and DfE Achievements: Japan's Packaging Recycling Scheme.

The implementation of the 2006 Act in Japan has reportedly fostered the reduction of weight for containers and packaging through the introduction of thin and lightweight products, reduction in less recyclable material and in the use of aluminium lining. These achievements were noteworthy in the case of PET bottles. Green-coloured PET bottles for green tea used to be common in Japan. It was however burdensome for producers and municipalities under the newly established EPR scheme to separate those bottles from transparent PET bottles. Eventually, the scheme led tea companies to stop producing coloured bottles but using green-coloured labels instead, which reduced the costs of waste collection. Similarly, manufacturers of PET bottles have started producing thinner bottles, reducing the amount of resin used in production and consequently minimizing the weight of PET bottles' waste⁷.

- **Design for environment (DfE) innovations.** Under EPR, producers are financially responsible for the treatment of their products' end-of-life and are thereby incentivized to minimize waste disposal costs. These costs can be reduced through investments in DfE innovations and by increasing the durability and reusability of products. EPR instruments can further support DfE for example through policies that impose requirements per weight unit of waste as opposed to per unit consumed, which encourages manufacturers to make their products lighter. In addition, DfE incentives allow policy makers to address environmental damages that may occur several years after the point of production or consumption. This differs from traditional policies such as taxes and tradable permits that only address immediate damages (i.e. damages measured at the point of production).

In addition to the benefits identified above, EPR programmes are also believed to generate a range of broader benefits, including increased technological and organisational innovation, a diversification of sources of material supply and therefore a contribution to resource security, and a better organisation of supply chains through the emergence of more international operators in the recycling sector. In Japan for example, automobile manufactures have reportedly developed their own "3R evaluation" technological systems as an answer to the End-of-Life Vehicles (ELV) Recycling Law, which enable them to simulate recycling rates and costs, and to assess design improvements that can facilitate recovery. These systems are based on life-cycle-assessments (LCA) that help vehicle designers to improve the recyclability and environmental performance of their products. The contribution of EPR to sustainable supply chains can be illustrated through a recent

⁷ Hosoda (2004), Evaluation of EPR programmes in Japan: A survey. Paris, OECD

initiative by the Nordic Waste Group⁸ to develop new business models for plastic and textiles waste collection and waste treatment in the Nordic region. The initiative, the Resource Efficient Recycling of Plastic and Textile Waste, encompasses six projects including one aimed at developing a region-wide EPR model. The project will suggest innovative business models for the Nordic textile industry that enable more sustainable life-cycles of textiles. The projects were open for procurement last year, and will contribute to further efforts in the Nordic region to develop the recycling of plastic waste as a profitable Nordic industry along the entire value chain.

Questions for discussion:

- ✓ **What are the key achievements of EPR schemes across the globe and what are the benefits that have not been fully realized yet?**
- ✓ **How and according to what criteria do the benefits and opportunities of EPR vary across regions, product groups and levels of economic development?**

4. Challenges and constraints of EPR implementation

This section lists the key challenges policy makers would likely be confronted with when initiating EPR programmes. Most of the issues identified are expected to be similar across OECD and non-OECD countries, implying an important role for learning from each other's experience. In particular, the long experience of OECD governments in addressing these challenges could provide useful examples for policy makers in emerging and developing economies. The appropriate answer to any challenge arising in the development and running of an EPR scheme should however be adapted to the specific economic, social and cultural context.

Given that OECD and non-OECD countries are expected to face comparable challenges at some point during the development of EPR, the list provided below does not distinguish between countries but reviews key challenges according to four categories: governance and administrative challenges, economic challenges, challenges specific to the start-up phases of EPR programmes, and the new and emerging challenges.

4.1 Governance and administrative challenges

Governance of an EPR scheme refers to the overall set-up of the system and the allocation of responsibilities among stakeholders. Policy makers have a key role to play in clearly defining the respective roles and responsibilities of municipalities, PROs, producers, and consumers, and to ensure that these are enforced. Below is an overview of the main governance and administrative challenges that have been encountered in EPR schemes.

- ***Unclear and overlapping roles and responsibilities of different actors, including the relationship between public bodies and PROs.*** As highlighted above (2.2), the allocation of responsibilities among stakeholders (PROs, producers, importers, collectors and recyclers, municipalities, consumers) varies significantly among schemes. The role assigned to every actor depends on diverse factors such as the overall objectives of an EPR scheme, the pre-existing infrastructure and waste management practices, the mix of policy instruments implemented and the products targeted. The challenge for policy makers will be to assign specific functions to each stakeholder while avoiding as much as possible any overlap and loophole. Indeed, the frontiers can sometimes be unclear between the responsibilities to collect and recycle, to finance the scheme, to set and enforce the targets, to ensure surveillance and compliance, and to produce awareness campaigns. Overlaps may for example arise in the case of partial organizational responsibility as producers, municipalities and waste management operators are all in charge of some aspect of the collection and treatment activities. On the contrary, certain schemes may contain loopholes if roles are not clearly and adequately defined, which can lead to free-riding. In certain cases, it might also be difficult for policy makers to identify which actor in a value

⁸ The Nordic Waste Group works under the Nordic Council of Ministers (includes Prime Ministers from Norway, Sweden, Denmark, Finland and Iceland) to support sustainable processing of waste products in the Nordic countries and Europe.

chain should be considered as the “producer”. In the context of the 2001 OECD Guidance, the producer was considered to be the brand owner or the importer, except for certain cases such as packaging where the filler of the packaging rather than the firm that produces the container would be considered the producer.

- ***A lack of transparency and difficulties in the comparability of data.*** PROs have often been criticised for providing limited public information on their economic data and on the costs faced by producers, recyclers and municipalities. This lack of transparency is not necessarily intentional and can result from unclear and diverse reporting modalities and calculation methods. A key challenge for policy makers is to determine the appropriate level of public information to be required from PROs and producers since full transparency can be difficult to implement in some sectors and may hinder competition on the market. A certain level of information is however necessary in order to assess the effectiveness of EPR schemes in place and possibly review the targets. Transparency on costs is also critical for producers and municipalities in order to make informed decisions on which PRO to choose when several options exist. Finally, transparency and the harmonization of definitions and reporting modalities are essential to allow international comparison of data and peer-reviews. In order to ensure surveillance on all actors, a two-tiered audit system was for example introduced in Austria for packaging waste. Under that system, an Austrian governmental agency is designated to act as a clearing house, assuming data collection and monitoring on producers and PROs, who are themselves in charge of auditing the collection and recycling operators with whom they contract.
- ***Concerns with free-riding.*** Free-riding refers to situations where some producers do not adequately comply with their obligations under EPR. This happens for example when some producers do not finance the collection and recycling of their products up to the level required. Free-riding could also refer to non-compliance, for example if producers do not provide accurate data about the quantities of products put on the market. These situations arise more frequently in collective schemes, because responsibility is shared and it is easier for producers to circumvent their respective obligations. In Germany for example, the PRO for packaging waste (Duales System Deutschland (DSD)) nearly collapsed in 1993 as a licence fee had been paid by only 55-60% of all packaging bearing the Green Dot symbol. The system was reinforced to strengthened detection and the right to levy fines when the symbol was used without payment of the licence fee. Similarly, free-riding issues are expected to happen more often in markets with many competitors that are more difficult for policy makers and PROs to monitor. For example, according to the European Commission, little free-riding is observed in the concentrated ELV market across the EU, compared to up to 25% on the competitive market for packaging waste. Other issues that are likely to exacerbate the issue of free-riding are the increases in international trade of waste and in online trading of products.
- ***A lack of enforcement mechanisms.*** A number of issues that threaten the good functioning of EPR require permanent monitoring and control by public authorities. These issues include free-riding, competition concerns, illegal landfilling, exports of waste and used products, lack of transparency on costs and of traceability for certain products. However, policy makers may sometimes lack the adequate enforcement means and sanctioning options that are necessary to guarantee compliance. For example, licence revocation as a tool to sanction non-compliant PROs can be ineffective when there is only one PRO operating on the market. In Austria, when a PRO does not comply with the obligation of free take-back, the Ministry of Environment has the ability to organise the collection and treatment of ELVs and charge the costs to the PRO.
- ***Concerns with collective schemes (PROs).*** Producers generally favour collective schemes with PROs over individual schemes, because of the business advantages that they present. Collective schemes are indeed considered to be cost efficient for producers by building on economies of scale, and to facilitate the centralization and exchange of data. However, PROs also pose a number of challenges that make compliance and enforcement of EPR more difficult. Shared responsibility under collective schemes may lead more frequently to free-riding issues and decrease incentives for eco-design investments by individual companies. Besides, a PRO that gains important market power is also more prone to generating competition issues (see 4.1.1).

4.2 Economic challenges

Given that EPR policies go beyond end-of-life and address different aspects along the value chain of a product, they may also have broader and unintended impacts on the market. The challenges outlined below highlight some of the main adverse effects that EPR schemes could have on local, national and international markets. These effects are generally difficult to quantify precisely and so it can be difficult to measure them against the expected economic and environmental benefits of EPR.

▪ **Trade and competition concerns.** The multi-stakeholder nature of EPR and its ownership by private entities make the system potentially prone to trade and competition concerns. These issues can arise at different levels:

- a) **Product market competition:** When producers choose to meet their obligations collectively through a PRO, their decisions may have impacts on the corresponding product markets. In particular, if they agree collectively on the fee passed on to consumers for handling waste, this would reduce price competition for the original products. EPR may also differently affect producers themselves and their respective competitive position. It can for example be more onerous for small and medium sized producers to contribute to a scheme. Certain products may also be favoured over others through differing EPR rules and tariffs, which could disproportionately affect costs of production and put certain producers at a disadvantage. This can typically be the case for foreign firms, which have to understand and comply with various regional and national schemes that put them at a competitive disadvantage. In Germany for example, the requirement imposed by the *Duales System Deutschland (DSD)* (see box below) to bear the Green Dot symbol made it costly for packaging firms with a single production line to supply small quantities bearing the symbol to German consumers. Similarly, in Denmark, the requirement imposed on foreign producers to use containers pre-approved by the Danish government was ruled as being in violation of EU law by the European Court of Justice.

Stimulating competition amongst PROs: the example of Duales System Deutschland (DSD)

In 2003, DSD operated as a monopoly on the German market for packaging PROs. Following recommendations by the German Federal Cartel Office to open the market to new entrants, the market share of DSD had fallen to 44% by 2011. As a result, costs of packaging PROs had fallen from about EUR 2 billion in 2003 to less than EUR 1 billion in 2011. In parallel, the competitive market encouraged the development of new technologies, for example on the sorting of lightweight packaging. On the other hand, the increase of competition on the PRO market has increased administrative burden and has reportedly sometimes negatively affected environmental quality of waste management⁹.

- b) **Competition among PROs:** A competitive PRO market can generate cost efficiency and stimulate technological developments. On the other hand, single PROs operating in a market may be efficient by benefitting from economies of scale and facilitating administrative oversight, including tackling free-riders. Monopolistic PROs could however lead to abuses of dominant positions when producers are subject to high fees and conditions unilaterally imposed by the PRO, with no other options available. This can also happen when several PROs engage in illegal collusion among themselves to fix higher prices together. In addition, when a single PRO operates in a market and has already developed capacity for a range of waste management services, the barriers to entry into the market are high for new entrants as it requires high investments in collection and recycling infrastructure from the start.

⁹ VKU (Association for local public utilities), Municipalities and Producer Responsibility in Germany – The do's and the don't's, October 2013

- c) *Competition among PROs and the waste collection markets:* The market for collection services is generally a natural monopoly. Indeed, the existence of large economies of density makes it more efficient to have one single waste collector per area¹⁰. Lengthy exclusive agreements between a PRO and collection providers is however likely to disrupt competition on the waste management market and make the entry of competing PROs and collectors difficult. The introduction of competitive tendering to choose the providers of collection services has been seen to lead to significant cost reduction for PROs. In Germany, the European Commission decided that the duration of DSD's exclusive agreements with local collection companies of up to 15 years was excessive. Eventually, the introduction of competition for collection and sorting services for DSD resulted in reductions of more than 20% in the costs of these activities. Under certain schemes, the entire provision of waste management services is vertically integrated through exclusive agreements and monopolies, which is likely to decrease efficiency and hamper waste collectors and sorters to compare and switch schemes. This was for example the case under the Spanish glass packaging scheme, which in 2010 the Spanish competition authority ruled to be anti-competitive and discriminatory against non-members.
- d) *Competition between PROs and recycling/recovery providers:* Contrary to waste collection markets, recovery markets enjoy large economies of scale and are usually more competitive. Exclusive arrangements between PROs and recyclers for example through the establishment of vertically integrated schemes may however hinder competition on the market. This may hamper the survival of recyclers that are not part of the agreement, and impede the entry of new competitors on the market. In Italy, the competition authority considered that an industry-wide consortium for the recovery and recycling of lead batteries would maintain market shares among smelters thereby reducing incentives to improve efficiency in recycling and raise barriers to entry by competitors. Similarly, in the Netherlands, it was observed in 2006 that PROs for WEEE that were using multiple recyclers and transport firms chosen through competitive tenders had lower costs than the PROs that had chosen a single supplier. In addition, competitive tendering has also reportedly contributed to the development of new recycling technologies, suggesting that the guarantee of large scale demand helped to overcome entry barriers.
- *Difficulty to implement differentiated fees and lack of incentives for DfE.* The rationale behind EPR is that producers pay for the post-consumer costs of their products and hence have an incentive to minimise those costs through better product design. In the case of individual schemes, single producers directly pay the full costs for waste management for their products. It is however more difficult in the case of PROs to charge a specific fee per producer that corresponds precisely to the quantity of material put on the market, and therefore to their actual recycling costs. If PROs apply identical fees on all producers, this would amount to averaging waste management costs among producers and thus reduce incentives for DfE investments. In practice, however, it can be very difficult to implement differentiated fees proportional to the actual waste management costs, because of the difficulty to disaggregate treatment costs to the level of products. In addition, price fluctuations of secondary raw materials make it difficult to correctly assess revenues from recovered products on a long-term basis. Another limitation lies in the increasing role that multinationals play in certain product markets. Corporations that design and market essentially identical products at a global level will be less inclined to modify product designs for a specific market and the impact of relative changes in the fees applied by one EPR scheme may therefore be limited. Yet, some initiatives and pilot projects are under way; in France for example, PROs from different industries have recently initiated fee modulation practices based on recyclability criteria and a producer's prevention efforts.

¹⁰ Economies of density in waste collection imply that the average costs of waste collection decrease as the volume of waste collected from a fixed network increases. In that situation, competition is not efficient and sustainable on the waste collection market.

***Bonus/Malus system as incentive for DfE investments:
the example of Eco-Emballages***

Next to differentiated fees, other economic and financial incentives exist that can encourage DfE investments. Eco-Emballages, a French packaging PRO, has modified its contribution calculation by introducing a new "Bonus/Malus" system in 2012. Under this eco-modulation model, producers can be penalized by up to 100% of the fee for non-recyclable packaging put on the market. On the contrary, they could get a reduction of up to 8% when they diminish the weight or volume of their packaging, or when they invest in broad communication campaigns.

- ***Different understandings of full cost recovery.*** The financial responsibility of producers under EPR often implies that they bear the real full costs of managing the end-of-life of their products in order to optimize costs and environmental performance. As highlighted in section 1.2, however, there is no consensus on what these costs shall cover and on what an efficient allocation of costs between producers and municipalities would be. Under most EPR schemes PROs cover the general net costs of waste management i.e. costs for collection, transport and treatment of waste minus revenues from recovered materials. These net costs are not always easy to evaluate as they depend on a range of factors including the infrastructure and technology level, the quality of public services, and price fluctuations of secondary materials. In addition, the concept of "full-cost" could also refer to a range of additional expenses, such as the costs for public communication and awareness campaigns, the costs for waste prevention measures, and the costs for enforcement and monitoring of the scheme. Certain expenditures might be more important in specific phases of the development of the scheme. For example, communication campaigns would likely require higher investments during initial stages.
- ***Difficulty to assess the cost effectiveness of EPR policies.*** The wide disparities in fees and cost coverage across EPR schemes have raised concerns among governments and policy makers to the issue of cost effectiveness. Indeed, the variations as to what is included in full costs and what share of the costs will be assumed by producers make it challenging to assess the cost effectiveness of a specific scheme. In addition, all EPR programmes have specific scopes, objectives, and accounting and reporting modalities, which hinder their comparability. In that context, it can be challenging for policy makers to determine an adequate cost-effectiveness assessment of a new or existing EPR programme, especially as the expected benefits of EPR (e.g. DfE, increase in recyclability, correction of market failure such as ineffective recycling markets) are also hard to quantify.

***Optimizing cost effectiveness:
The example of the Japanese Packaging Recycling Act***

This Act foresees the payment of a contributing commission by PROs to municipalities, the amount of which is relative to actual recycling costs. If the municipality provides high-quality well-sorted waste to recyclers, the costs become lower and the producers would then reimburse 50% of the difference compared to the initially estimated costs. These fluctuating contributions incentivize municipalities to provide high-quality and properly sorted packaging waste to recyclers, thereby reducing overall recycling costs.

4.3 Issues specific to EPR start-up phases

A number of specific issues may arise when developing a new EPR programme. In OECD countries, policy makers would have to address those challenges when designing EPR policies for new products or extending the coverage of EPR. In non-OECD countries, the initial development and start-up of EPR programmes is a more comprehensive issue that often requires a transition from informal to formal waste management. This shift requires important investments in human, physical and financial capital in developing countries with rudimentary and unsafe waste management systems, and sub-standard technology levels. In addition, the necessary administrative and institutional capacity required to adequately deal with waste and to ensure enforcement of EPR policies needs to be established.

The lessons learned in OECD countries in the early stages of EPR implementation can therefore be relevant to developing countries. However, the adequate responses to issues arising during the initial developments of EPR need to be tailored to the specific social and economic context of a country, which imply that the models developed in OECD countries may not be perfectly suitable to other regions.

Some key challenges policy makers are likely to encounter when developing new EPR programmes are:

- **Informal waste management sector and social challenges.** Unauthorized facilities and illegal recyclers are present in most markets both in OECD and non-OECD countries. Given that informal actors do not have to comply with safety and environmental standards, they can operate at relatively cheaper costs and be more profitable than official recyclers. The use of inappropriate techniques by informal actors leads however to high environmental risks and loss of valuable material in the process. In addition, the presence of unofficial actors raises challenges for the good functioning of EPR schemes given that waste covered by the scheme is sometimes diverted into informal facilities. It is usually producers whose products are most easy and profitable to recycle who will be less likely to recover their materials; thereby de-incentivizing DfE innovations. These losses are expected to proliferate as more and more waste is considered to contain net positive value. This challenge is particularly large in developing and emerging economies where informal recycling has developed as a large and sometimes lucrative activity. In India for example, it is estimated that more than 95% of e-waste is managed by informal recycling businesses. These usually provide a livelihood to the poorest sections of the population who are often unaware of the harmful and irreversible impacts of e-waste for their health and the environment. The challenge for policy makers in those countries and regions is to organize a transition towards EPR and formal recycling while taking into account the social issues involved and ensuring that alternative employment opportunities and social protection frameworks would be available for people who have their livelihood in that sector.
- **Waste leakage.** Leakage of waste products occurs when they are not being captured by the EPR scheme, but instead collected and treated through other legal, or illegal, channels. Illegal leakage can be due to the activities of informal recyclers or to the illegal exports of waste, usually for waste that has positive value. Leakage also occurs when used products are exported, which is not illegal but still results in a reduction of material that can be recovered through the EPR scheme. In addition, leakage may cause severe environmental and health damages, when leaked products are disposed of in an environmentally sound manner.
- **Orphan products and free riders.** A new EPR scheme may be confronted with products whose producers did not contribute to the scheme or cannot be identified, leading to inadequate levels of finance to handle end-of-life costs. One such category is orphan products, which were put on the market before the introduction of EPR systems by producers who are no longer in business, thereby leaving the responsibility to finance their treatment to current producers. A similar problem arises when there is a large share of free riders, i.e. producers who do not pay their fees at an adequate level. The issue is exacerbated in markets where it is difficult to identify manufacturers, especially in emerging economies characterized by large counterfeiting and second-hand sectors and illegal importers. These challenges are often especially present during the first years of establishment of an EPR scheme given that past producers would not be covered.

**Managing the transition from informal to centrally-run waste management
The example of the Chinese e-waste disposal fund**

The Chinese government-run e-waste disposal fund scheme was established in 2012 and collects charges from producers and importers of electronic and electrical products via the tax and customs authority. The funds collected are provided to certified recyclers in the form of subsidies in order to support the development of the legal e-waste recycling industry. In over a year, 64 e-waste recycling companies have been certified by the Ministry of Environmental Protection (MEP). The potential for development is still high however as 9 less developed provinces do not have any certified recycling company yet. Besides, formal recyclers currently struggle to collect most e-waste except for that with negative value, notably cathode-ray tube (CRT) television sets. The key challenge for the government is to modify the incentive structure in a way that increases legal collection, while taking into account the impact that this would have on people active in the informal sector. In order to facilitate administration, more responsibility might also be transferred to producers through the development of PROs.

- **Absence of a business framework that is conducive to investment.** A stable and effective EPR system requires the presence and development of efficient and competitive waste management operators and of markets for recovered material. However, during the first years of development of a scheme, uncertainty about the volume of waste that will be collected by producers and PROs hampers future investment planning by recyclers. As waste leaks out of the official scheme and is processed by informal actors instead, it becomes more difficult for waste operators to recover their infrastructure investments and to operate legally at a profit.

4.4 New and emerging issues

The global context has significantly evolved since the development of the first EPR policies over two decades ago. New economic powers have emerged on the global scene, companies are increasingly active at multinational level, technological changes are altering patterns of communication and consumption (e.g. online sales), and some key resources are becoming scarcer. In such a context, EPR models could require some review and adaptation.

In this section, a number of key emerging issues are considered as to their potential implications for EPR. Most of those are especially relevant for OECD governments that have already well-established EPR schemes in place and that are looking into future improvements of their overall policy framework. Policy makers from emerging and developing economies could also benefit from assessing and integrating these concerns at the initial steps of EPR design and development.

- **Internet sales by-passing EPRs.** The rise in internet sales is a clear challenge for EPR in all countries, and particularly in OECD countries where online markets are beginning to achieve significant market share. Products sold online frequently free ride on EPR systems. This phenomenon is especially noticeable among small-scale internet sales companies that are difficult to identify and can more easily act as free riders. This puts national producers who are contributing to EPR schemes at a competitive disadvantage.
- **Increasing export of waste and used products.** The export of waste and used products that are financially covered by national schemes is a challenge for PROs especially in OECD countries. The trend is increasing as transport becomes cheaper and environmental and legal requirements become more burdensome in certain regions than in others. These exports create loopholes in the market and damage the efficiency of EPR schemes. In addition, the illegal export of waste and hazardous materials to developing countries that do not have the capacity to enforce safe processing can generate negative impacts for the environment and the health of the local population. Some benefits could however ensue from the exports of used products to developing countries with a deep culture of reuse

as these can lead to an extension of the products' useful life, which is a priority in the waste hierarchy. In order to limit the export of waste covered by EPR, some OECD governments have reinforced the control and monitoring of waste streams onto their territory, sometimes through the establishment of national clearing houses that collect data on material exports. A clearinghouse collecting data and monitoring product flows exists for WEEE in all EU member states for example. In a context of increasing globalization, further measures might become necessary such as reinforced collaboration with customs authorities as already implemented under the Chinese e-Waste Disposal Fund Scheme.

- ***Whether and how to extend EPR schemes to cover new products as well as strategic materials, and components.*** The potential extension of EPR schemes opens up two questions. First, how shall PROs and policy makers encourage and increase the recovery of more materials covered by existing schemes? Second, according to what criteria shall governments make the decision to establish new EPR schemes for additional products and categories of products? Certain products and materials that had up to now not been considered for EPR could present new opportunities for addressing resource security concerns. This could for example be the case of strategic metals and rare earth elements that are becoming concentrated in high-tech products in big cities. France is currently considering including those into new EPR schemes. Certain products may however not be suited for EPR systems, for example because of a very long life-span.
- ***Whether and how to address waste prevention in EPR policies.*** EPR is designed to organize the end-of-life of products. It creates incentives to recover material from waste products, but usually does little in the way of encouraging the re-use and reduction of waste (the two other "R" in the "3Rs" principle), which are given higher priority in the waste hierarchy. Some OECD countries are trying to reconcile EPR and waste prevention through recent initiatives. In Japan for example, a system aimed at reducing packaging waste was introduced in 2006, under which industries and companies that use large volumes of packaging are required to report their activities to the government. When activities are deemed insufficient, the Japanese government can issue recommendations such as a requiring a reduction in the quantity of packaging used. Policies that charge fees on waste per unit of weight instead of units consumed also encourage reductions in the amount of material used. In parallel, charities and voluntary initiatives are flourishing that engage communities in the reduction, re-use, recycling and redistribution of resources (e.g. the London Community Resource Network (LCRN) in the United Kingdom and the *Emmaüs* programmes in France). These community-based programmes can be complementary to EPR by stimulating behaviour change within the population.
- ***Waste as a valuable resource: changes the rationale for EPR.*** The context of growing resource scarcity and increasing commodity prices gradually increases the intrinsic value of waste streams. This will eventually put into question the basic assumption that regulation is needed in order to divert waste from landfills. In addition, it will likely become increasingly difficult for producers to collect end-of-life products, especially those that contain larger quantities of valuable materials and are easily recyclable, such as certain electronics products. New business models are being developed that shift product ownership from consumers to producers and to improve opportunities for collection, re-use and recovery. The American company Xerox for example operates a leasing system for its copying machines, which gives the company control over the entire life-cycle of the machines and enables it to repair and reuse components. Eventually, the growing resource scarcity and increasing value of waste could require a general review of the basic features and objectives of EPR.

Questions for discussion:

- ✓ **Which challenges from the ones highlighted in this section are most relevant from your point of view? Are there other challenges that policy makers face and that are not in the list?**
- ✓ **What key challenges do emerging economies encounter and how do they differ from those encountered in OECD economies?**
- ✓ **What are some specific responses to these challenges?**

附件六

Japan's International Cooperation on 3R Promotion

Ryutaro Yatsu, Ph.D.

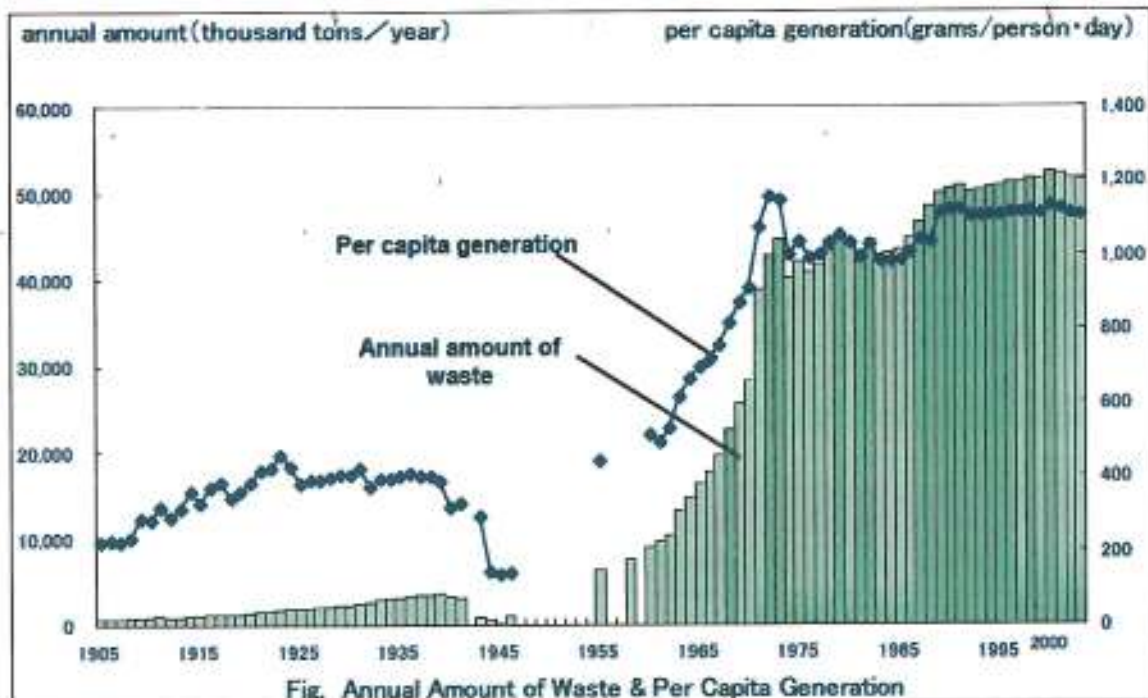
Vice-Minister

Ministry of the Environment, Japan

1

Introduction

■ Changes in Municipal Solid Waste Generation in Japan



2

Introduction

- Rapid increase in municipal solid waste (MSW) witnessed for 1955 – 1970, in terms of annual amount of generation and per-capita generation
- This is closely related to the initial economic growth
- Change in life-style and population increase, caused by the economic growth, also had great effects on the volume and composition of MSW
- Similar changes are taking place in Industrial Waste



- Clarify problems caused by changes regarding waste and how Japan addressed to those problems
- Examine what we need to do in order to make appropriate waste management, based on such experiences

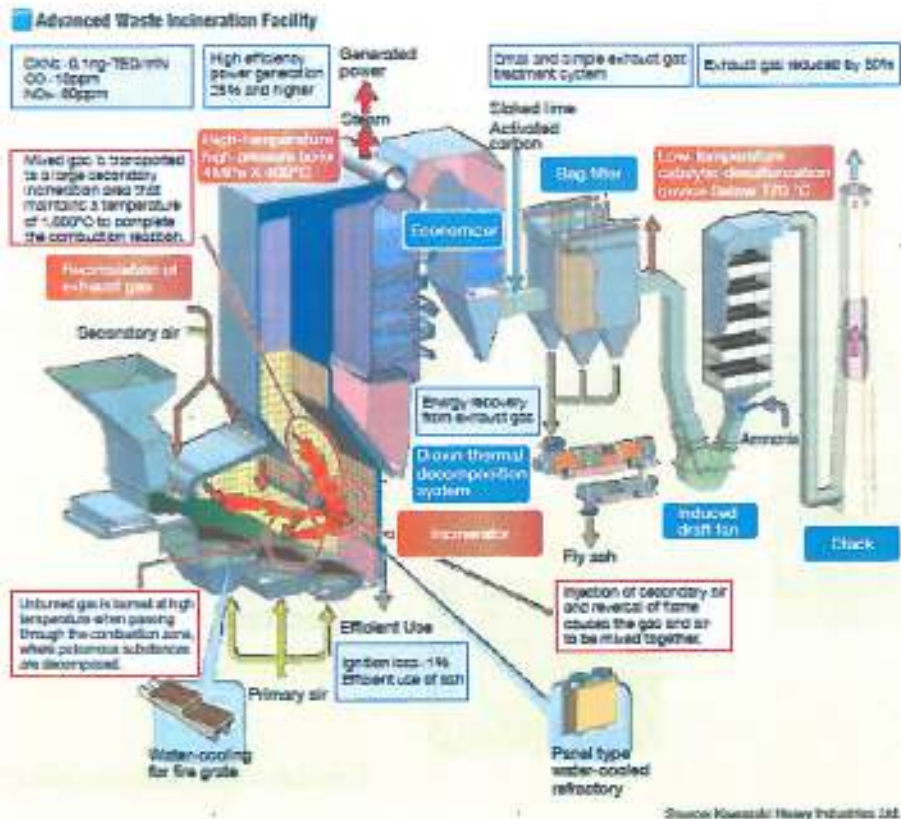
3

History of regulations related to recycling

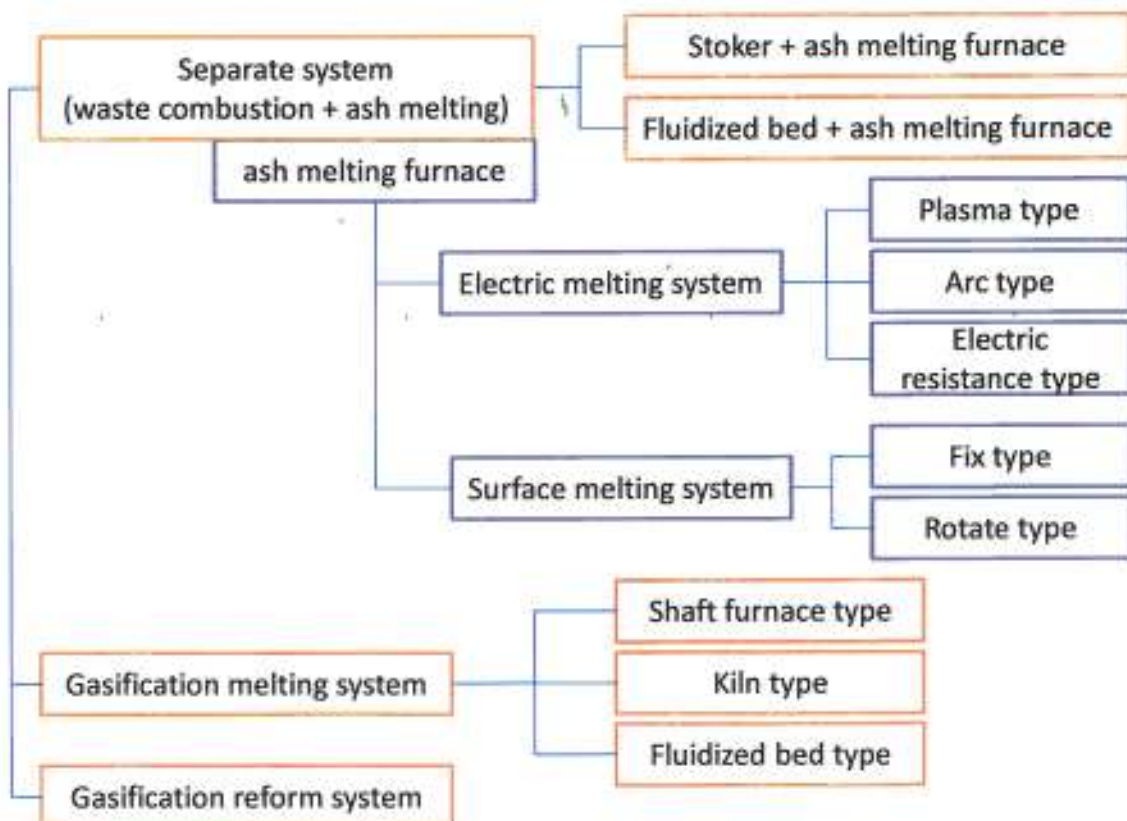
Period	Contents	Enactment of laws
Post war - 1950s	<ul style="list-style-type: none"> - Waste treatment as a measure for environment and health protection - Conservation of healthy and comfortable living environment 	<ul style="list-style-type: none"> - Public Cleaning Act (1954)
1960s - 1970s	<ul style="list-style-type: none"> - Amount of industrial waste increases along with the high economic growth and the problem of pollution comes to the fore. - Waste treatment as a measure for environment conservation 	<ul style="list-style-type: none"> - Act on urgent measures for improvement of living environment (1963) - Waste Disposal and Public Cleaning Act (1970) - Amendment of the Waste Disposal and Public Cleaning Act (1976)
1980s	<ul style="list-style-type: none"> - Improvement of waste treatment plants is promoted - Environment conservation along with the waste treatment 	<ul style="list-style-type: none"> - Act on Bay Area Marine and Environment Consolidation Centers (1981) - Law for Combine Household Wastewater Treatment Facility (1983)
1990s	<ul style="list-style-type: none"> - Waste disposal control and promotion of recycling - Establish various recycling systems - Countermeasures for hazardous substances (incl. dioxin) - Introduction of systems for proper waste treatment, to accommodate a large variety of kinds and characteristics of waste 	<ul style="list-style-type: none"> - Amendment of the Waste Disposal and Public Cleaning Act (1991) - Act on Promotion of Development of Specified Facilities for the Disposal of Industrial Waste (1992) - Basic Environmental Act (1993) - Act for Promotion of Sorted Collection and Recycling of Containers and Packaging (1995) - Amendment of the Waste Disposal and Public Cleaning Act (1997) - Home Appliance Recycling Act (1998) - Act on Special Measures against Dioxins (1999)
2000 -	<ul style="list-style-type: none"> - 3R Promotion for building of a sound material-cycle society - Reinforcement of measures of industrial waste treatment - Control enhancement of illegal waste disposal 	<ul style="list-style-type: none"> - Basic Act on Establishing a Sound Material-Cycle Society (2000) - Law for the Promotion of the construction material recycling and Utilization of Recyclable Food Resources (2000) - Amendment of the Waste Disposal and Public Cleaning Act (2000) - Act Concerning Special Measures Against PCB Waste (2001) - End-of-Life Vehicle Recycling Law (2002) - Act on Special Measures concerning Removal of Environmental Problems Caused by Industrial Wastes (2003) - Amendment of the Waste Disposal and Public Cleaning Act (2003 - 2008, 2010) - Small Electrical and Electronic Equipment Recycling Act (2013)



Municipal Waste Incineration Technology



Classification of "waste-to-energy" incineration technology



Waste incineration facilities in residential and commercial areas

Shibuya Incineration Plant
Constructed in 2001



- located near Shibuya Station
- a high technology with a capacity of 200t/day
- strict gas emission regulations for NOx, SOx, smoke, dioxin and other gases
- A steam turbine generator that generates a maximum of 4,200kW.
- Excess electricity being sold to Tokyo Electric Power Company.



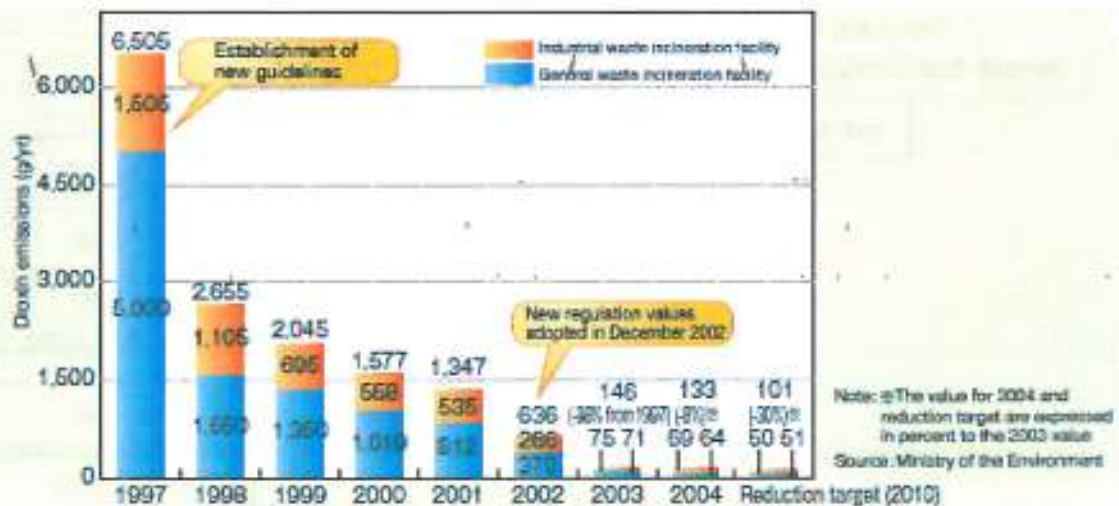
Shinagawa Incineration Plant



- Operation under automatic control

Source: Clean Association of TOKYO 23

Solution to poisonous gas and dioxin emissions



Reduced dioxin emissions by 98% compared to 1997 from incineration plants in Japan

Japanese Incineration Technology Transferred to the Asian Region



The largest scale plant with the capacity to handle 4320t/day was built in Singapore by Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd.

In Taipei delivered by Hitachi Zosen Corporation

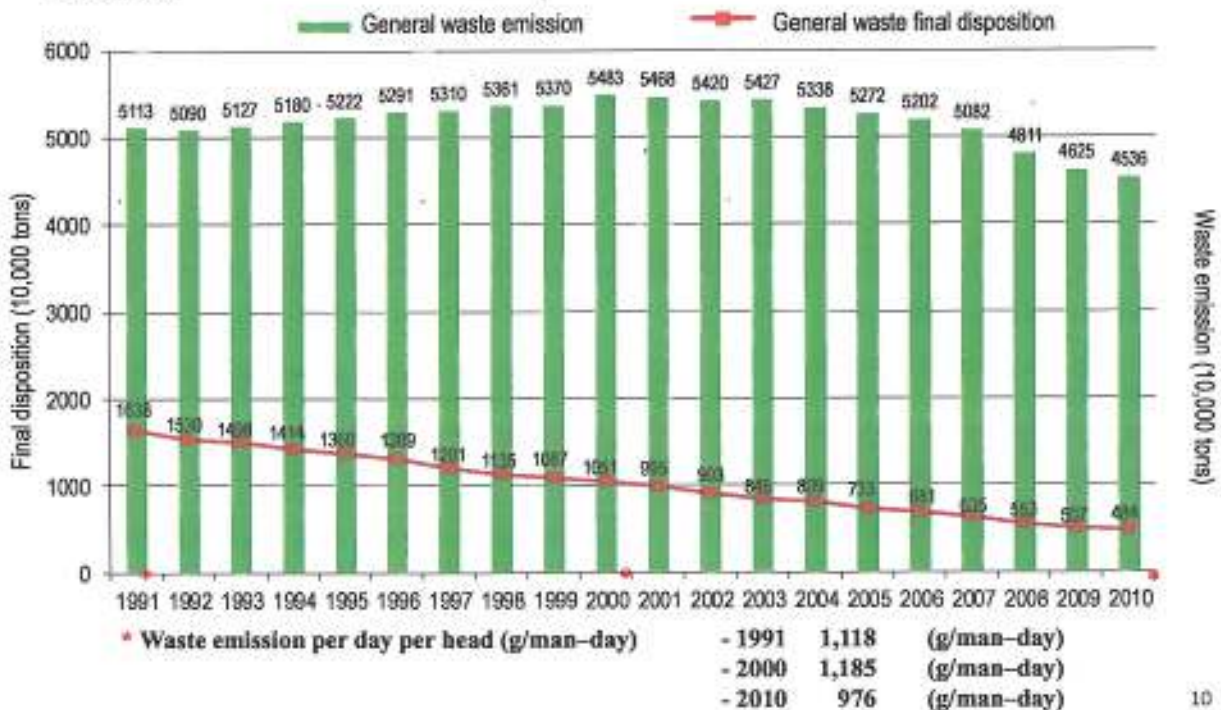
An industrial waste incinerator by JFE Engineering Corporation has been operating in Thailand since 2006. Its treatment capacity is 100t/day.

An electric generating facility with the capacity of 30,000 KW and steam condition of 4MPa and 400°C has been delivered to the incineration plant in Beijing, with capacity to handle 1,600t/day, by Takuma Co., Ltd.

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Changes in general waste emission and in final disposition

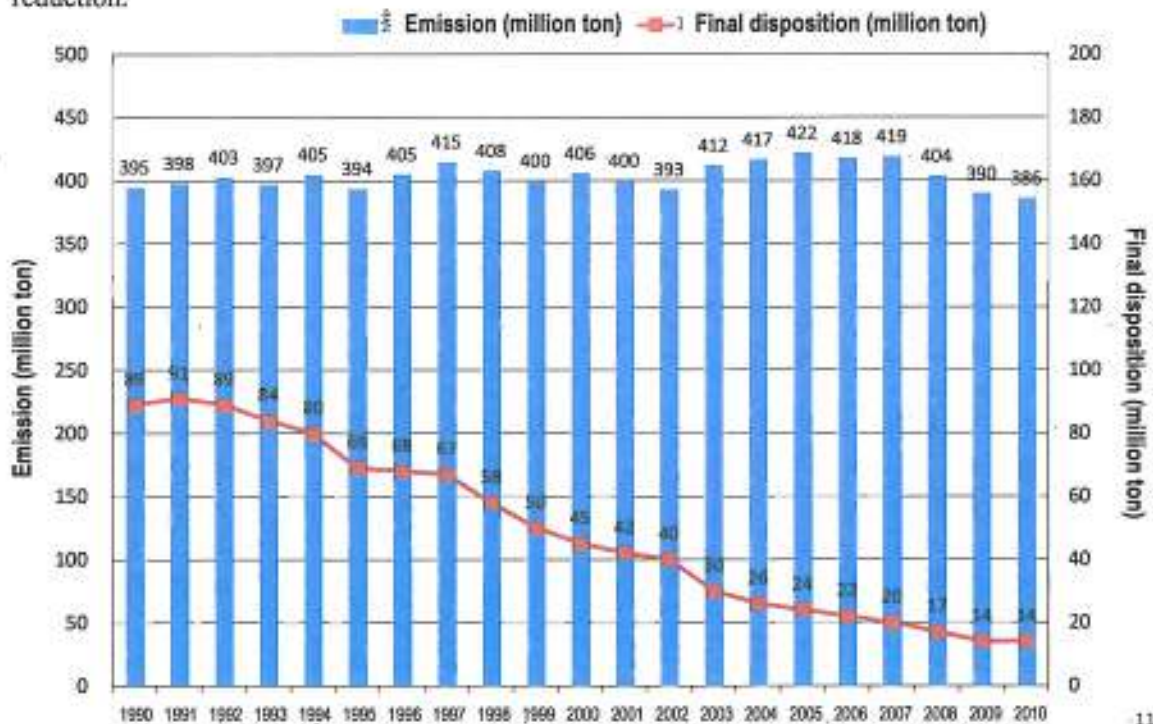
The emission of general waste, after recording a peak of 548.3 million ton in 2010, continues to decrease. The amount of final disposition tends to decrease along with progress in recycling and reduction.



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Changes in industrial waste emission and in final disposition

The total emission of industrial waste in 2010 is 390 million tons, and since 1990, has almost no changes in this level. The final disposition also tends to decrease with progress in recycling and reduction.

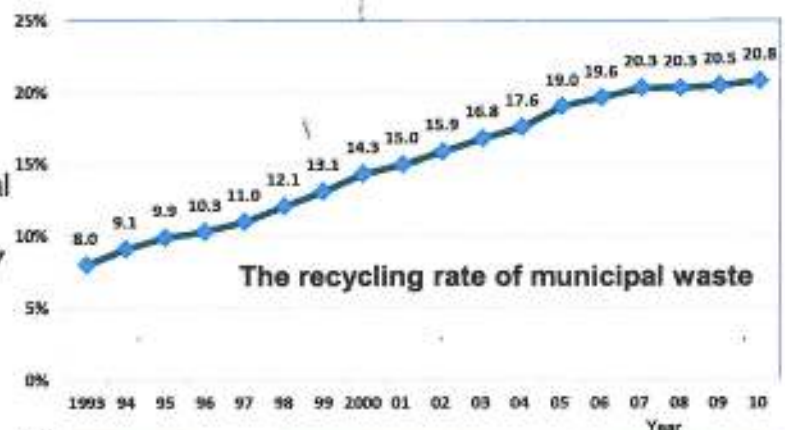


11

Trend of the waste recycling rate

▷ The recycling rate of municipal waste is 20.8% (FY2010).

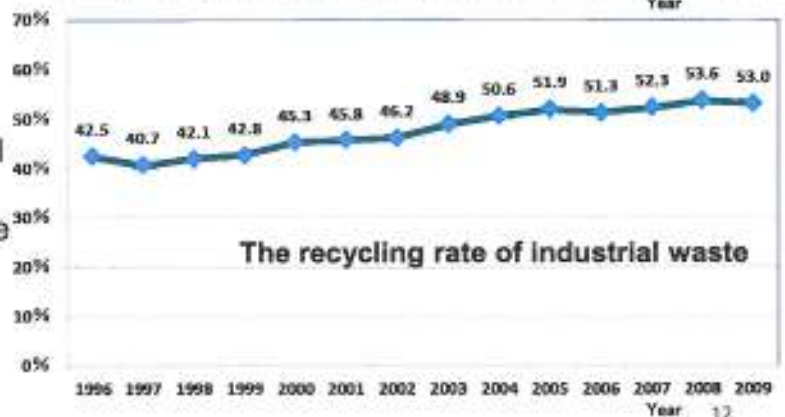
The recycling rate of municipal waste was rising steadily, and exceeded 20% in both FY2007 and FY2008.



The recycling rate of municipal waste

▷ The recycling rate of industrial waste is 53.0% (FY2009).

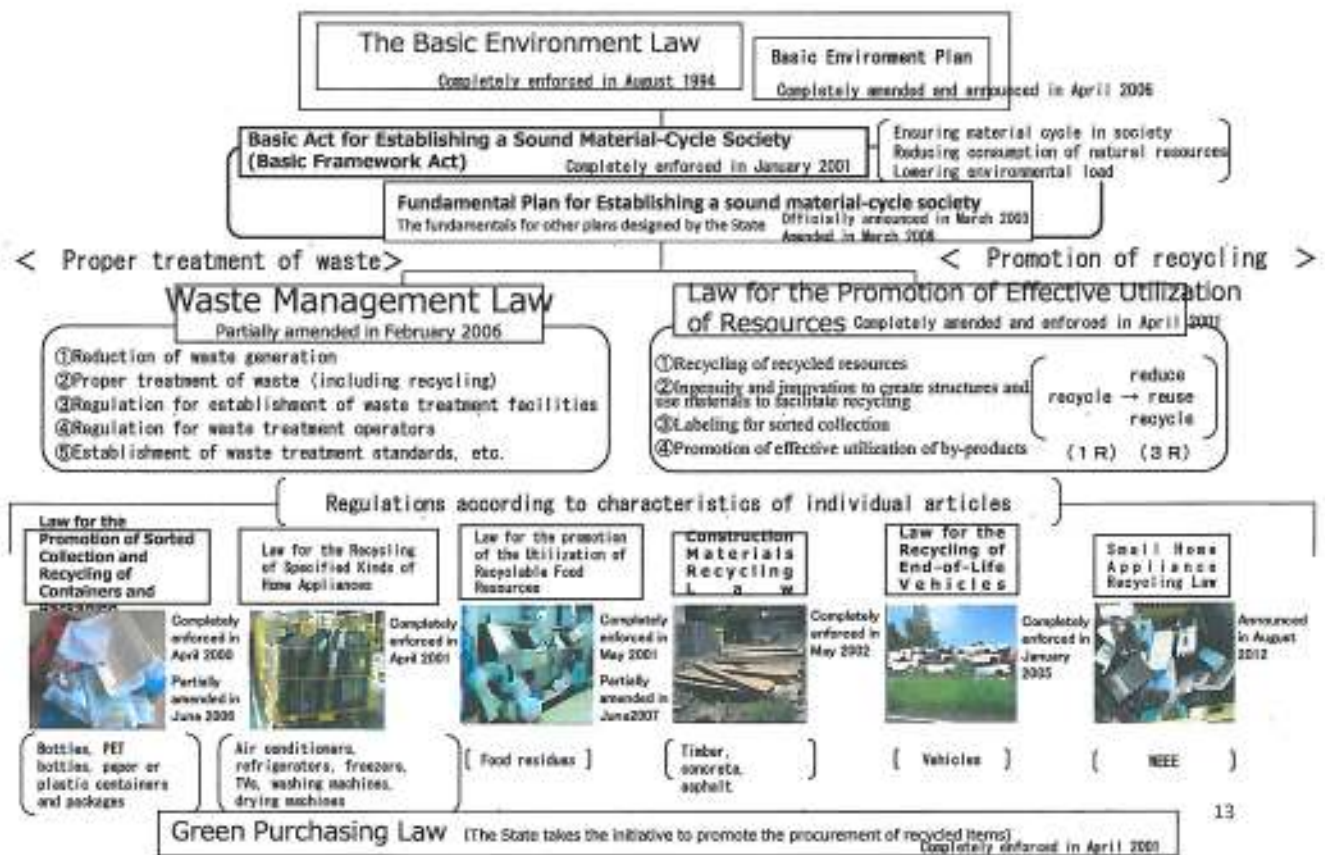
The recycling rate of industrial waste, which was rising gradually, exceeded 50% since FY2004.



The recycling rate of industrial waste

Year 12

Legal systems for establishing a Sound Material-Cycle Society



13

Key points of the 3rd Fundamental Plan for a SMC Society

Formation of a Sound Material-Cycle Society, focusing on its quality

- 2R (Reduce, Reuse) promotion
- Recovery of useful metals from consumed products and promotion of a high grade recycle
- Conversion of recycle and biomass resources into energy
- Development of the efforts integrating the elements for a low carbon society and a nature-harmonized society, and grade-up of the local recycling network

Promotion of global efforts

- A global sound material-cycle society through the Regional 3R Forum in Asia and the Pacific
- Promotion of technology transfer by Japanese Waste Management and Recycling Industry

Response to the Great East Japan Earthquake

- Effective treatment and reuse of disaster waste
- Safe treatment of waste contaminated by radioactive substance

14

The Basic Act for Establishing a Sound Material-Cycle Society

Point related EPR in the Basic Act for Establishing a Sound Material-Cycle Society

Clarification of the roles of the national government, local public entities, companies and the citizens

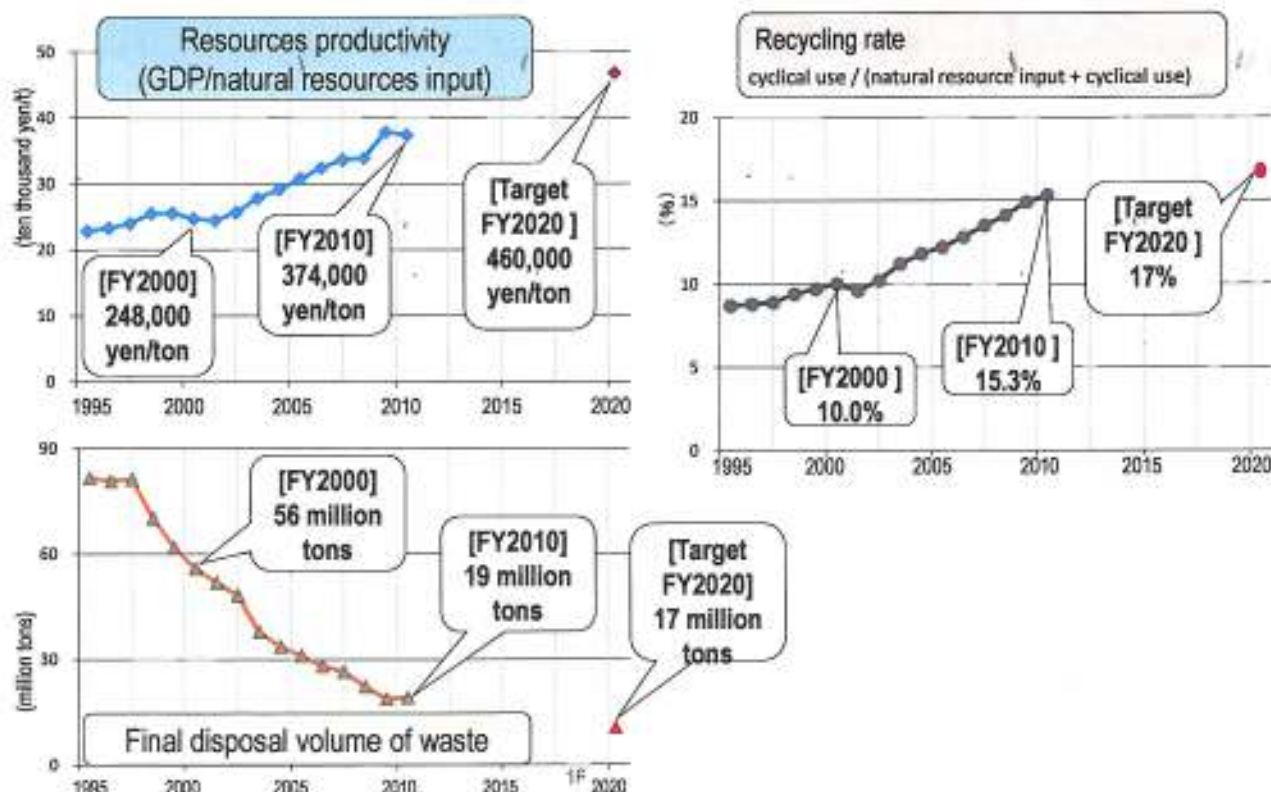
For building the sound material-cycle society, in order to work with the national government, local public entities, companies and the citizens altogether, their responsibilities are clarified, particularly

- (1) Clarify “the producer responsibility” of businesses and citizens
- (2) Establishment of general principle of “the extended producer responsibility” in which the producer takes certain responsibility of its products produced even after the products are disposed.

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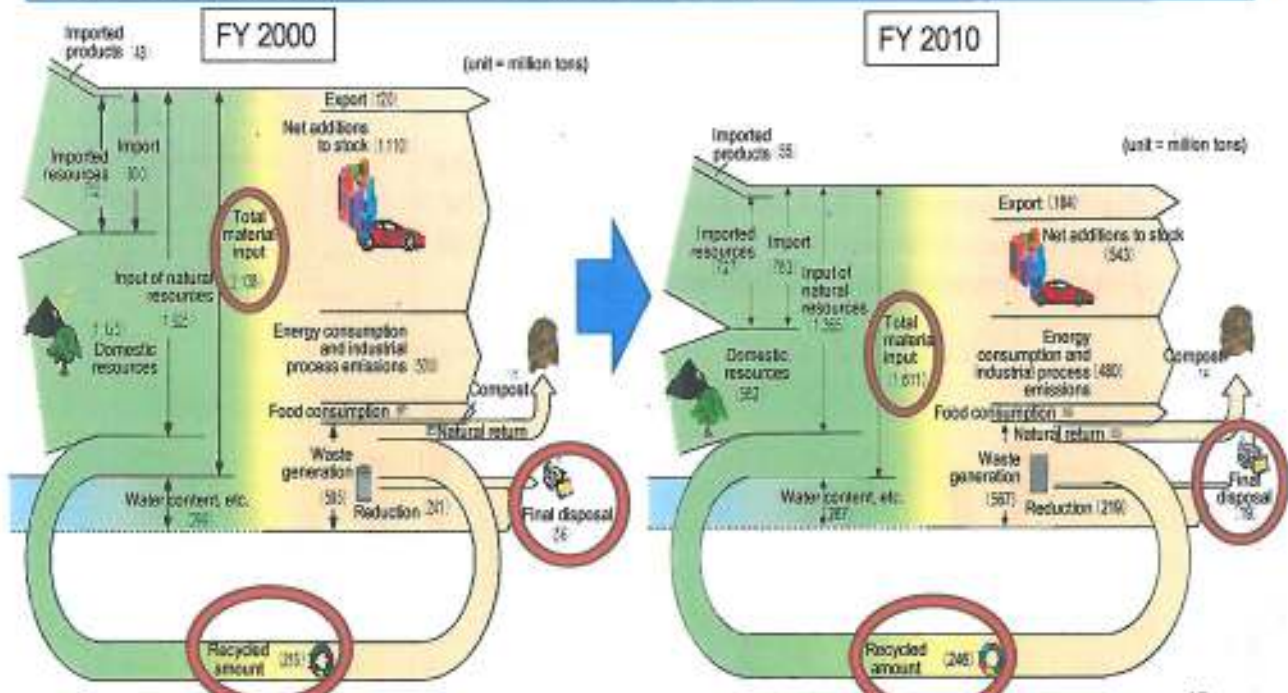
Japan's progress towards establishing a SMC society

– changes in major indexes and goals targeted by the 3rd Fundamental Plan –



Material Flow of Japan

- Total material input: 2.138 → 1.611 (billion tons)
- Final disposal: 56 → 19 (million tons)
- Recycled amount: 213 → 246 (million tons)



(Note) Water content: water contents of wastes (sludge, livestock's waste, night soil, waste acid, waste alkali, etc.) are contingently dumped in the process of economic activities (sludge in mining, construction and in waterworks as well as slag)

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2-1. Overview of the individual recycling acts

	Objective products	Efforts	Results
Act for Promotion of Sorted Collection and Recycling of Containers and Packaging (Enacted in June 1995) (Revised in June 2005)	<ul style="list-style-type: none"> - Steel cans, aluminum cans, glass bottles - Cardboards, cartons, paper containers and packages - PET bottles, plastic containers, plastic packages 	Legal obligations; (1) Consumers sort and take out the waste (2) Local authority collects classified waste (3) Business entities are required to recycle materials	Separated collection rate of waste by local authorities in FY 2011 - 90% or more for cans, bottles and PET bottles - Approx. 80% for cartons - Approx. 70% for plastic containers - Approx. 40% for paper containers and packages
Home Appliance Recycling Act (Enacted in June 1998)	<ul style="list-style-type: none"> - Air conditioner - TV sets - Refrigerator, freezer - Clothes washing machine, clothes dryer 	Manufacturers are obliged to collect and recommercialize their products, and retailers are obliged to collect and deliver their used products.	Recommercialized ratio: Air conditioner 89%, CRT-based TV sets 79%, LCD and plasma TV sets 85%, refrigerator and freezer 79%, washing machine and dryer for clothes 87% (FY 2011)
Law for the Promotion of the construction material recycling (Enacted in May 2003)	<ul style="list-style-type: none"> - Concrete - Construction materials made of concrete and iron - Wooden material - Asphalt concrete block 	Contractors , when earning a construction work contract of a certain level or larger, are obliged to classify and recycle construction materials on site.	Recycle ratio: Asphalt concrete block 58.4%, concrete block 97.2%, wooden materials from construction 89.4% (FY 2008)
Law for the Promotion of Utilization of Recyclable Food Resources (Enacted in June 2010) (Revised in June 2007)	Food waste discharged from food-related business operators, including food production, distribution and restaurant industries	Food-related business operators are required to make an effort to achieve the goal in regard to the recycling and utilization of food resources	Recycle ratio: Food manufacturing industry 94%, food wholesaler 53%, food retailer 37%, restaurant industry 17% (FY 2010)
End-of-Life Vehicle Recycling Law (Enacted in July 2002)	Automotive shredder residues (ASR), airbags, CFC, etc. which were included in end-of-life cars. (* Iron scraps are exempt from recycling because of being valuable in the market.)	Automotive manufacturers are obliged to collect and recycle crushed residue from end-of-life cars	Recycle ratio by automotive manufacturers: Shredder dust 92-94%, airbags 92-100% (FY 2011)
Small Electrical and Electronic Equipment Recycling Act (Enacted in August 2012)	Small electrical and electronic appliances (* The items in this category are specified by the ordinances.)	Local authorities collect classified waste and business operators promote recycling	—
Act on the Promotion of Effective Utilization of Resources (Enacted in June 2010)	<ul style="list-style-type: none"> - PC - Small-sized rechargeable battery (sealed type) 	By providing the system of designating certain kinds of trades and products, manufacturers hereof are promoted to recover and recycle the material on their own initiative.	Recycle ratio: Desktop PC 76.6%, notebook PC 57.2% Recycling of the small-sized rechargeable batteries: nickel cadmium battery 72.8%, nickel hydrogen battery 76.6% (FY 2011)

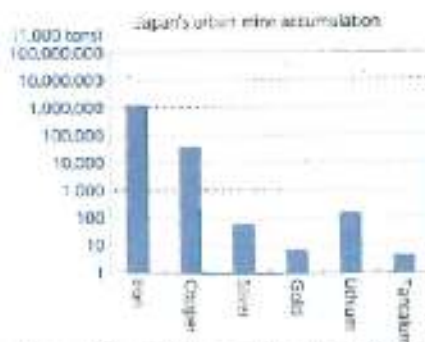
Japan's Prospective Terrestrial Resources

- A variety of end-of-life products existed in Japan contains useful metals available as raw materials, total amount of which is equal to that of large mines overseas (urban mine).
- The quantity of end-of-life small electronic appliances that are disposed of is 651,000 tons per year, and the useful metals contained within them are estimated at 279,000 tons (equivalent to 84.4 billion yen)

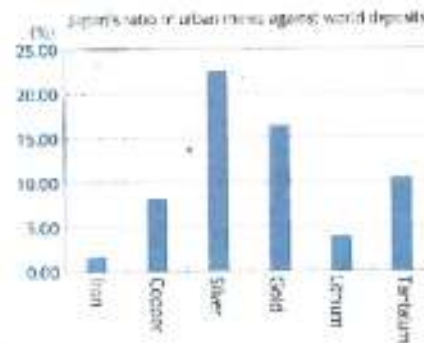
Useful Metals Collected by Local Governments

Useful metals	Ratio collected
Iron	66.8%
Copper	21.7%
Silver	4.0%
Gold	4.8%
Aluminum	52.9%
Various metal	16.5%
Other metal	2.6%

Note: Ratio collected refers to the percentage of local governments collecting the mean number of local governments that reported 1,746.
Source: Ministry of the Environment



Source: Ministry of the Environment, based on "Survey Report for Urban Mine Initiative"



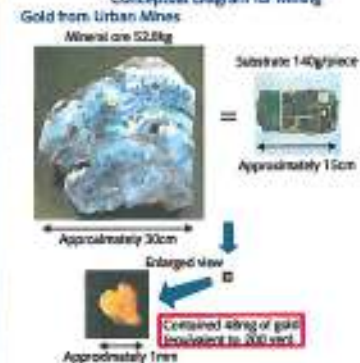
Japan's Prospective Terrestrial Resources

- Recovery ratio against domestic demand : tantalum 9.4%, gold 6.4%, silver 3.7%
- An average cell phone (140 grams) contains 48 milligrams of gold. Equal to the volume of material that can be obtained from 52.8 kg of earth and sand excavated in mines.

	Metal	Domestic demand (t/yr)	Desktop, cellular and electronic devices					
			Cell phones		Personal computers			
			Volume (t/yr)	Ratio against domestic demand	Volume (t/yr)	Ratio against domestic demand		
Base metals	Iron (Fe)	94,291,000	230,105	0.2%	416	0.0%	16,945	0.0%
	Aluminum (Al)	4,032,000	24,708	0.6%	50	0.0%	3,914	0.1%
	Copper (Cu)	1,793,000	22,789	1.3%	1,001	0.1%	2,730	0.2%
	Lead (Pb)	251,000	740	0.3%	19	0.0%	220	0.1%
	Zinc (Zn)	489,000	649	0.1%	44	0.0%	70	0.0%
Precious metals	Silver (Ag)	1,670	60.9	3.7%	10.5	0.6%	21.1	1.1%
	Gold (Au)	166	10.6	6.4%	1.9	1.2%	4.5	2.7%
Rare metals	Aluminum (Ga)	7,666	117.5	1.5%	2.3	0.0%	43.5	0.6%
	Tantalum (Ta)	360	33.8	9.4%	3.2	0.9%	14.9	4.1%
	Tungsten (W)	4,000	33.0	0.8%	27.1	0.7%	1.1	0.0%
	Niobium (Nb)	7,000	26.4	0.4%	18.9	0.3%	-	-
	Cobalt (Co)	16,260	7.5	0.0%	2.2	0.0%	-	-
	Bismuth (Bi)	682	6.0	0.9%	0.7	0.1%	0.8	0.1%
Palladium (Pd)	131	4.0	3.1%	0.5	0.4%	2.1	1.6%	

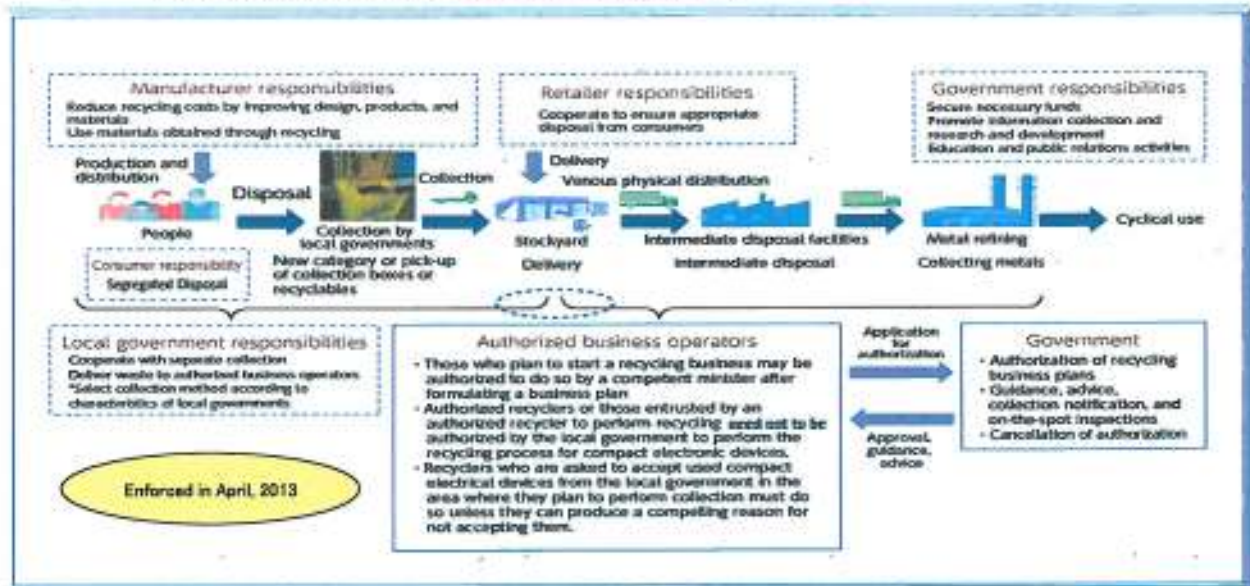
Note: Cells marked "--" indicate that the calculation were not performed because no data was available (this does not mean that the product contains no target substance). The personal computers category includes desktop and laptop computers.
Source: Ministry of the Environment

Conceptual Diagram for Mining



Small Home Appliance Recycling Law

- Legal framework to ensure stable recycling
 - Authorization of business operators by the Minister of the Environment and the Minister of Economy, Trade and Industry
 - Used small electronic devices collected by local governments being delivered to the authorized business operators
 - Exemption for the authorized business operators from obtaining permission based on the Waste Management and Public Cleansing Law



1856 1857 1858 1859 1860 1861 1862 1863 1864 1865

1866 1867 1868 1869 1870 1871 1872 1873 1874 1875

1876 1877 1878 1879 1880 1881 1882 1883 1884 1885

1886 1887 1888 1889 1890 1891 1892 1893 1894 1895

1896 1897 1898 1899 1900 1901 1902 1903 1904 1905

1906 1907 1908 1909 1910 1911 1912 1913 1914 1915

1916 1917 1918 1919 1920 1921 1922 1923 1924 1925

1926 1927 1928 1929 1930 1931 1932 1933 1934 1935

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PROMOTING SUSTAINABLE MATERIALS MANAGEMENT THROUGH EXTENDED PRODUCER RESPONSIBILITY

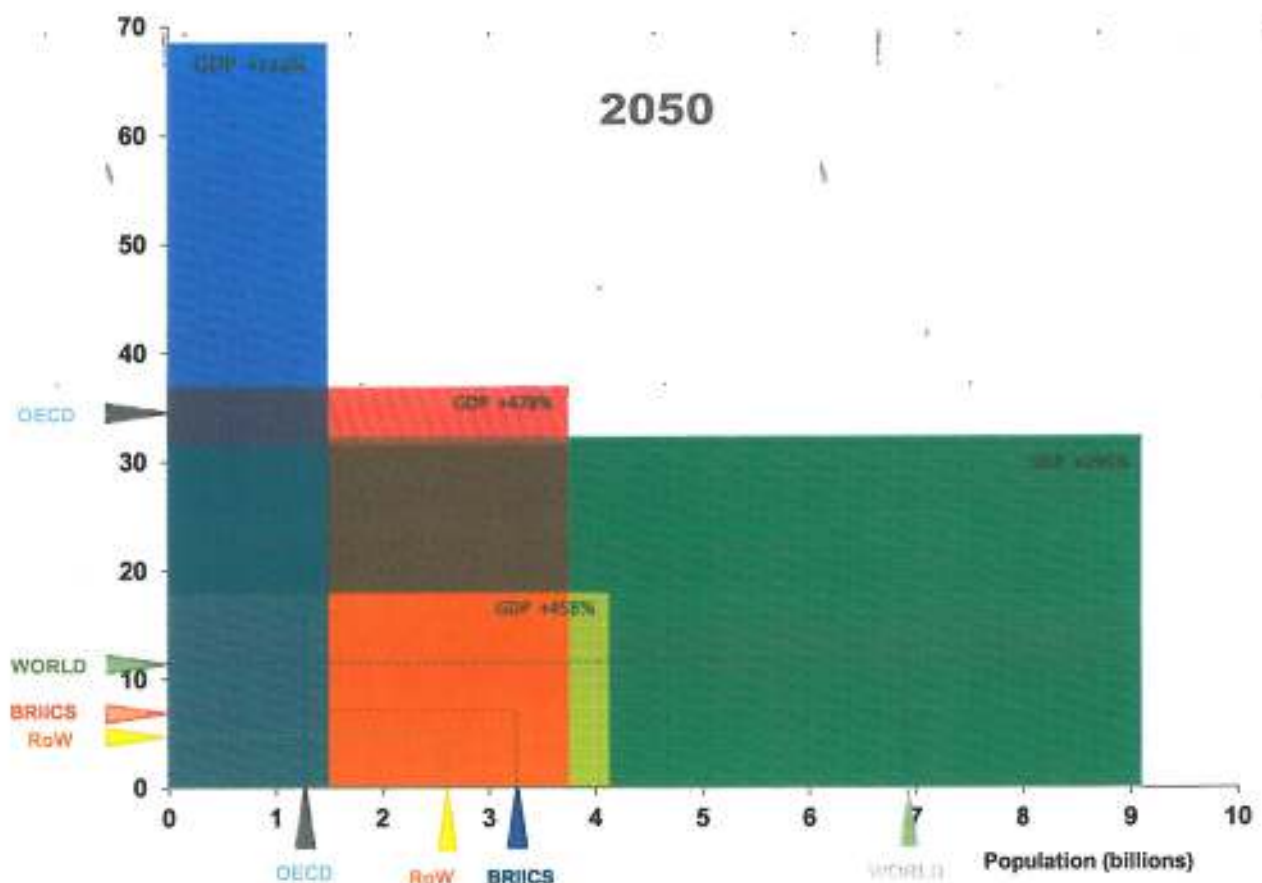
Simon Upton
Director of Environment, OECD
www.oecd.org

Global Forum on Environment

Tokyo, 17 June 2014



GDP per capita ('000 USD)

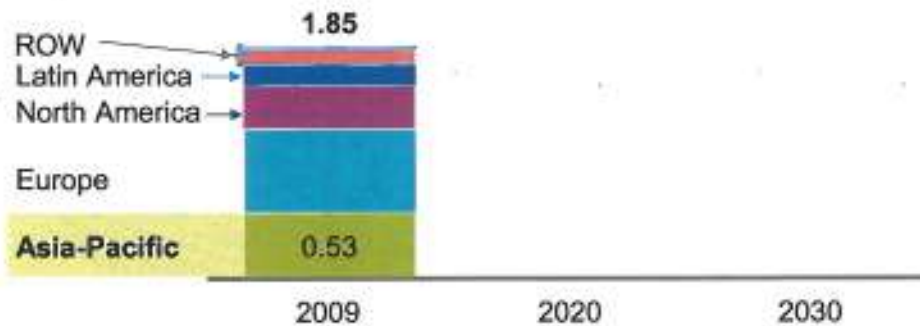


Source: OECD (2012), *OECD Environmental Outlook to 2050*, Baseline projection using ENV-Linkages model



3 billion more middle-class consumers will fuel future demand

Global middle class¹
Billions of people

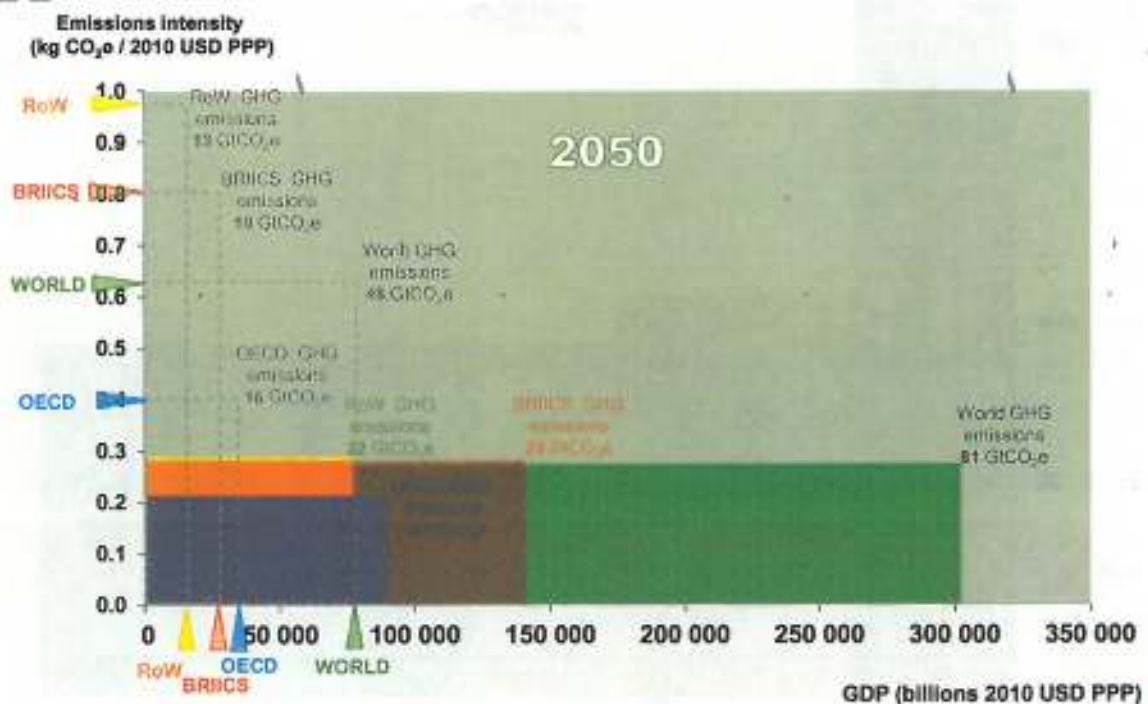


¹ Based on daily consumption per capita ranging from \$10 to \$100 (in purchasing power parity terms)

Source: OECD (2011), *Perspectives on Global Development: Social Cohesion in a Shifting World*



GHG emissions intensity and GDP



Source: OECD (2012), *OECD Environmental Outlook to 2050*, Baseline projection using ENV-Linkages model



A Story of Industrial Entropy ... Running Against the Earth's Balance Sheet?

RESOURCE S



Extracted & used
35 Gt (1980)

72 Gt (today)

> 100 Gt (2030)



RESERVOIRS

Atmosphere
49 Gt of GHG

Aquasphere
228 Mt of P

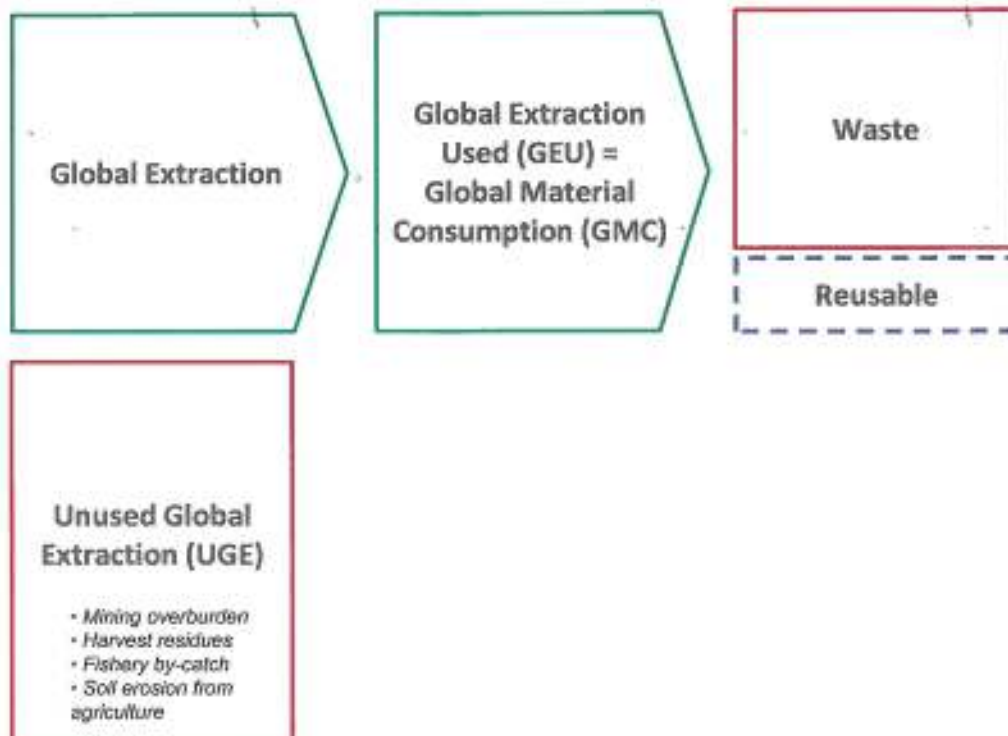
Litosphere
~12 Gt of
solid waste

SATURATION

Photo credit: NASA Goddard Space Center, GLEIS

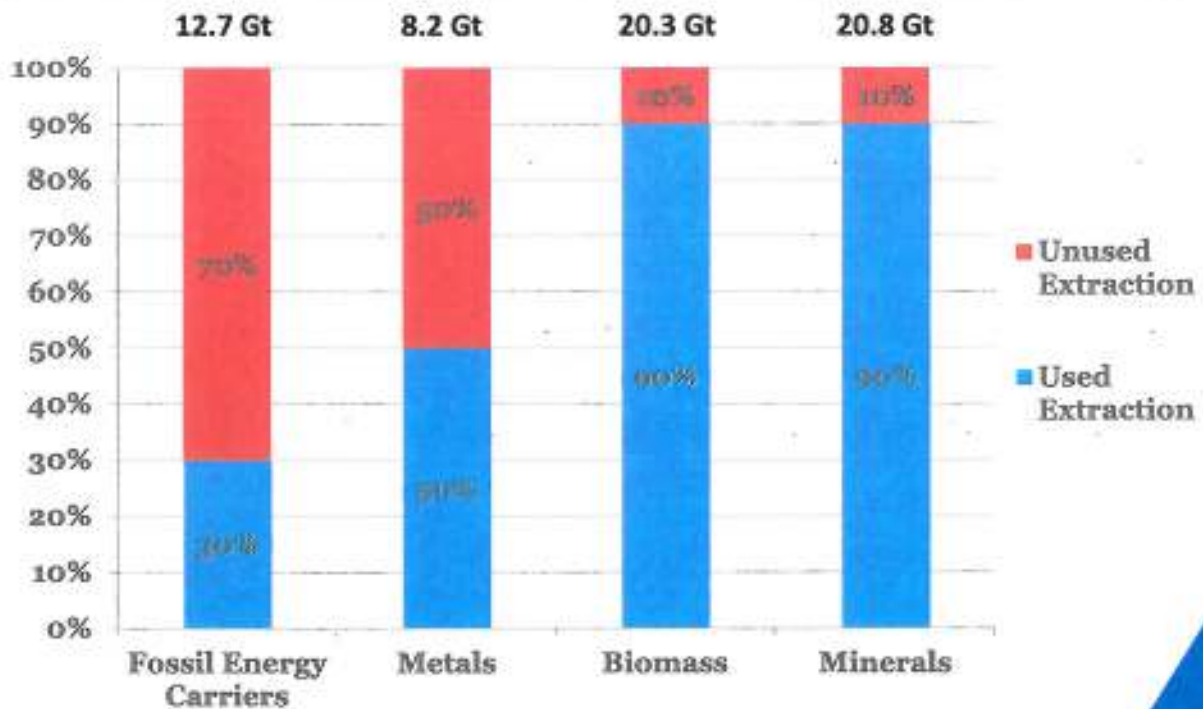


Planetary accounting level





62 Gt of material resources extracted in 2008

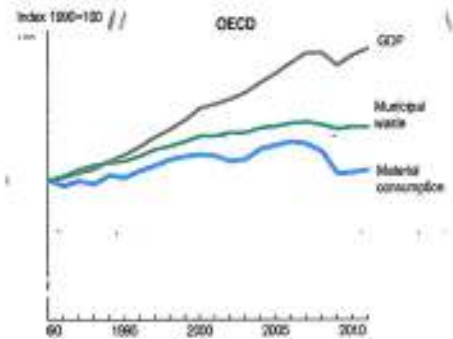
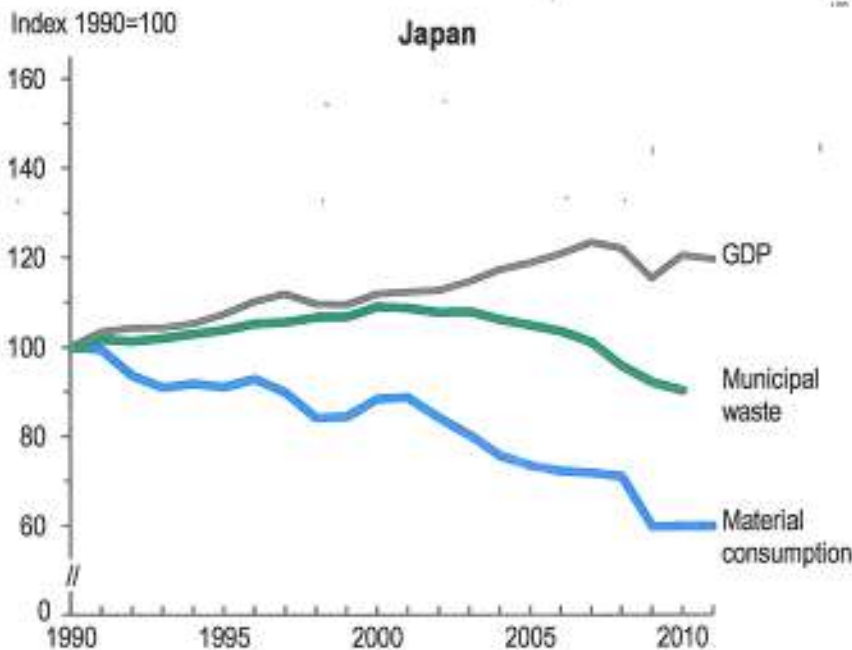


Source: OECD Material Flow Analysis Data, SERI



Japan is at the forefront of these developments

BPI



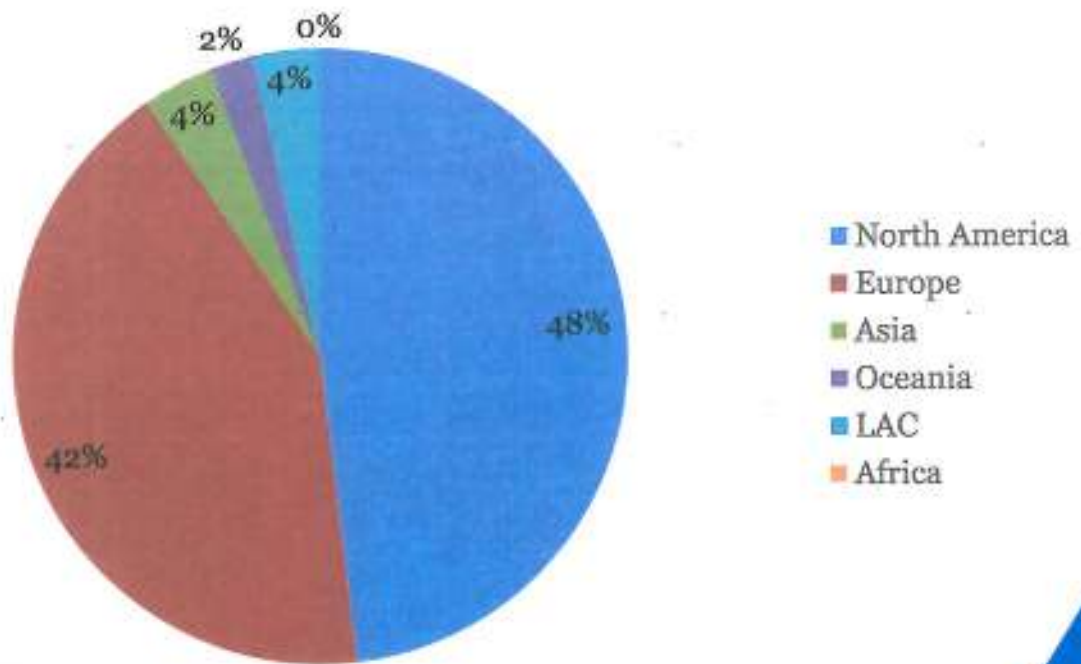


Extended Producer Responsibility

- EPR is a key policy approach that helps countries get more resource efficient
- Used in most OECD countries and beyond
- OECD developed EPR guidance in 2001
- 15 years later we are looking at EPR again – it's time for an update
- We developed a quick survey
- We are the beginning of this exercise
- This is what we know:



Regional distribution



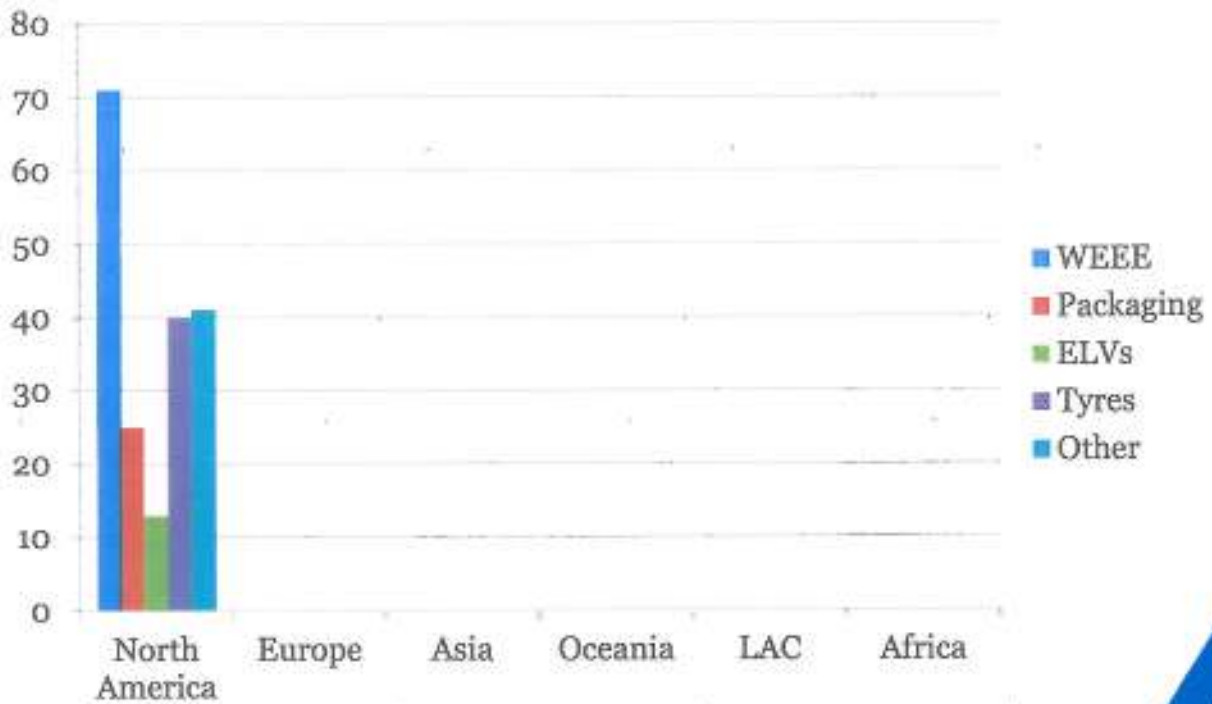
Product groups

- Waste Electric and Electronic Equipment
- Packaging
- Tyres
- End of Life Vehicles/Auto batteries
- Others

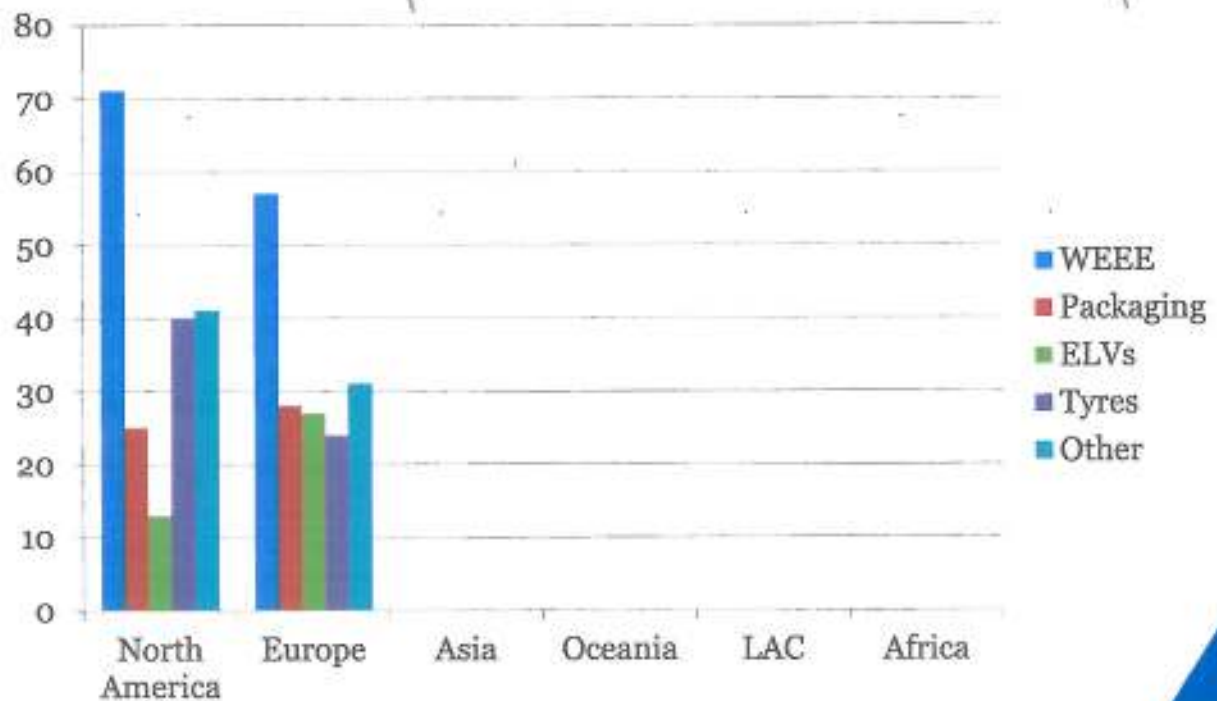




Regional distribution – Product groups

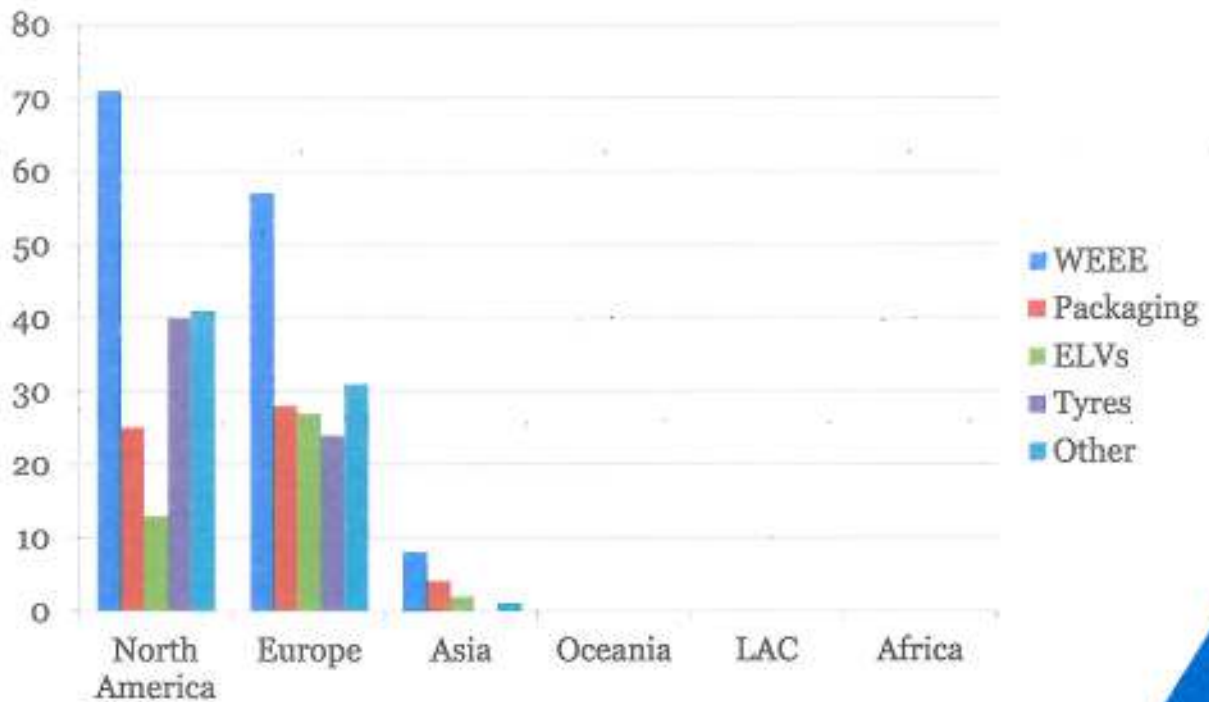


Regional distribution – Product groups





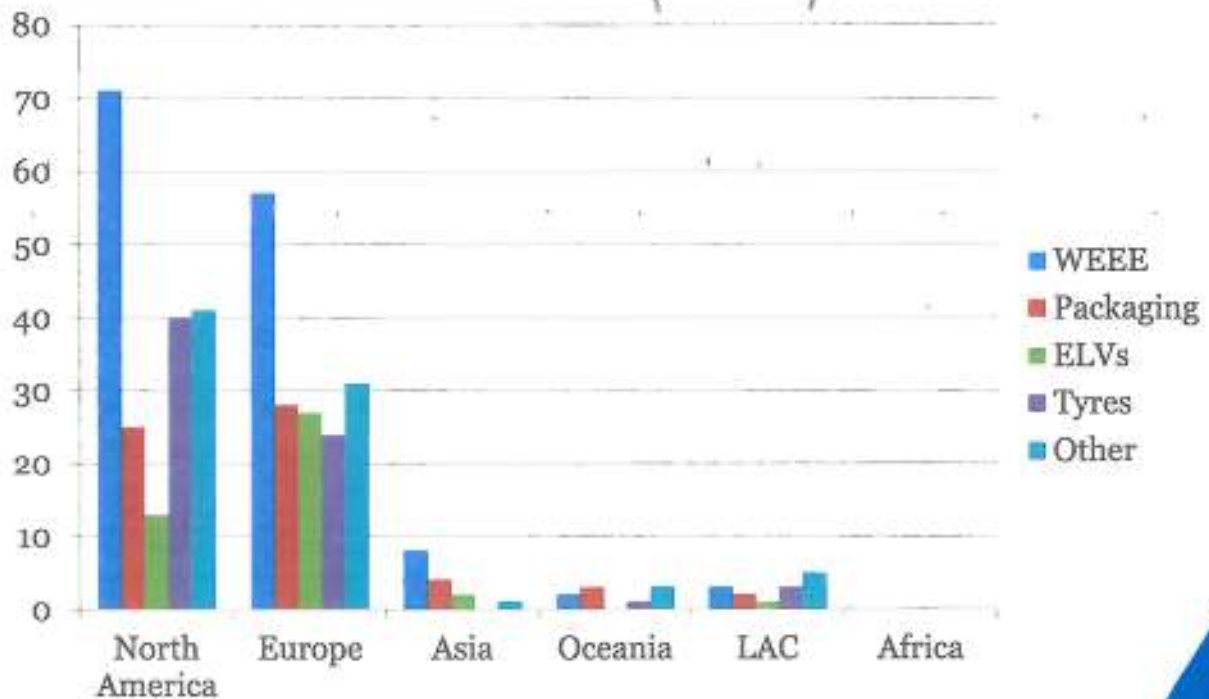
Regional distribution – Product groups



14



Regional distribution – Product groups



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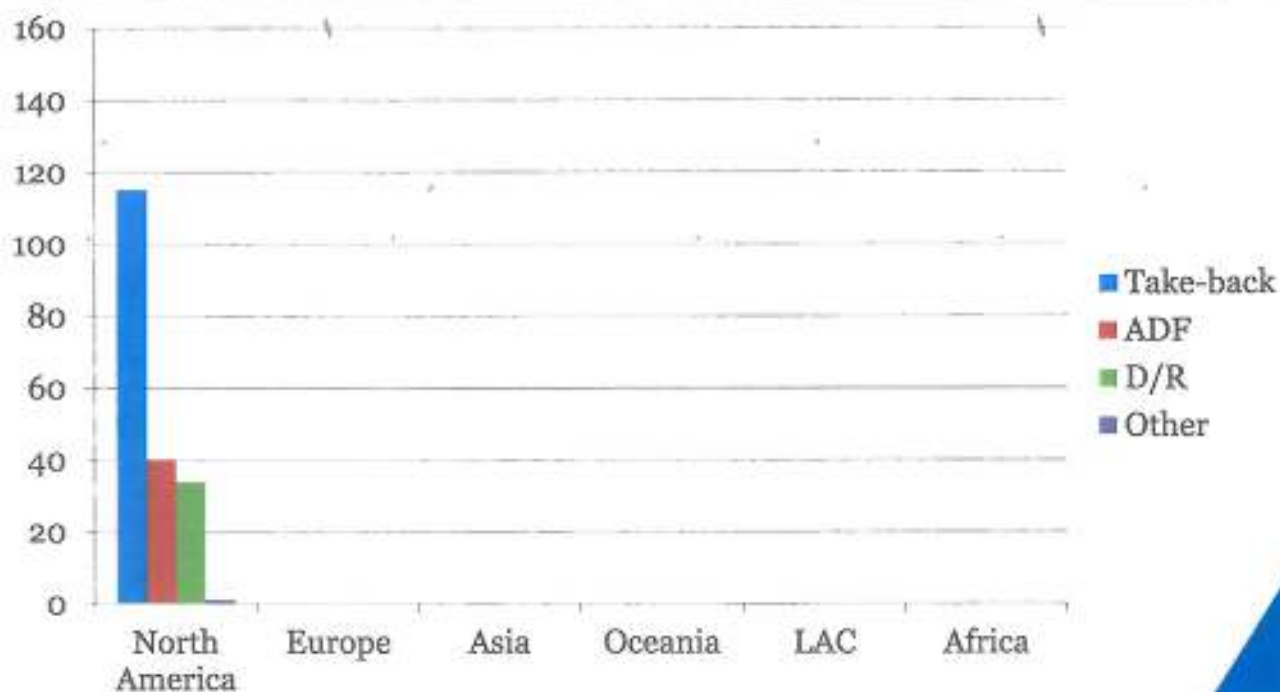


Regional distribution - Policy instruments

- Take-back requirements
- Economic instruments
 - Deposit/refund
 - Advance disposal fees
 - Material taxes
 - Upstream combination tax/subsidy
- Recycled content standards

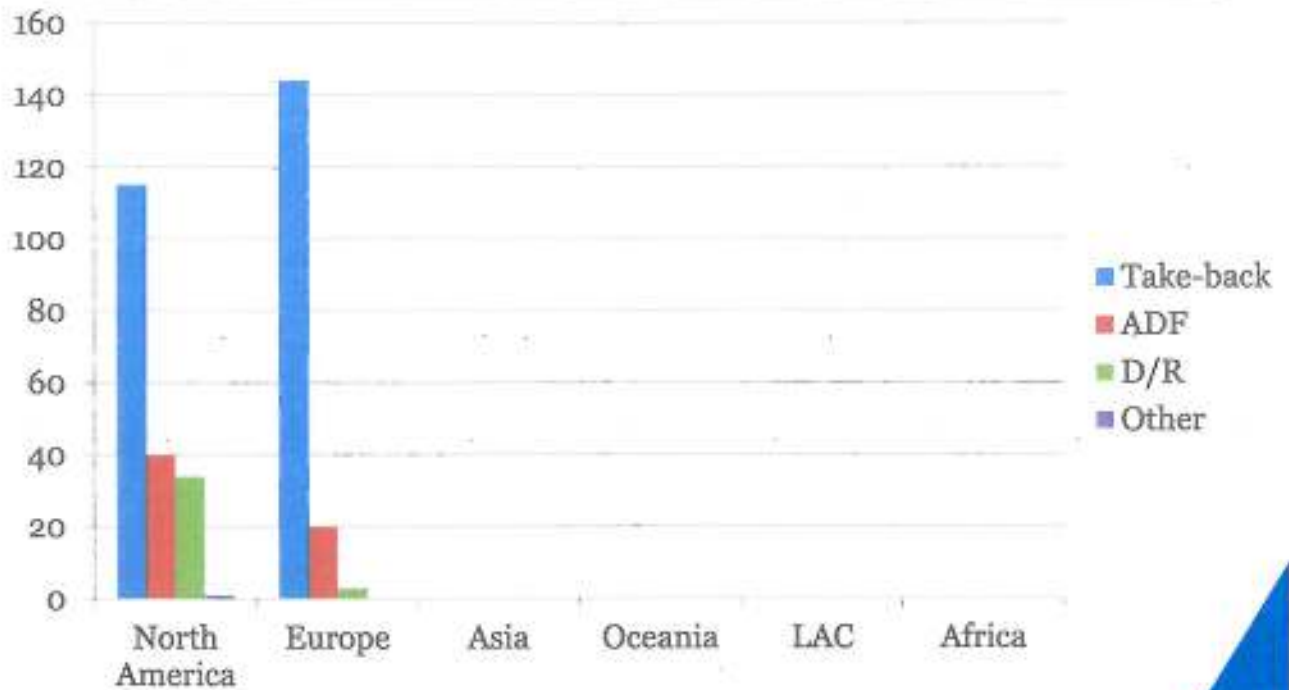


Regional Distribution – Policy instruments

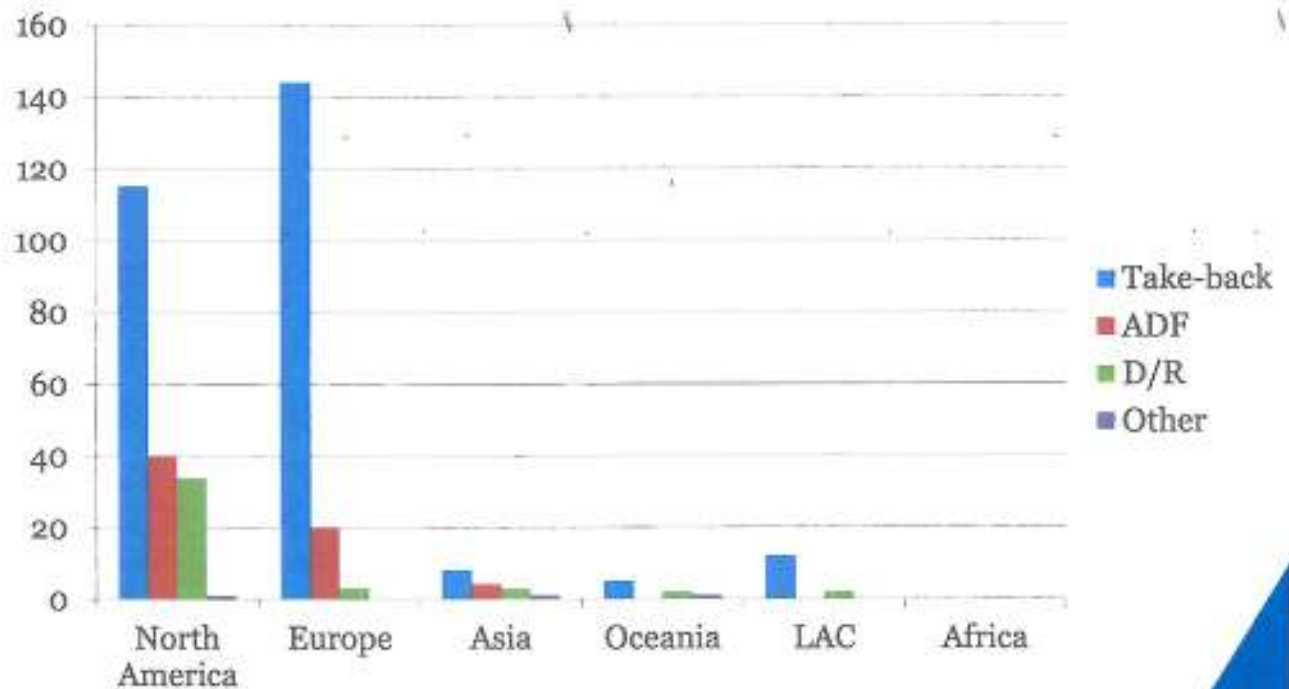




Regional Distribution – Policy instruments



Regional Distribution – Policy instruments





Objectives of Global Forum

- Share experience with the design and use of EPR
- Identify key areas where guidance would be useful and consensus about measures exists
- Involve key emerging market economies in the process and ensure global relevance



Thank you!

www.oecd.org

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EXTENDED PRODUCER RESPONSIBILITY:

OVERVIEW, RECENT TRENDS AND FORUM OBJECTIVES

Shardul Agrawala

Head, Environment and Economy Integration Division
OECD Environment Directorate



Outline

- Defining Extended Producer Responsibility (EPR)
- Goals, policy instruments and the product life cycle
- 2001 OECD Policy Guidance
- Trends since 2001: Adoption, literature, emerging issues
- Key issues and objectives of the Global Forum

Defining Extended Producer Responsibility

..an environmental policy approach in which a producer's responsibility, physical and/or financial ...is extended to the post-consumer stage of a product's life cycle



Two related features:

- shifting of responsibility upstream to the producer and away from municipalities
- to provide incentives to producers to incorporate environmental considerations in the design of their products.

EPR Goals



- Source reduction
- Waste prevention
- Design for environment
- Closure of material loops (increased recycling)



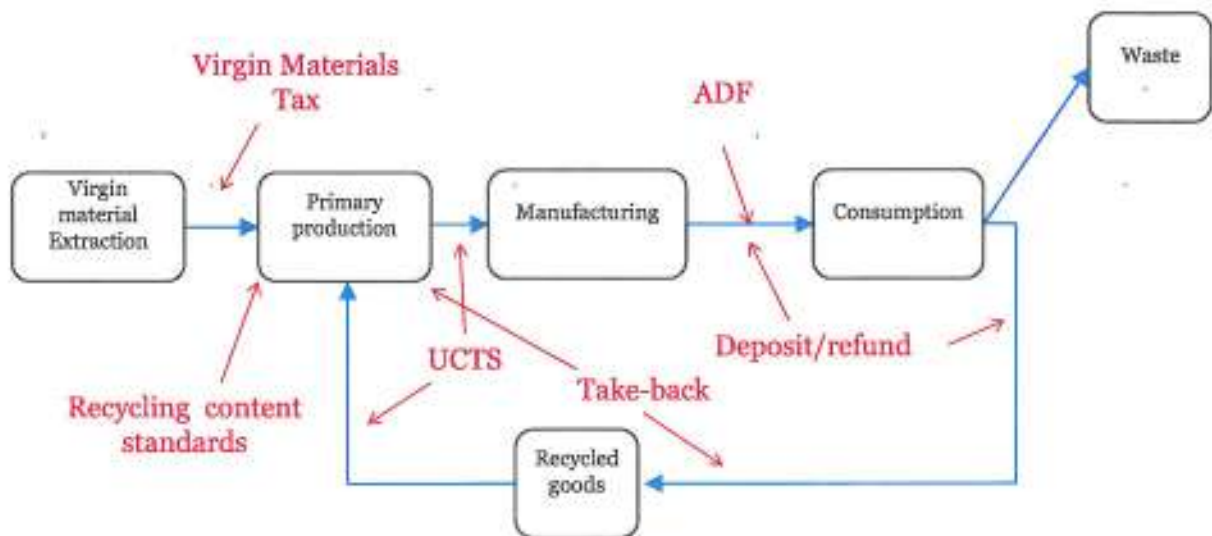
Policy Instruments



- Take-back with recycling targets
- Economic Instruments
 - Deposit/refund
 - Advance disposal fees
 - Virgin material taxes
 - Upstream combined tax and subsidy
- Recycling content standards



EPR policy instruments in product cycle





2001 OECD Guidance Manual

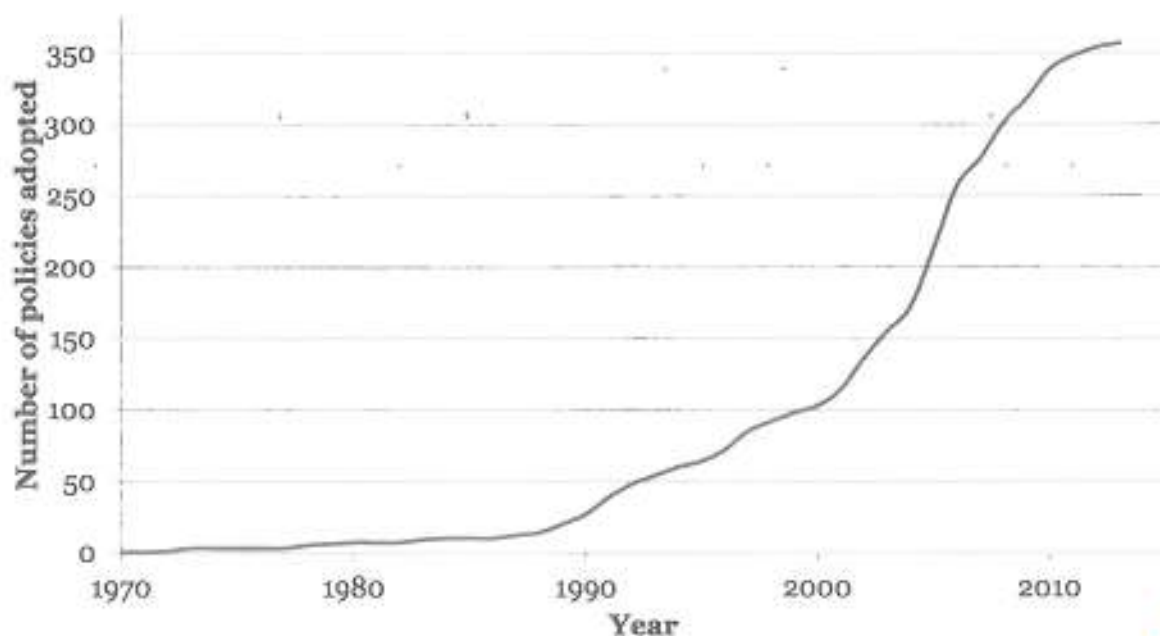


- Definition, goals, framework conditions
- Policy instruments, complementary policies
- Roles and responsibilities
- Trade and competition aspects
- Free riding and orphan products



Recent Trends in EPR adoption

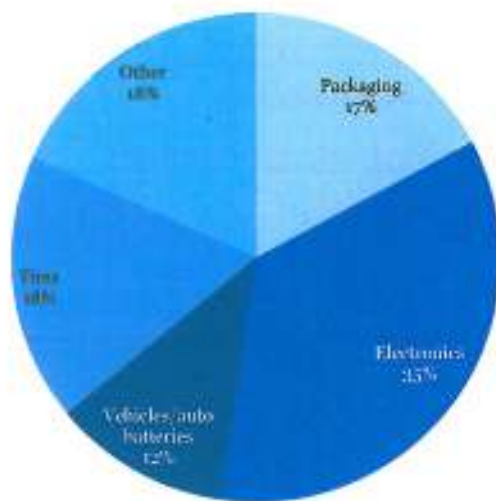
Cumulative EPR adoption



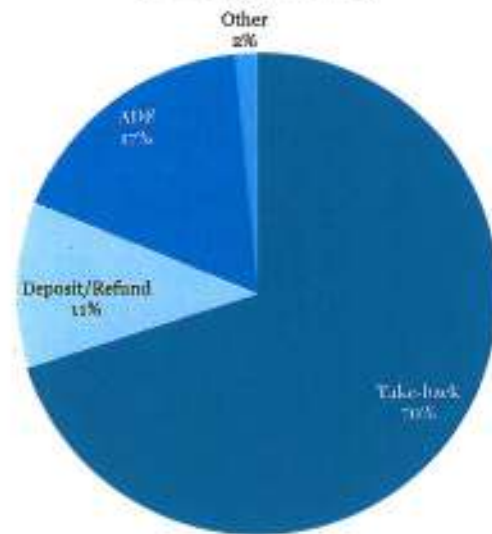


Extended Producer Responsibility by product type and instrument

EPR by product type



EPR by policy



Recent trends and some open issues

- Great deal of information on impact of EPR on recycling rates.
- Not enough on cost-effectiveness
- Not enough known about the potential to address waste prevention through EPR
- Relatively few EPR systems oriented towards incentivising eco-design



Further rationale for update of Guidance

- Significant additional experience since 2001:
 - More product groups (e.g furniture, textiles)
 - More diverse approaches (e.g recycling certificates)
 - More information on environmental effectiveness and on competition issues
 - Adoption in more countries, including emerging economies



Towards updating policy guidance

- Literature review and typology of EPR schemes
- Case studies :
Australia, Belgium, Canada, Chile, China, Colombia, France, Japan, Korea, Slovakia, United States, and building on EU studies
- Views exchanged here at the Global Forum in Tokyo

Financial support from Japan and EU





Global Forum Objectives

- Take stock of recent experience
- Identify key challenges in design and implementation
- Identify measures to meet these challenges
- Begin to identify key areas where guidance can be developed



Global Forum Agenda

Day 1

- Session 1 – Scene setting
- Session 2 – Challenges and approaches in OECD countries
- Session 3 – Challenges and approaches in emerging economies

Day 2

- Session 4 – Towards guidance for policy makers
 - 4 break-out groups
- Feedback and wrap-up

Day 3

- Morning: Moving forward – Focus on Asia
- Afternoon: Site visits



Further information

www.oecd.org/env/waste

www.oecd.org/env/policies

www.oecd.org/env/taxes





EPR – A GLOBAL OVERVIEW

Shardul Agrawala – OECD Environment Directorate



Extended Producer Responsibility Systems

- OECD definition:

“EPR is an environmental policy approach in which a producer’s responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product’s life cycle. There are two related features of EPR policy: (1) the shifting of responsibility (physically and/or economically; fully or partially) upstream to the producer and away from municipalities, and (2) to provide incentives to producers to incorporate environmental considerations in the design of their products.”

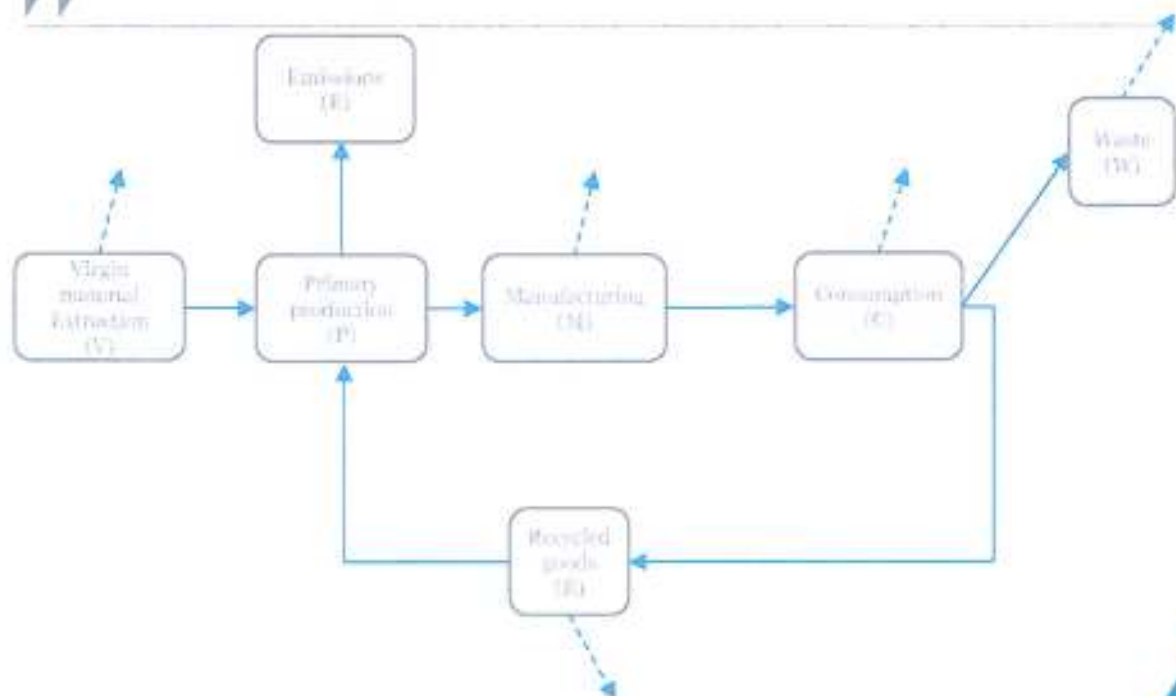


Different types of EPR

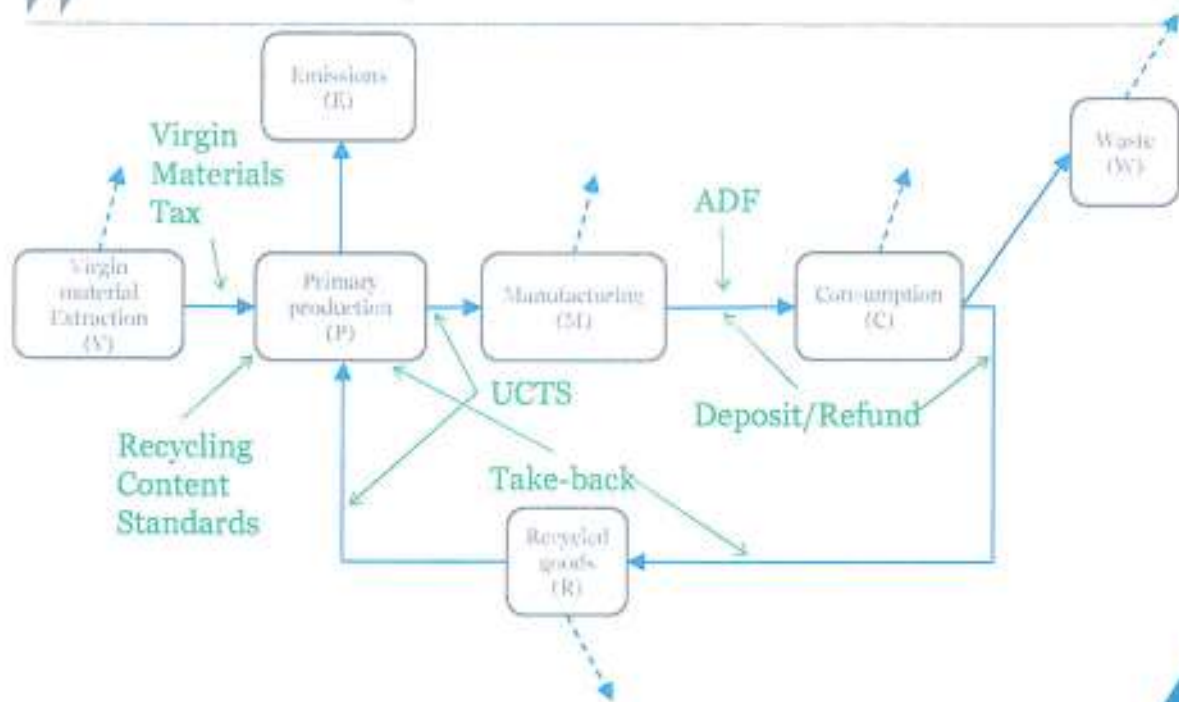
- Take-back requirements
- Economic instruments
 - Deposit/refund
 - Advance disposal fees
 - Material taxes
 - Upstream combination tax/subsidy
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EPR diagram

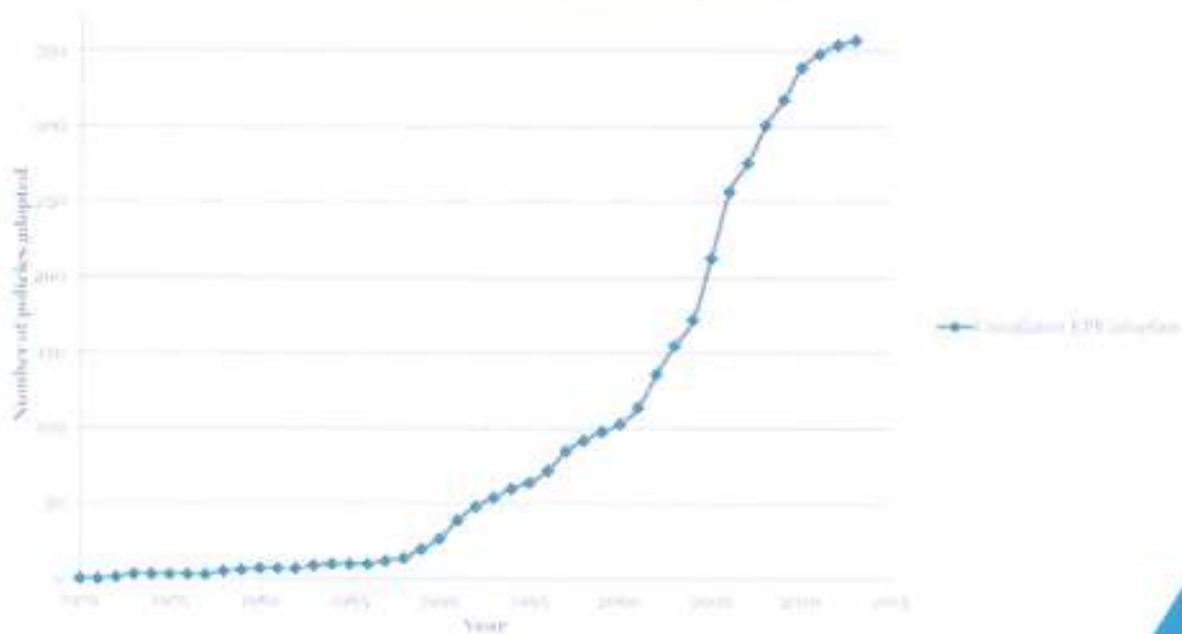


EPR diagram - Policies



Extended Producer Responsibility is Expanding

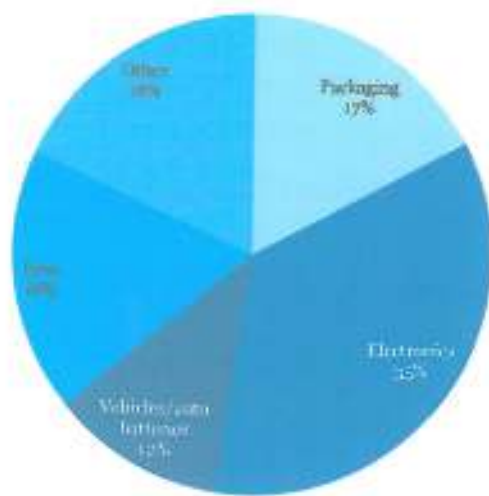
Cumulative EPR adoption



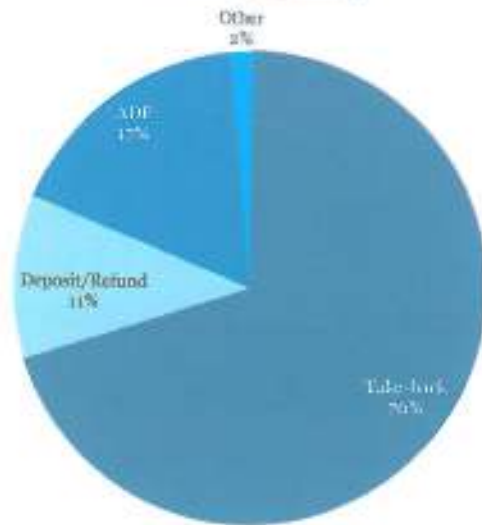


Extended Producer Responsibility by product type and instrument

EPR by product type



EPR by policy



2001 OECD Guidance Manual

- Developed at end of 90's
- Provides:
 - Definition
 - Typology of EPR instruments
 - Guidance on policy design
 - Guidance on policy instruments, incl. complementary policies
 - Discussion of roles and responsibilities
 - Discussion of trade and competition aspects



2001 Guidance on Policy Design

- Provide producers with incentives for DfE
- Stimulate innovation
- Life-cycle approach
- Responsibilities clearly defined
- Product characteristics should be taken into account
- Policy instruments selected case-by-case
- Increase communication through value chain
- Develop a communication strategy
- Stakeholder consultation to increase acceptability
- Consult local governments and discuss their role
- Consider voluntary and mandatory approaches
- Assess whether product group is suitable for EPR
- Do periodic evaluations
- Avoid economic dislocations
- Ability to address free-riders
- Address orphan and existing products
- Take effects on trade and competition into account



Rational for update of Guidance

- Significant additional experience:
 - More product groups covered (eg, furniture, textiles)
 - More diverse approaches (eg, recycling certificates in the UK)
 - More information on environmental and cost effectiveness and on competition issues
 - More countries, including emerging market economies





Global Forum Objectives

- Take stock of recent experience
 - Identify key challenges in design and implementation
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- 

 Further information

- www.oecd.org/env/waste
- www.oecd.org/env/policies/database
- www.oecd.org/env/policies
- www.oecd.org/env/taxes

- peter.borkey@oecd.org



Global Forum on Environment: Promoting Sustainable Materials Management through Extended Producer Responsibility (EPR)

Key learnings of 20 years experience advising public and private sector in the design, implementation and optimisation of EPR regulations and models across the world.

Tokyo, 17 – 19 June 2014

Christoph Vandersticht

Global EPR leader

Partner: EY



Agenda

- 1 Introduction
- 2 Misconceptions
- 3 Differences
- 4 Similarities
- 5 Conclusions

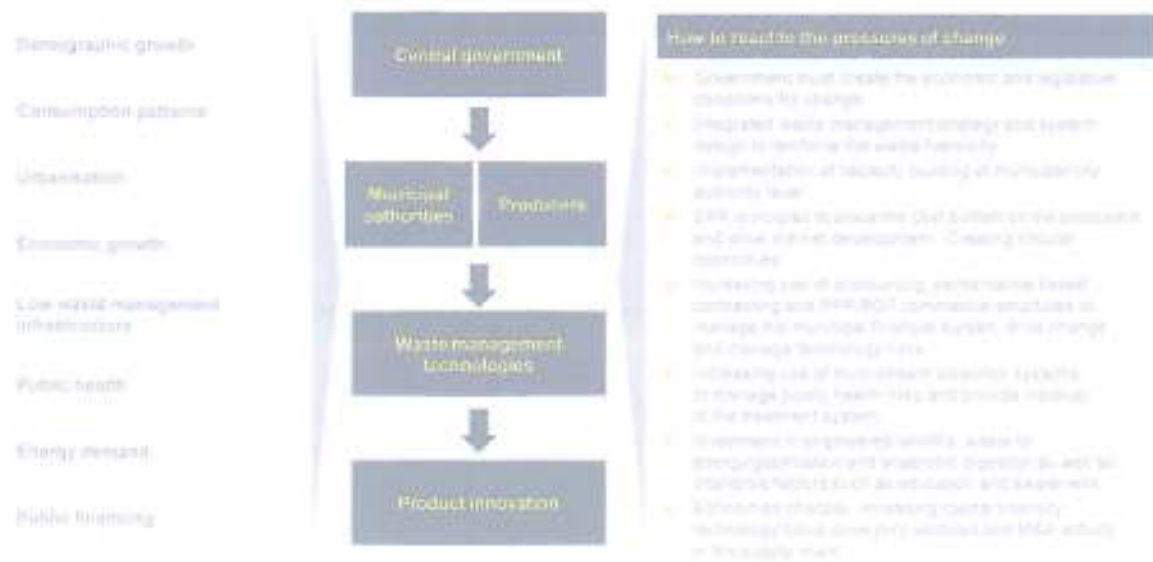
1. Introduction: Our EPR experience



Since 1994, the current EY team has been involved in more than 40 countries in the design, development, implementation and optimisation of EPR and other solid waste management regulations and operational solutions for the public as private sector in a vast variety of product categories: household and industrial packaging, batteries, electronic waste, tyres, non-woven cotton, solar panels, lamps, etc.

1. Introduction: The future of resource management

There is wide recognition that, at a global level, current waste growth and resource management practices are unsustainable. Key to develop a circular economy rather than a linear economy which involves simply digging materials out of the ground produce products, and send the waste to landfills.



1. Introduction: Drivers for a government to implement EPR regulations



2. Misconceptions about EPR

- EPR is an instrument to better organise waste management operations and induce product stewardship: collection points, transportation models and the use of valorisation technologies
- EPR only concerns the Ministry of Environment
- EPR laws can be easily copied from one country to the other
- Small and medium enterprises should not be bothered by EPR
- The phantom of the monopoly
- Inefficiencies and fraud with collective schemes show that the model is not working

2. The phantom of the monopoly in a reversed market Buyer Market versus Seller Market



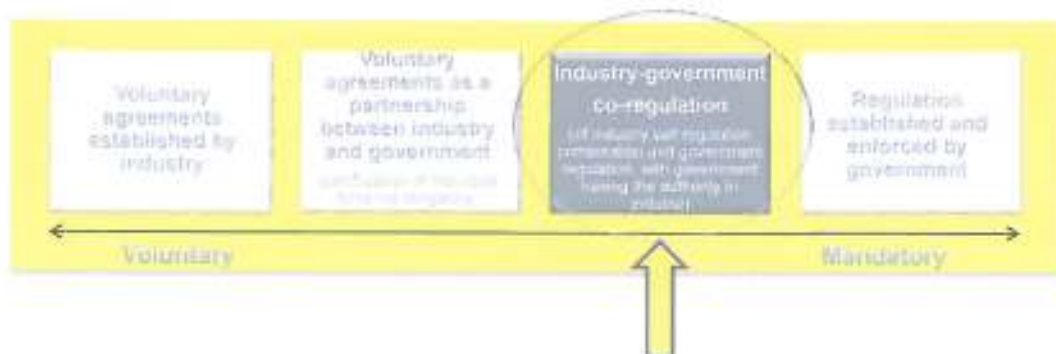
The most important component of the cost is the cost of collection of the waste, followed by the cost of recycling (depending on the product).

In markets with high buying power the prices for are 3 times lower than in markets with low buying power (ie where more collective schemes are "competing")

3. Differences Governance models for EPR development

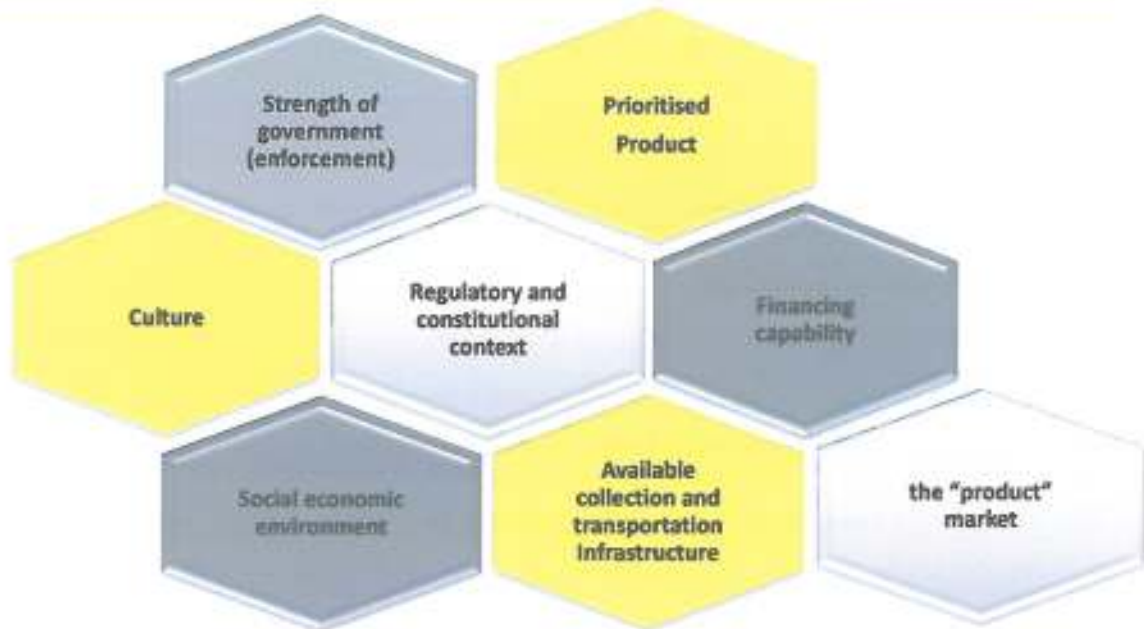
The **cooperation between the private and public sector is key** to design and implement a sustainable EPR regulation.

There are different partnership models for public-private cooperation:

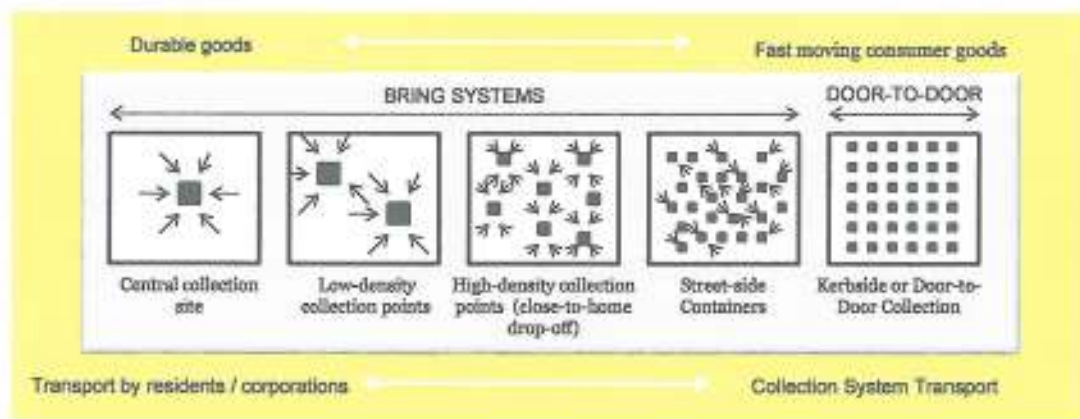


Experience shows that in most case close cooperation between government and private sector is necessary to realise the objectives and avoid dramatic risks in the market.

3. Differences for EPR: Why countries are different



3. Differences for EPR: Products are different



Collection models depend on the product, the economic activity and the demographic specifications.

4. Similarities for EPR: Why "countries" do have similarities

Improper EPR and solid waste management are a threat to public health and the environment

Effective EPR models create value and opportunities for social inclusion, jobs and better environment

Human action & Change of behaviour

Expectations of the key stakeholders

Strong enforcement and control from government is key

Seller markets lead to higher prices and buyer markets to lower prices

EPR is increasingly becoming the Wild West creating risks for countries and "producers"

The devil is in the detail

"Wrong" or "sub-optimal" EPR models lead to higher costs for society, governments and has strong negative impacts in terms of level playing field in the product markets

5. Conclusions

- EPR is an economic instrument impacting the whole market: the product market as well as the waste market
- EPR is not only about the environment and therefore requires attention from different ministries (Finance / Trade / Customs / Economy)
- EPR risks should not be underestimated
- EPR requires proper consideration and careful implementation by governments and private sector
- EPR requires strong government enforcement and control
- EPR can contribute considerably in the development of an inclusive and greener sustainable market in big number of countries
- EPR should be implemented as part of an integrated strategic approach by governments, taking into account other challenges (eg energy needs / resource management)

Christoph Vanderstricht,
Christoph.vanderstricht@be.ey.com

Tel: +56985508312 (Chile)

Tel: +32477619252 (Belgium)



Thank you



Additional slides (use during the workshops?)



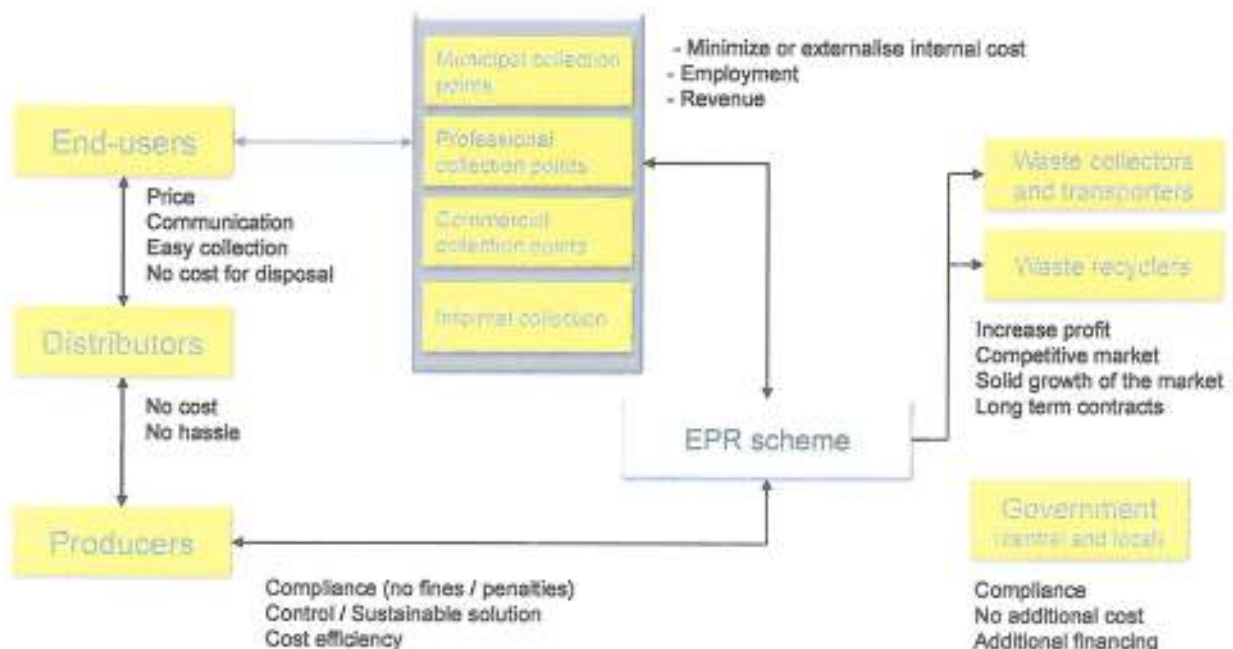
Sustainable resource management

- Sustainable resource management is a strategic challenge today and tomorrow for all countries across the world.
- It is a key theme for industries and the public sector alike
- There are several key economic (regulatory) instruments which are broadly used/in development in OECD (also in increasing number of non-OECD countries):
 - ADF (advance disposal fees)
 - Landfill/recovery/incineration — taxes tipping fees
 - Tradeable (landfill) permits
 - Recycling credits or rebates
 - Virgin material and ecotaxes
 - **Extended producer responsibility (EPR)**

- ▶ EPR is the instrument which comes closest to implementing the whole life cycle approach

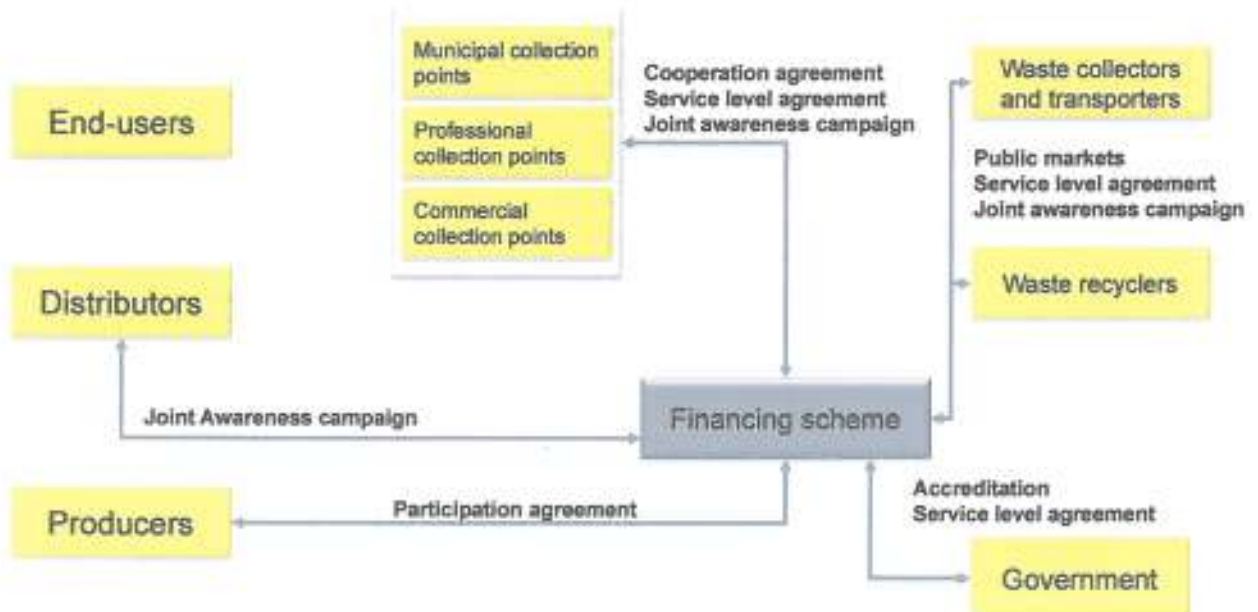
- ▶ EPR helps in:
 - ▶ Reducing by the amount resources required
 - ▶ Diminishing the associated environmental impacts
 - ▶ Improving resource scarcity and competitiveness
 - ▶ Driving the cost down

Introduction to the world of EPR - stakeholders -





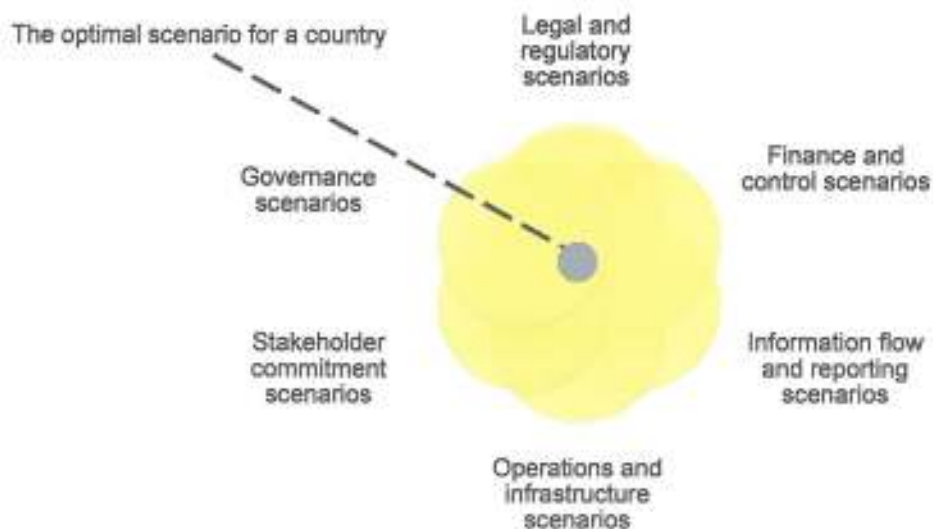
EPR regulation is not "stand-alone"



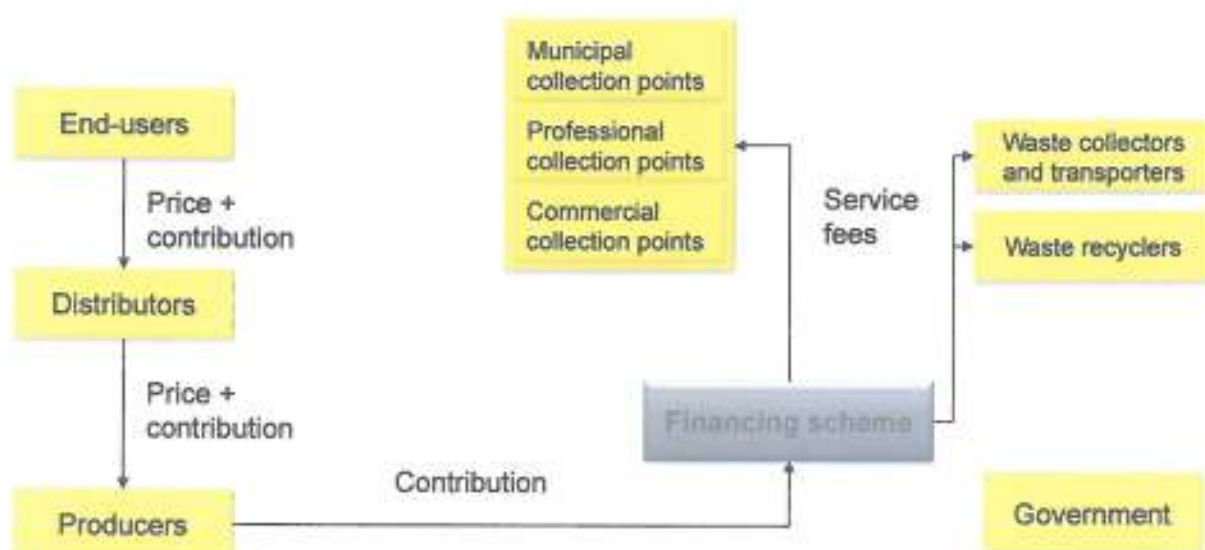
Introduction to the world of EPR - finance & control -

- ▶ Depending on the legal, political, social, economic, demographic and geographic situation in a country, **several models are conceivable to fulfil the financial side** of the EPR obligations in that country
- ▶ **Three generic** models can be considered:
 - ▶ Public financing instruments (tax or similar contribution)
 - ▶ Market driven instruments:
 - ▶ Deposit - refund schemes
 - ▶ Individual and/or collective financing schemes
 - ▶ Certificate exchange schemes
 - ▶ Combination of public financing instruments and market tools

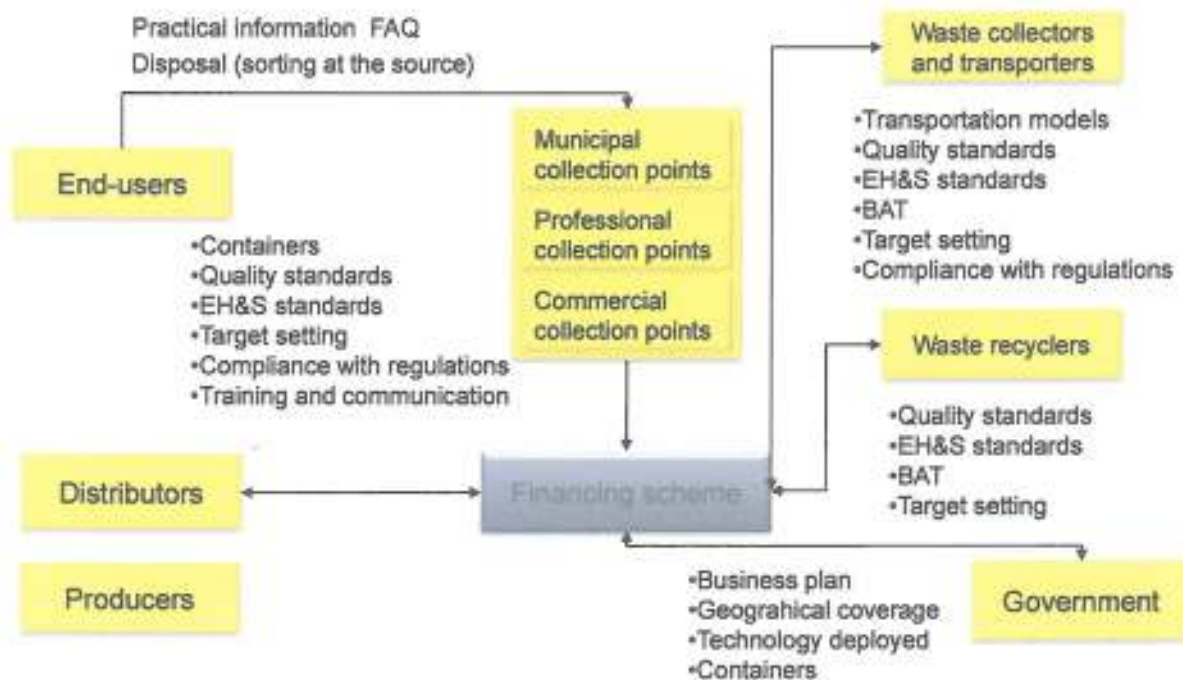
Introduction to the world of EPR - scenarios -



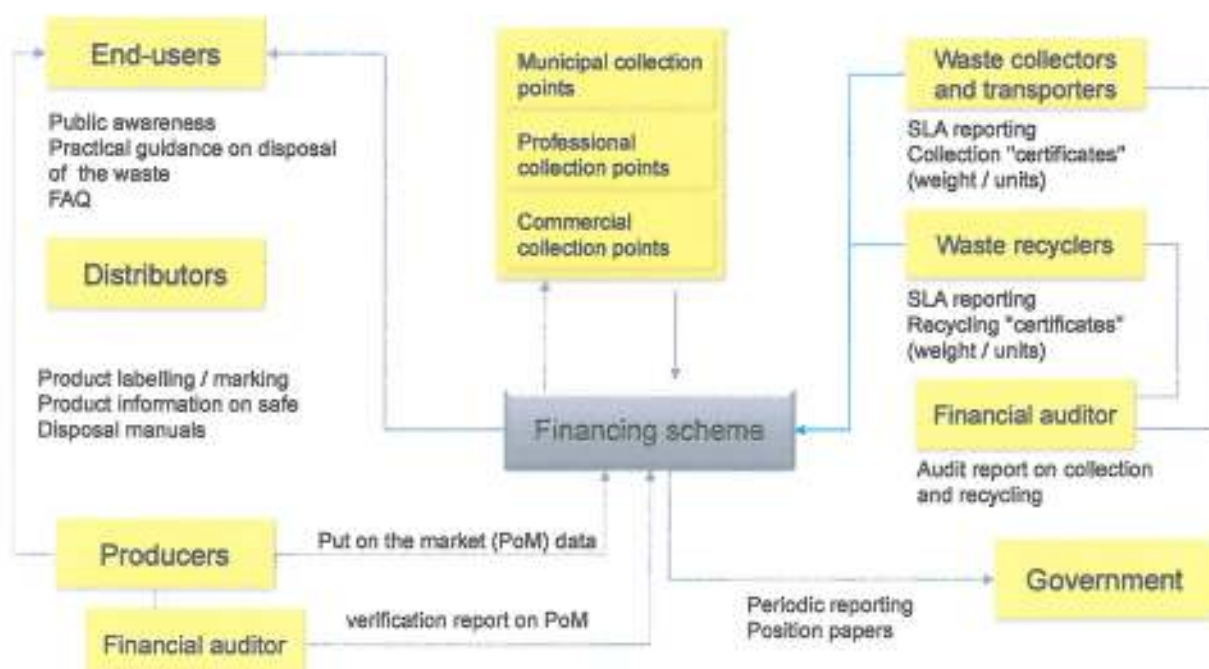
- Depending on the legal, political, social, economic, demographic and geographic situation in a country, **several models are conceivable to fulfil the financial side** of the EPR obligations in that country.
- **Three generic** models can be considered:
 - Public financing instruments (tax or similar contribution)
 - Market driven instruments:
 - Deposit - refund schemes
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 - Certificate exchange schemes
 - Combination of public financing instruments and market tools.



Introduction to the world of EPR - operations & infrastructure -



Introduction to the world of EPR - information flows -





Insights from Asia Pacific Region - the example of Japan-

National Institute for Environmental Studies
(NIES), Japan
Tomohiro TASAKI



Contents

- Packaging Recycling Act
- Home Appliance Recycling Act
(Large WEEE)
- Summary of lessons from Japan
- References



Japanese Packaging Recycling Act

□ Achievements

1. Participation of many municipalities and citizens in recycling
2. Increased recycling capacity
3. Development of recycling technologies
4. Increased recycling
5. Promoted waste prevention and DfE

□ Issues

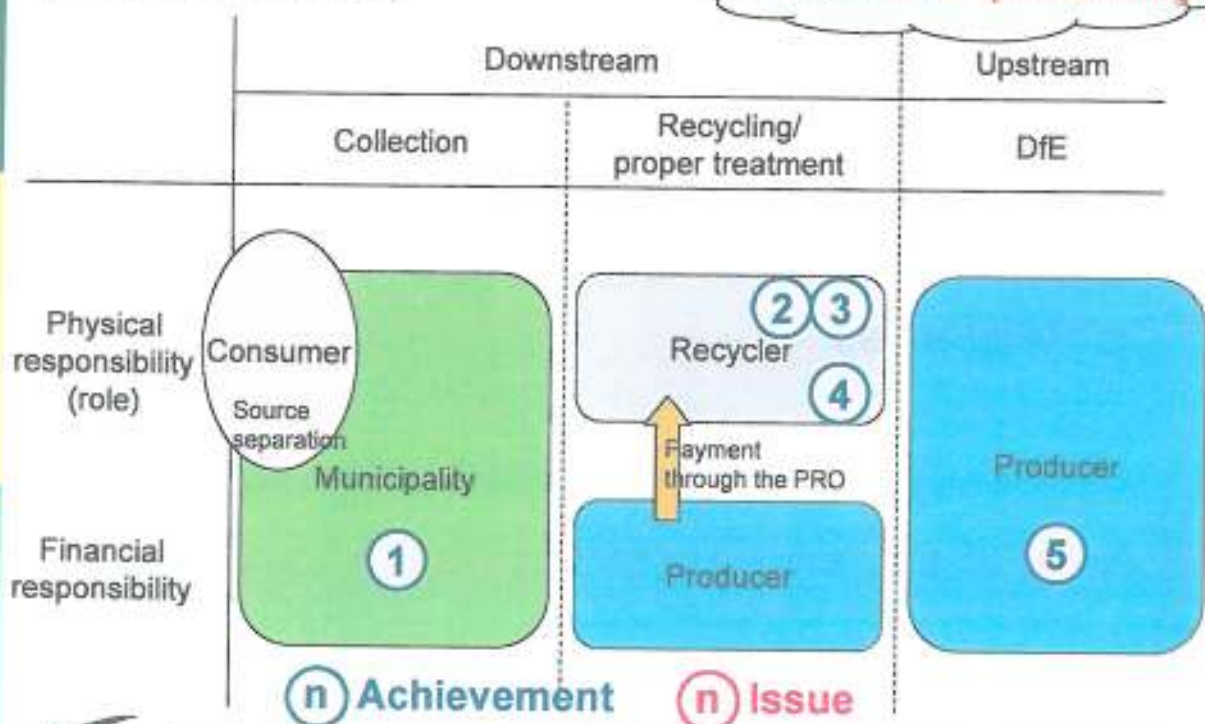
1. High cost
2. Shared responsibility encourages partial optimization!?
3. Insufficient waste prevention!?
4. Competition between EPR schemes and the market



Source: Tasaki (2014.6.17) Presentation at the OECD Global Forum

3

Japanese Packaging Recycling Act (PRO scheme)

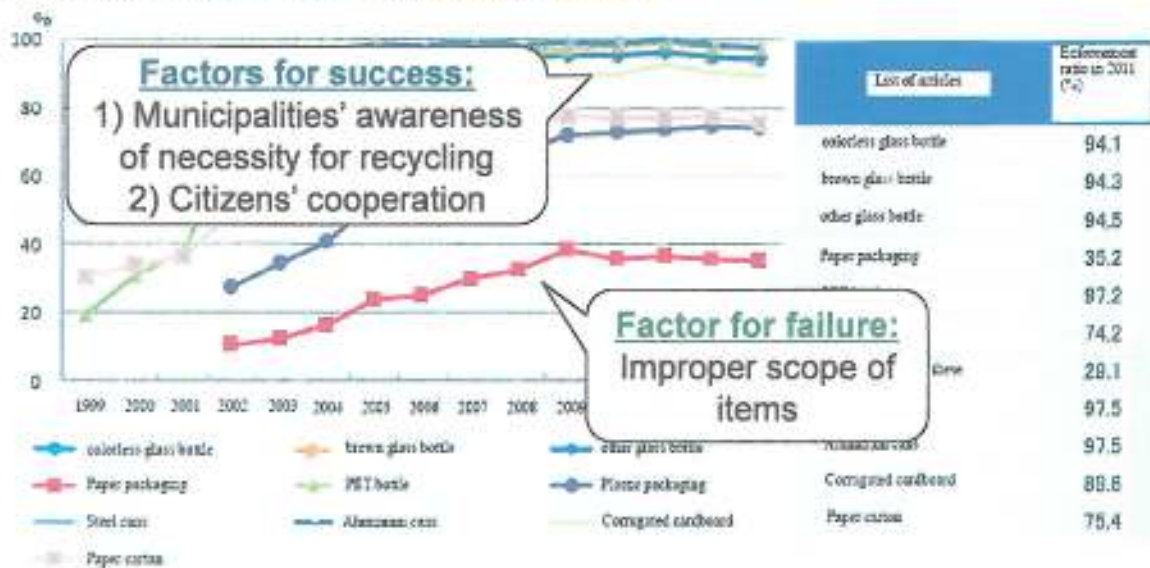


Source: Tasaki (2014.6.17) Presentation at the OECD Global Forum

4

Achievement 1

Increased participation of municipalities in recycling of packaging waste



Source:

Achievements 2 and 4

2: Increased capacity of recycling facilities

	(10 ³ ton)		
	FY 1997	FY 2003	FY 2014
Total of the four items	548	1,826	2,528
PET bottles	18	292	419
Plastic packaging	-	591	1,346

Factor for success:
 A clear sign to the market

4: Increased recycling of packaging wastes

	(10 ³ ton)		
	FY 1997	FY 2003	FY 2011
Total of all packaging	732	2,150	2,783
Plastic packaging	-	385	686



Source:

Achievement 5

Waste prevention by producers

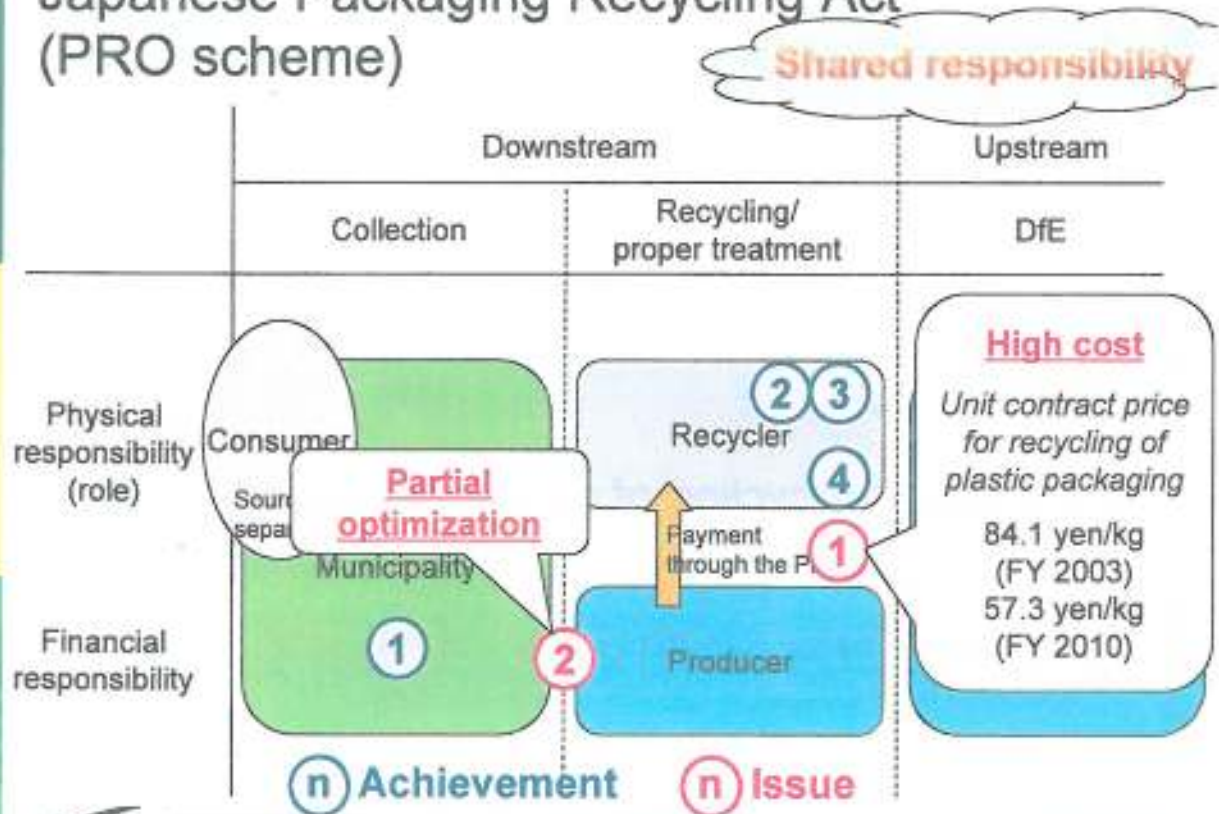
	Voluntary target for 2015 (relative to 2004)	Reduction rate in 2011	Cumulative reduction from 2006
Glass bottles	2.8% reduction for average weight per a bottle	2.0%	117
PET bottles	10% reduction for designated PET bottles	10.5%	239
Paper packaging	8% reduction in total	6.9%	504
Plastic packaging	13% reduction	10.4%	52.5
Aluminum cans	4% reduction for average weight per a bottle	4.7%	95
Aluminum cans	3% reduction for average weight per a bottle	3.0%	42.5
Paper cartons	3% reduction for 500mL paper cartons	0.3%	41ton
Cardboard	1.5% reduction for weight per 1m ²	2.5%	675

Factor for success:
 1) Financial responsibility !?
 2) CSR !?



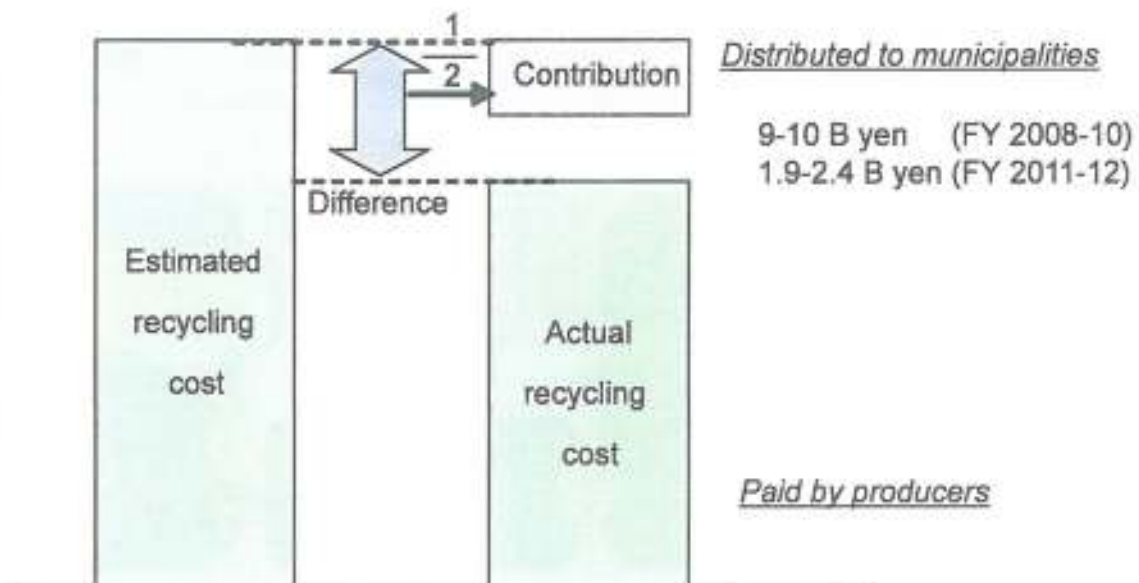
Source: The 1st joint meeting of Industrial Structure Council and Central Environment Council for Packaging Recycling Act (2013.9.13) A distributed document. 7

Japanese Packaging Recycling Act (PRO scheme)



Source: Tasaki (2014.6.17) Presentation at the OECD Global Forum 8

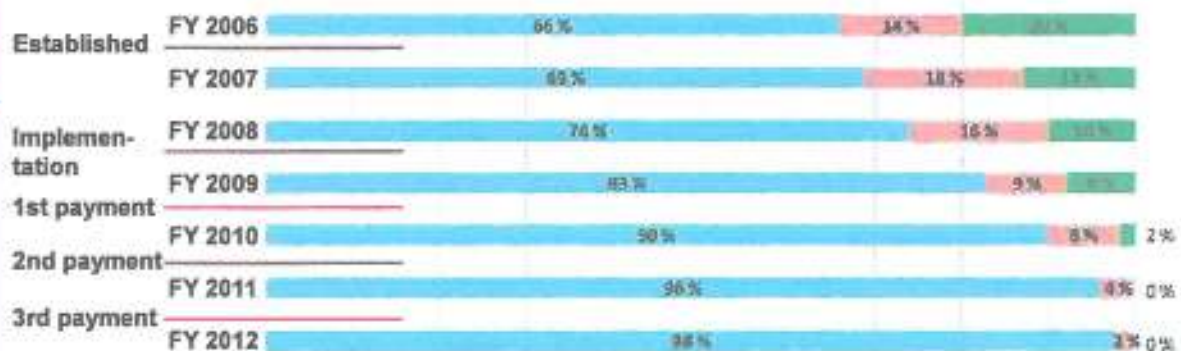
Outline of cost reduction contributory commission system



Source: Yamakawa (2014); The figures of the contribution are from a website of the Japan Containers and Packaging Recycling Association (accessed 2014.2.9)

9

Quality of waste plastic packaging from municipalities after the introduction of the contributory commission system



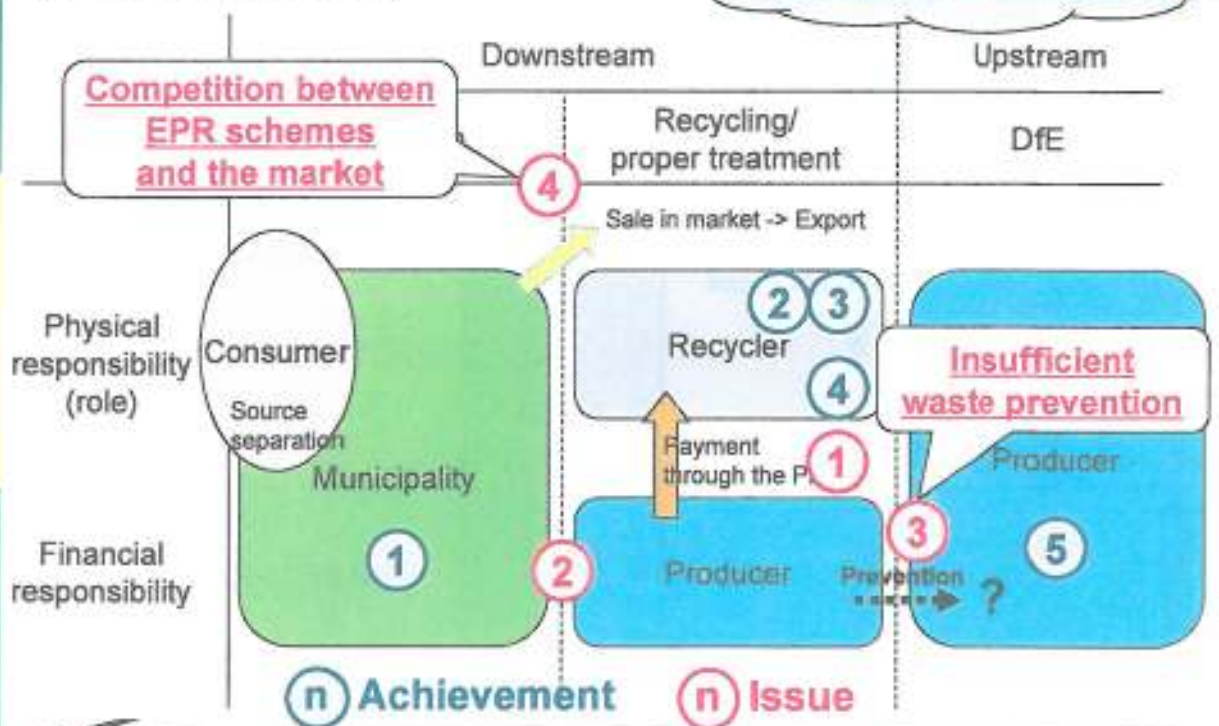
	A rank	B rank	C rank
Packaging content	>90%	85%-90%	<85%



Source: The 1st joint meeting of Industrial Structure Council and Central Environment Council for Packaging Recycling Act (2013.8.13) A distributed document; Photos are from Taseki (2008)

10

Japanese Packaging Recycling Act (PRO scheme)



Source: Tasaki (2014.6.17) Presentation at the OECD Global Forum

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Specified Home Appliance Recycling Act

Japanese Large WEEE Recycling Act

□ Achievements

1. Difficult-to-treat waste ended up in the hands of producers
2. Increased amount of recycling
3. Development of recycling technologies
4. Promoted dissemination of Information for DfE and personnel exchange

□ Issues

1. Inconvenient systems for consumers
2. Improper treatment in non-producer routes and insufficient coverage

Applying ADF is under discussion.

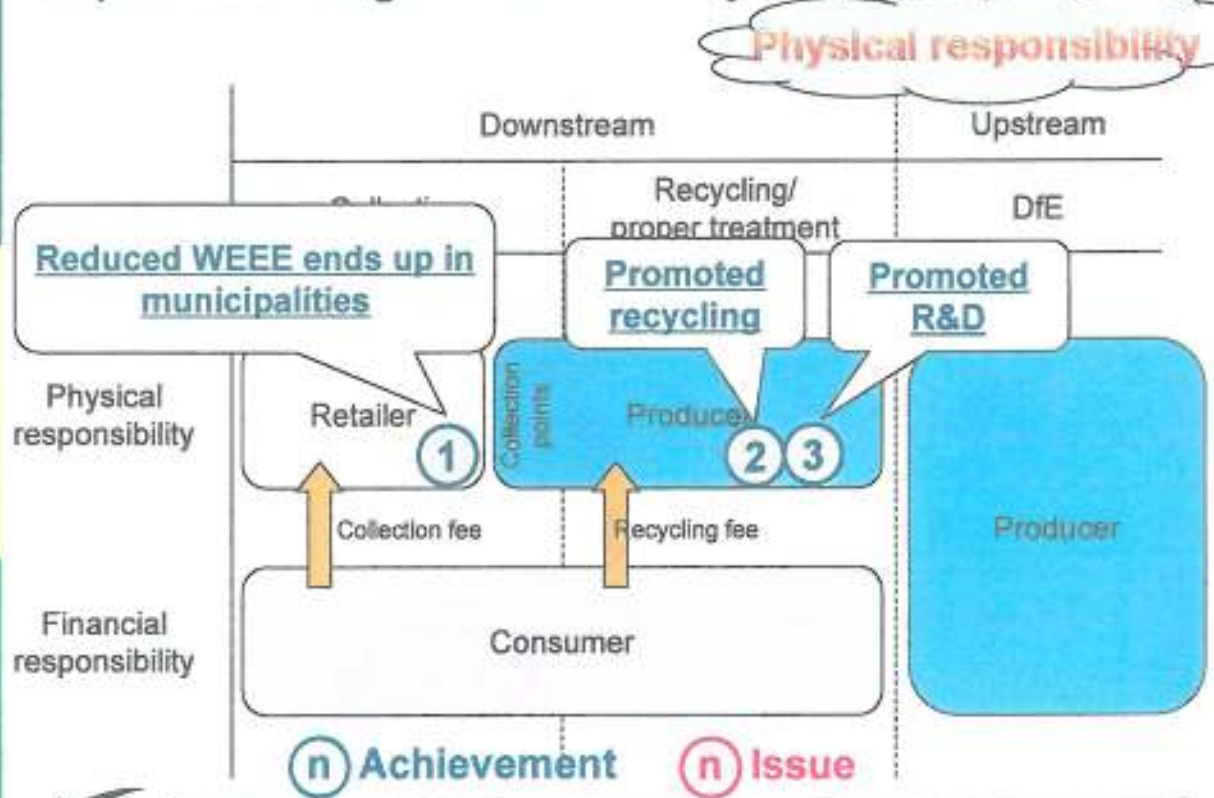
Setting a collection target is being discussed



Source:

12

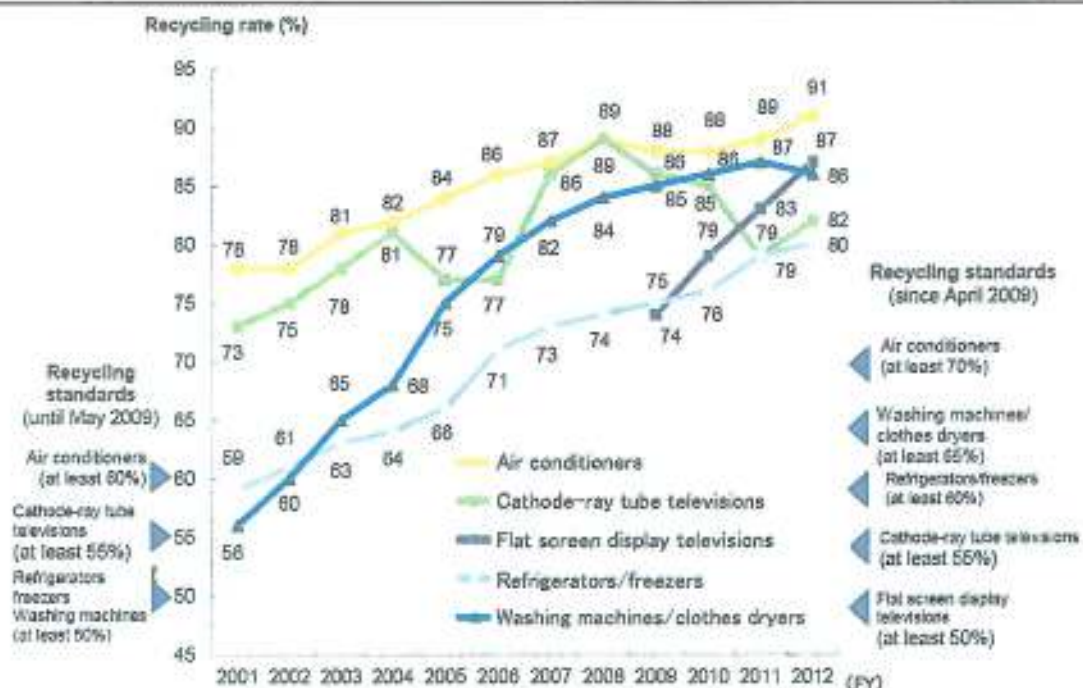
Japanese Large WEEE Recycling Act



Source: Tasaki (2014.6.17) Presentation at OECD Global Forum

13

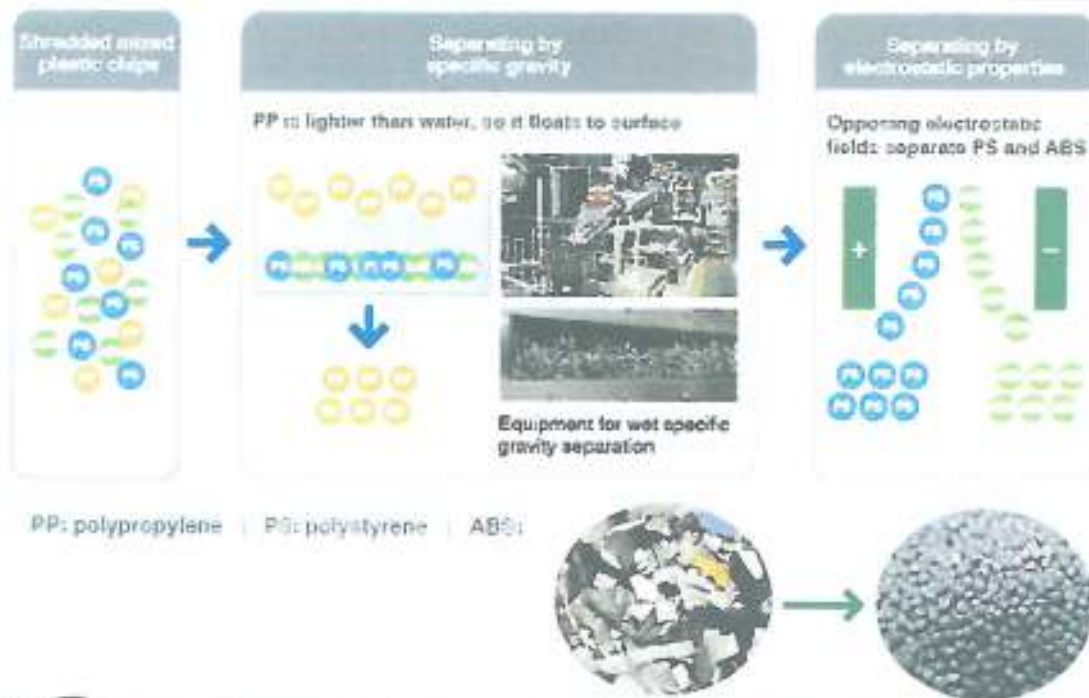
Achievement 2 Increased recycling rate



Source: AEHA (2014) Environmentally Conscious Design for Electric Home Appliances in Japan

14

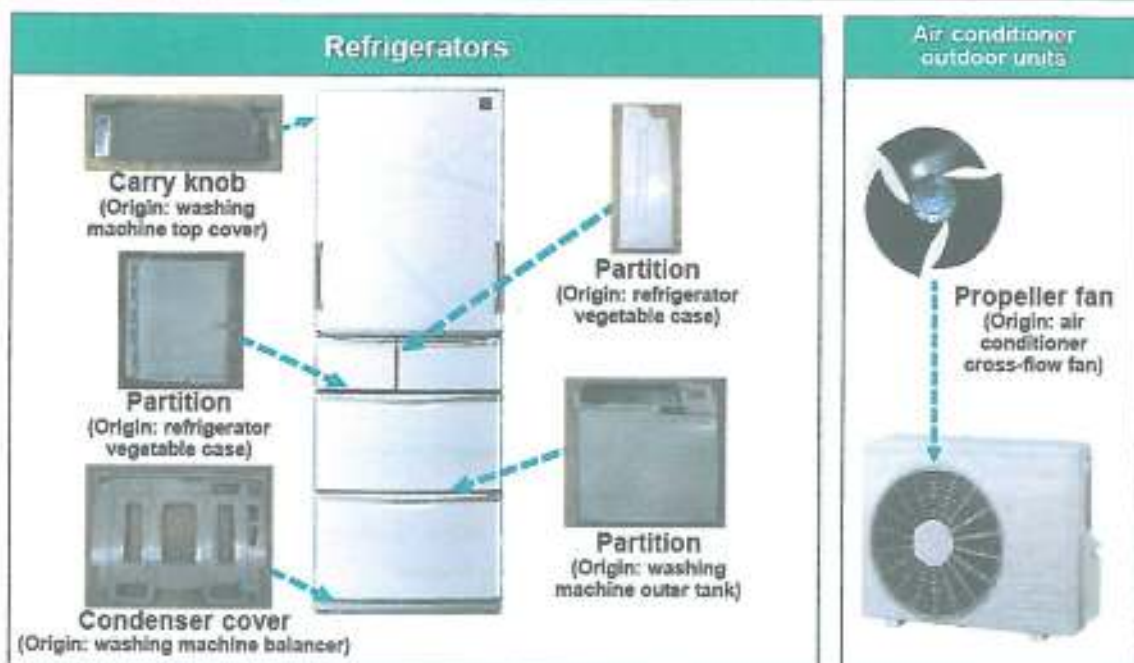
Achievement 3: R&D for separation of plastics



Source: Mitsubishi Electric Corporation HP (Accessed 2014.6.9) Green Cycle Systems
(http://www.mitsubishielectric.com/company/environment/ecotopics/plastic_ep/greencycle/index.html)

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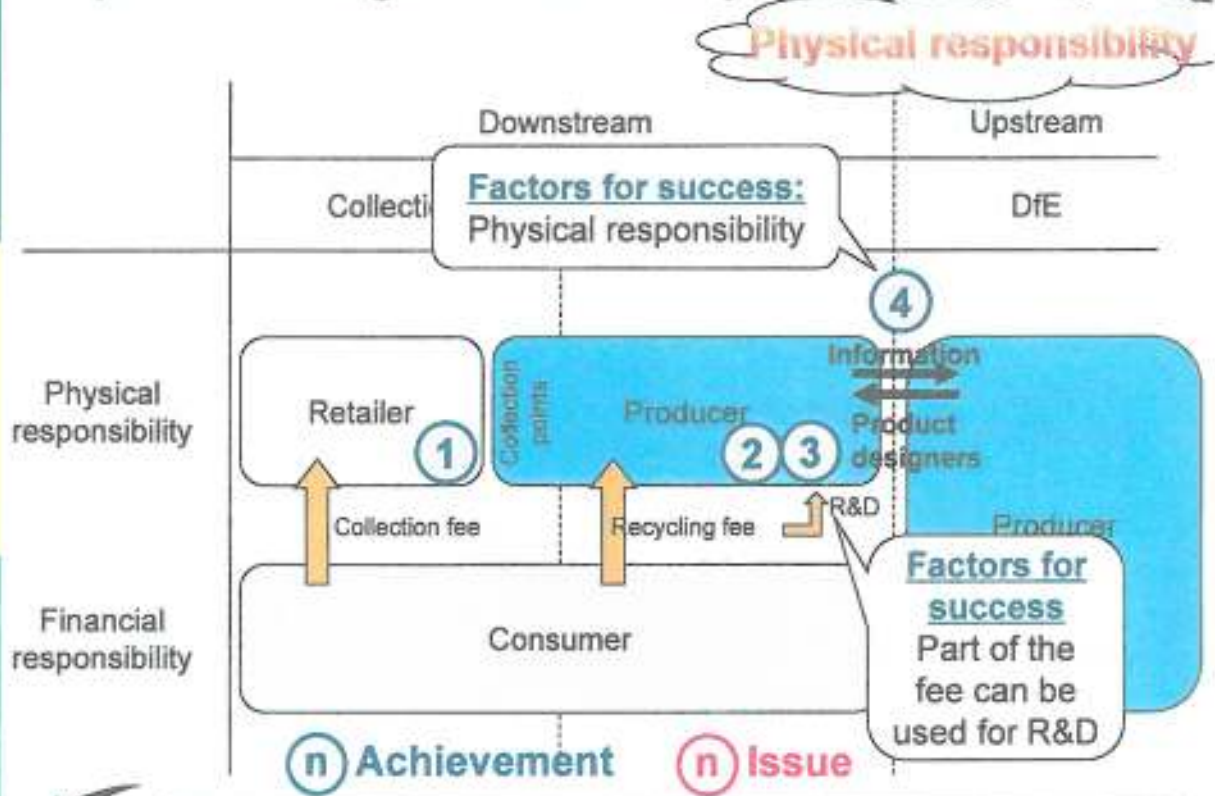
Achievement 3: R&D for closed-loop recycling of plastics used for large WEEE



Source: AEHA (2014) Environmentally Conscious Design for Electric Home Appliances in Japan

16

Japanese Large WEEE Recycling Act



Source: Tasaki (2014.6.17) Presentation at OECD Global Forum

17

Achievement 4: Promoted DfE of large WEEE

Efforts by manufacturers



Recycling workshop



Designers get hands-on training in dismantling



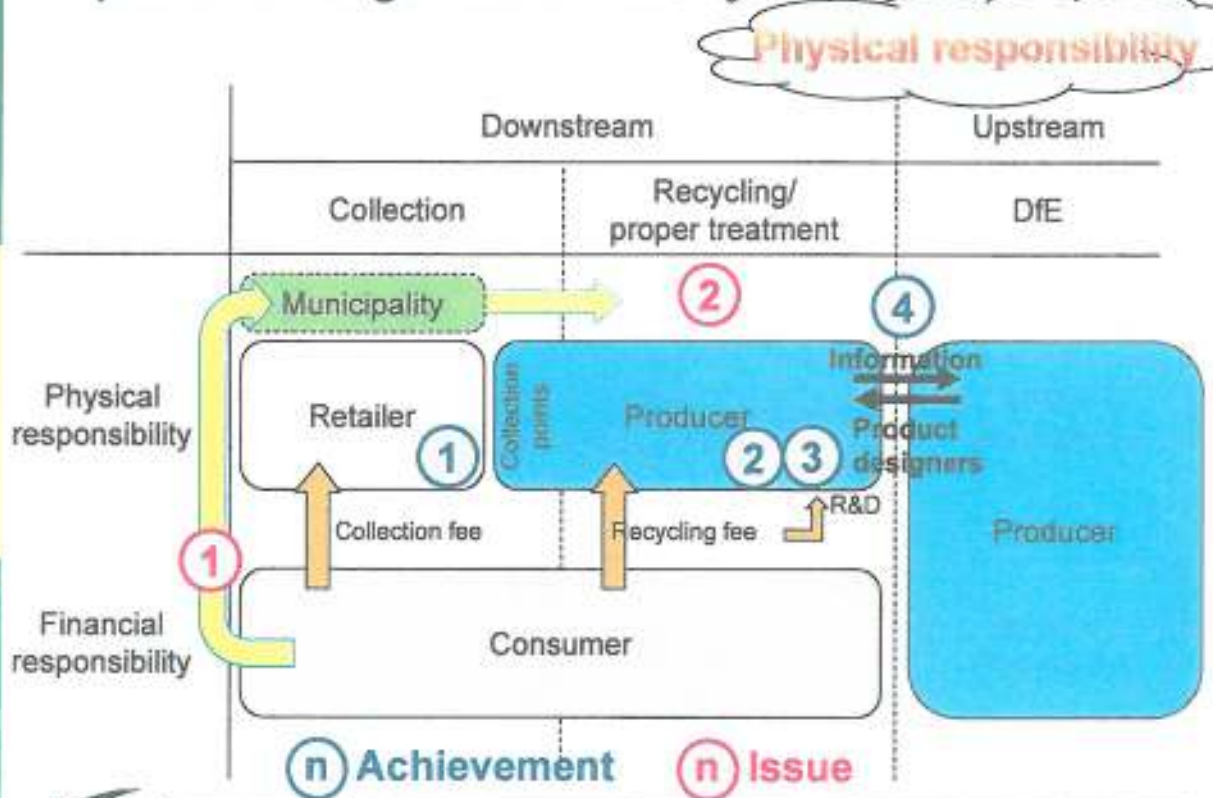
Back cover of a plasma television



Source: AEHA (2014) Environmentally Conscious Design for Electric Home Appliances in Japan

18

Japanese Large WEEE Recycling Act



Source: Tasaki (2014.6.17) Presentation at OECD Global Forum

19

Lessons learned from Japan (1)

- Need to fill the gap between different perceptions on EPR
 - Terminology: "seki-nin" = responsibility, liability
 - Stakeholders tend to emphasize moral responsibility.
 - Ideal mechanisms and real mechanisms
- Financial responsibility may drive stakeholders to cost reduction only.
 - Available multiple options or giving incentive should come with financial responsibility.
- Physical responsibility is useful to gain information in waste management for improved product design.



Source:

20

Lessons learned from Japan (2)

- ❑ EPR-based recycling policy = EPR + waste management + ...
 - Guiding principles on EPR need to be adjusted with other principles.
- ❑ Stakeholder's capabilities needs to be revisited
 - Who has higher capability in collection?
- ❑ A system of shared responsibility may need overarching goals so that stakeholders can collaborate in a proper way
 - To avoid partial optimization
- ❑ Competition between EPR schemes and the market



Source: Competition between EPR schemes and the market

21

References for EPR policies in Japan

- ❑ Three EPR case studies (2014)
 - Packaging (Yamakawa)
 - Large WEEE (Hotta, Santo, and Tasaki)
 - Battery (compact rechargeable) (Tasaki)
- ❑ Hosoda (2004) in *Economic Aspects of Extended Producer Responsibility*, OECD publication.
- ❑ METI (2010) Towards a 3R-Oriented, Sustainable Society: Legislation and Trends 2010. 96p.
(<http://www.meti.go.jp/policy/recycle/main/english/pamphlets/index.html>)

22

Extended Producer Responsibility (EPR)

The French experience

Global Forum on Environment:
Promoting Sustainable Materials
Management through EPR

OECD, Tokyo, 17 June 2014

Le monde durable, durable et équitable
Le monde durable, durable et équitable
Le monde durable, durable et équitable
Le monde durable, durable et équitable

Présent
pour
l'avenir

Ministry of Ecology, Sustainable Development and Energy

14 EPR schemes in France

EUROPEAN EPR

- ELV
- WEEE
- Batteries & accumulators

FRENCH EPR SUBJECT TO EU REGULATIONS

- Household packaging
- Fluorinated refrigerant fluids
- Pharmaceuticals
- (Lubricants)

FRENCH EPR

- Tyres
- Graphic papers
- Textiles
- Infectious healthcare waste
- Furniture
- Dispersed hazardous waste
- Gas canisters (forthcoming)

• Generally **household waste**, but some professional too (WEEE, furniture)

First scheme in 1992 (packaging) – 4 new schemes launched in 2012



A 'centralised PRO' model

- To fulfil their obligation, producers set up **individual or collective PROs**
- Producers generally decide to set up **one single collective PRO per scheme** – although they are free to set up more than one.

Collective PROs are:

- **Non-profit private companies**
- **Set up and governed by producers themselves**

- Each producer pays a **fee** to the PRO depending on the volume of products marketed



20/02/14

3

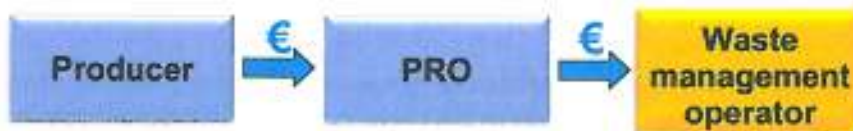
Two models of operation

- **'Financial' scheme** – municipalities remain in charge



e.g. household packaging; graphic papers

- **'Organisational' scheme** – producers directly in charge



e.g. WEEE; batteries and accumulators; tyres



20/02/14

4

Participative governance focused on dialogue

- Detailed **terms of reference** for PROs
 - Re-negotiated every 6 years among all stakeholders



- **Government approval** for periods up to 6 years
 - PROs commit to abide by the terms of reference and describe how

Dialogue remains intense during these 6-year periods

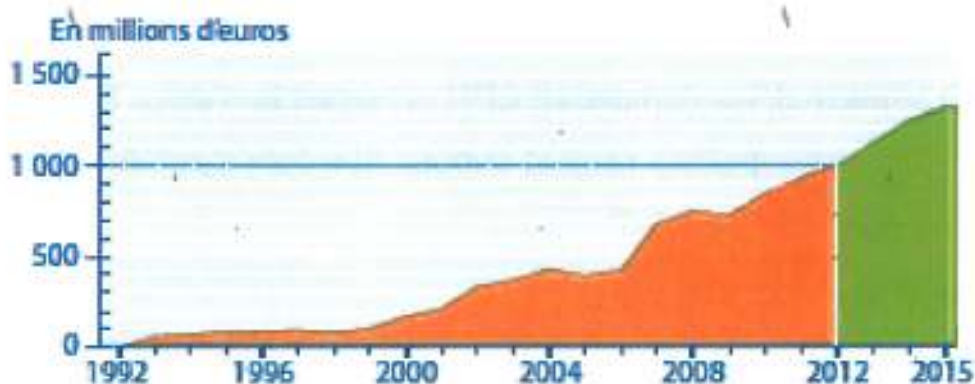
- Meetings every 3 months – mutual information, troubleshooting



20/02/14

5

Growing financial flows



- ~1.4 bn€ collected by 2015
- Of which ~700 M€ redistributed to municipalities
- (Total costs for municipal waste management: ~9.4 bn€)



20/02/14

6

Key questions and challenges



20/02/14

7

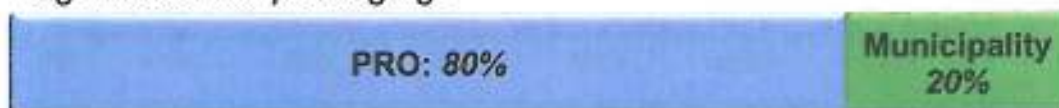
1) Responsibility - PROs & municipalities

Who is in charge? (in 'financial schemes')

- Municipalities demanded EPR schemes to reduce their costs
- But municipalities want to choose how they operate

Who bears the costs?

e.g. household packaging:



Where does this take us?

- PROs want more 'operational' models to optimise costs
- Municipalities reluctant – free administration, local employment
- Government – satisfied with current balance



20/02/14

8

2) Competition - PROs & waste management operators

- Waste management operators now face a single buyer
 - a normal consequence of the EPR principle
 - also a way to optimise the system
- But some consider this a 'distortion of competition'
 - which could hamper innovation and 'biodiversity' of operators

→ **Transparency** displayed by the PRO can help (tenders based on public procurement rules, previsibility, short/small contracts)

→ **Regulation is key** to bring balance to the system (terms of reference, day-to-day control, sanction when necessary)



20/02/14

3) Prevention and Eco-Design

- Requirements in terms of reference include:
 - **Quantitative prevention targets**
 - e.g. packaging : PRO had to reduce packaging volumes marketed by 100,000 tonnes over 5 years
 - **Differentiated fees** (price signal based on recycling cost/ecodesign)
 - e.g. WEEE: +20% fee for a computer with Hg lamps
 - e.g. papers: -10% fee for papers based on >50% recycled paper
 - **Quantitative reuse targets:**
 - e.g. textiles: 70% reuse by 2019
 - **Set aside reusable materials for social economy structures:**
 - e.g. furniture: PROs grant access to reusable materials before collecting waste



15/01/14

Conclusions

EPR = a useful tool for Governments

- Excellent to kickstart an industrial waste management network
- Brings results
- Requires public control (cf. terms of reference)
- Dialogue itself is fruitful



20/02/14

11

Thank you for your attention



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extended producer responsibility
insights
from the **United States**



organisation for economic cooperation + development
global forum on the environment
tokyo, japan | june 17-19, 2014



PRODUCT
STEWARDSHIP
INSTITUTE

who is the
product stewardship
institute?



PRODUCT
STEWARDSHIP
INSTITUTE

we work on multiple products

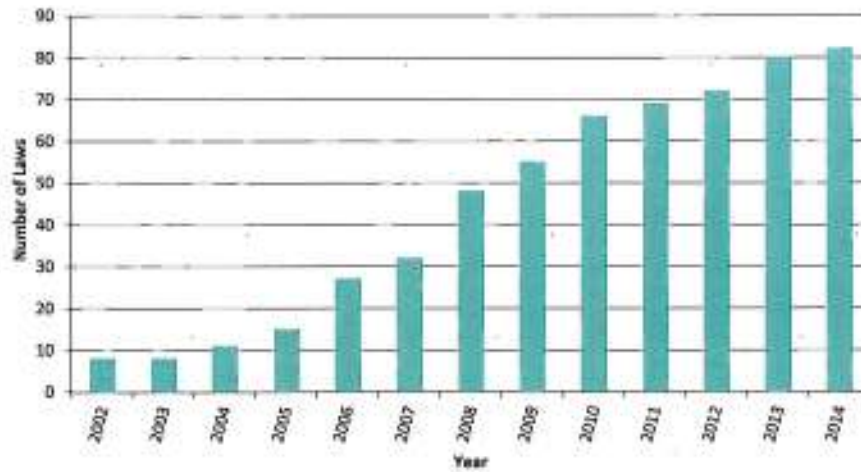


product
stewardship

extended
producer
responsibility
(EPR)



EPR law trends in the U.S. since 2002



EPR policy in the U.S.



Source: Product Stewardship Institute, Inc. (2014)



82* EPR laws in 33 states

(including carpet, cell phones, agricultural pesticide containers, refrigerants + one "framework" law)

3



3



8



11



11



15



23



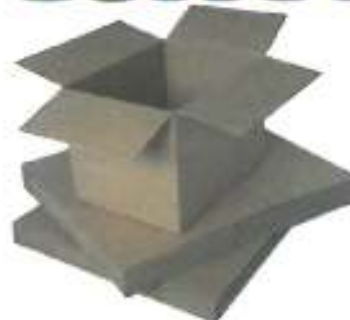
**not including 11 container deposit laws*



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STEWARDSHIP
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7

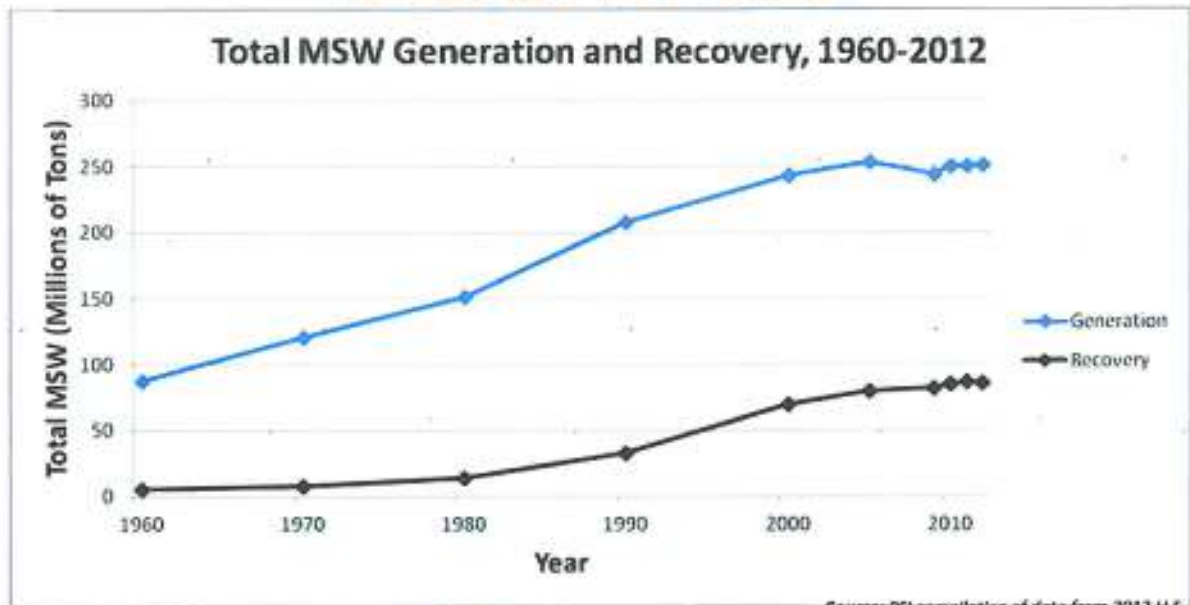
no U.S. packaging EPR laws due to industry opposition



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8

municipal solid waste in U.S.



Source: PSI compilation of data from 2012 U.S. EPA Municipal Solid Waste Report, Facts and Figures.



key factors that contribute to successful EPR



key factors that contribute to **successful EPR**



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what are the **challenges + responses?**



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12

challenge:



response:



challenge:



response:



challenge:



response:



PRODUCT
STEWARDSHIP
INSTITUTE

15

challenge:



response:



PRODUCT
STEWARDSHIP
INSTITUTE

16

challenge:



response:



challenge:



response:



challenge:



response:



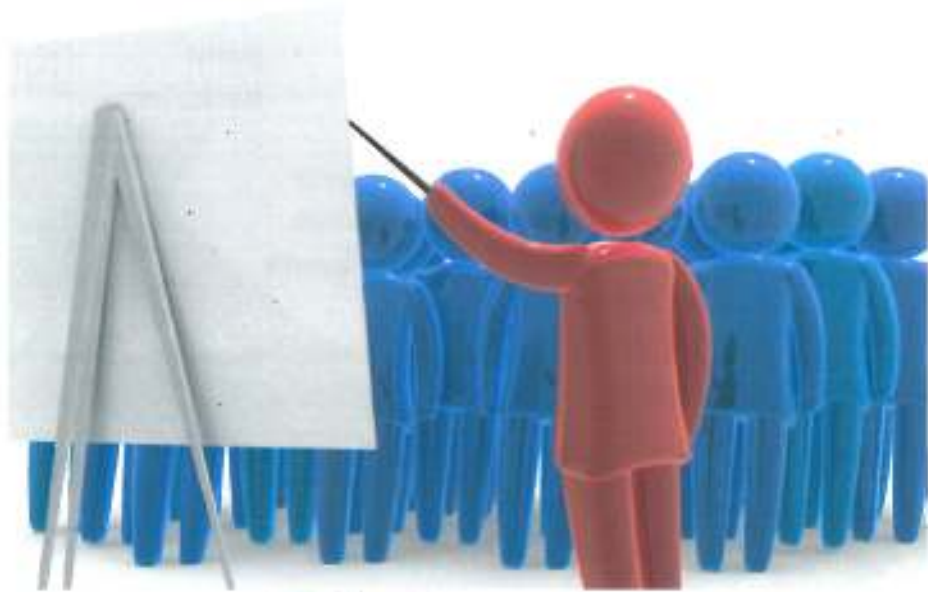
challenge:



response:



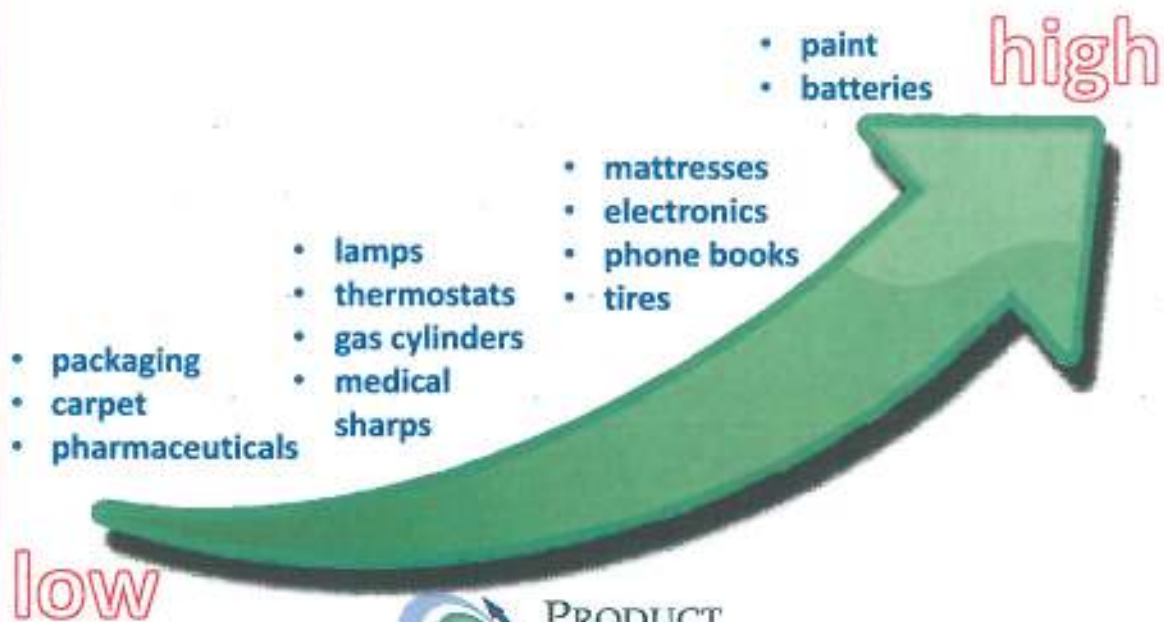
what have been the lessons?



lessons learned:



level of EPR engagement by u.s. industry groups



PSI national dialogue led to first all battery model bill draft



call2recycle Corporation for Battery Recycling



NEMA

thank
you.

scott cassel

ceo + founder

product stewardship institute

scott@productstewardship.us

617.236.4822



PRODUCT
STEWARDSHIP
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19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

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19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101

19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 101



EXTENDED PRODUCER RESPONSIBILITY

Towards guidance for policy makers

Andrew Prag, OECD Environment Directorate

18 June 2014



Outline

- The changing context since 2001
- What are we learning from case studies
- Initial emerging areas for policy guidance





Changing context for EPR since 2001



GLOBALISATION ENVIRONMENT
REPORT THE SUSTAINABILITY OF TRADE & MANAGEMENT
OF WASTE/PRODUCER RESPONSIBILITY JUNE
17-19 June 2014, Tokyo, Japan



More countries developing EPR

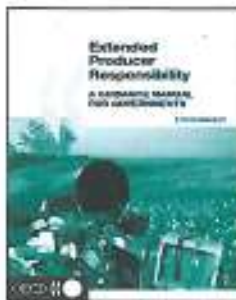
Intrinsic value of waste

International trade of waste

Internet sales and new market opportunities

Globalisation of value chains and producers

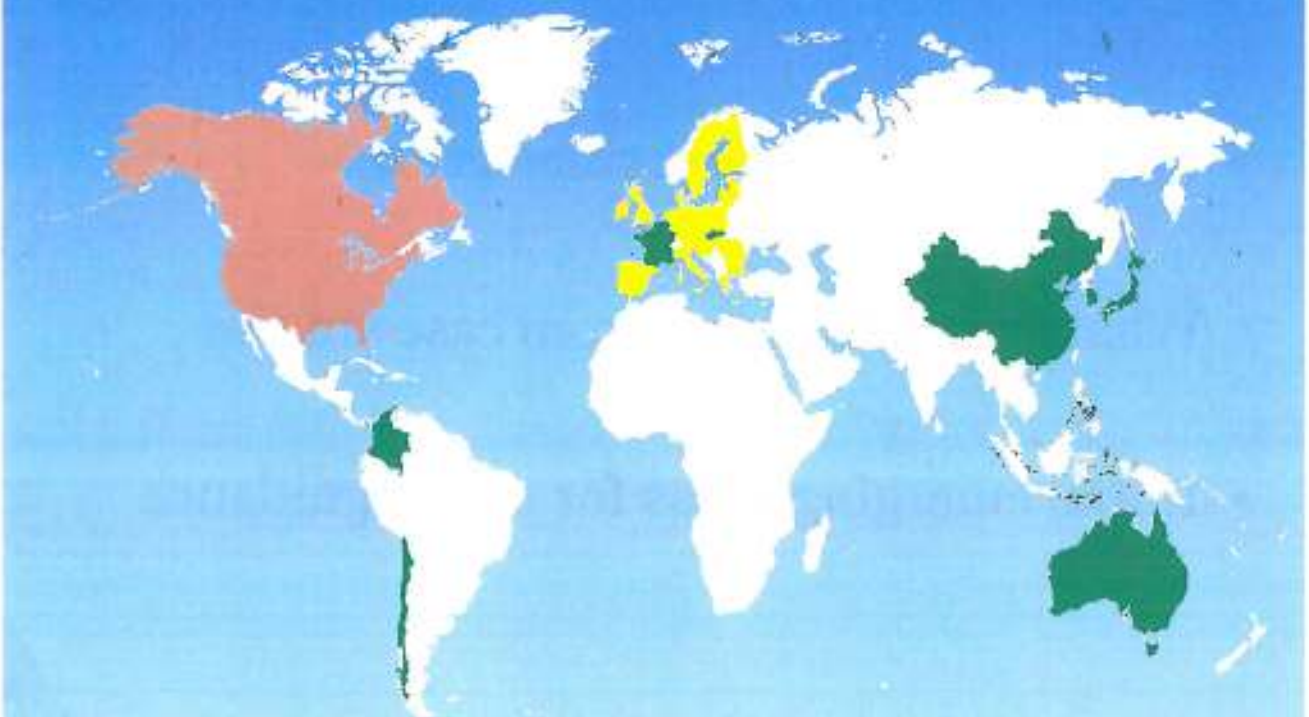
Urgency of waste accumulation in non-OECD countries



2001

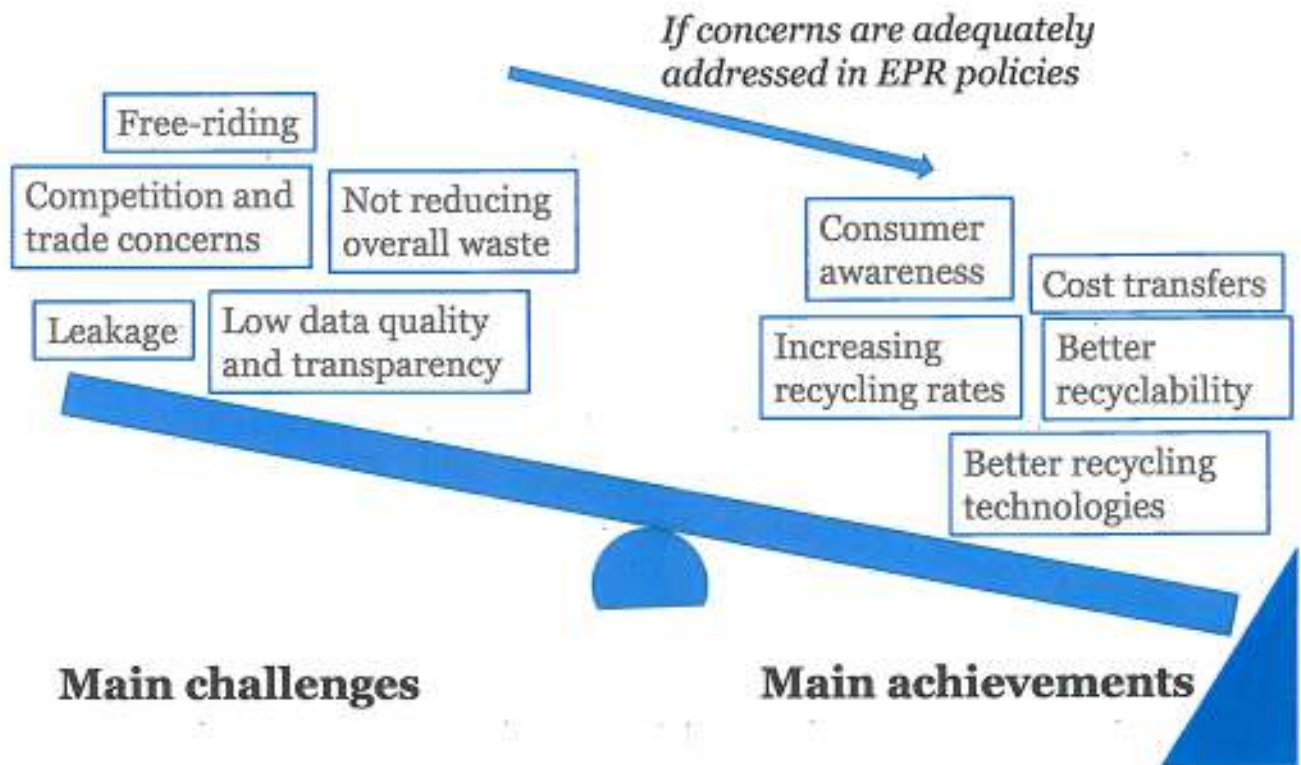
2014

Case studies currently feeding into the OECD review





Some lessons from case studies



10 areas for guidance emerging

Overall		
EPR instruments tailored to specific product and country context		
Governance	Economic	Emerging issues



10 areas for guidance emerging

Overall		
EPR instruments tailored to specific product and country context		
Governance	Economic	Emerging issues
Clear roles and responsibilities	Multi-level competition assessment	Integrating the informal waste sector
Early and full consultations	Clear performance targets & full cost recovery	Anticipating impacts of changing waste value
Adequate transparency level	Encouraging "DfE" and waste prevention	Free riding and ownership in new market conditions



Competition concerns: A level playing field... or is it?



2.5m



Competition concerns on three levels



- *Need for regular policy assessments of multi-layered competition concerns*
- *Seeking a balance between competition and a stable, predictable investment framework*



Integrating the informal waste sector

- A challenge for OECD and non-OECD countries



- Understand the role of informal and/or illegal actors
 - *EPR design should seek to provide greater incentive than local materials markets*
 - *Build on existing informal networks where possible*
 - *Provide strong regulation to eliminate harmful practices and to ensure non-valuable waste is captured*



Encouraging design for environment

- Recyclability and waste prevention as separate objectives
- Key policy challenges :
 - Globalised production – can one country’s EPR make a difference to global design?
 - Differentiated fees and individual producer responsibility: can they be cost effective and efficient?

Collective responsibility: uniform fees	Partly differentiated / modulated fees	Individual financial responsibility: fully differentiated fees
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Increasing strength of design change incentive 

- *Policy design should consider how differential fees can help to target individual producer recycling costs*
- *International (and national!) co-ordination of policy where possible to maximise influence on product design*



10 areas for guidance emerging

Overall

EPR instruments tailored to specific product and country context

Governance	Economic	Emerging issues
Clear roles and responsibilities	Multi-level competition assessment	Integrating the informal waste sector
Early and full consultations	Clear performance targets & full costs recovery	Anticipating impacts of changing waste value
Adequate transparency level	Encouraging “DfE” and waste prevention	Free riding and ownership in new market conditions



Thank You!



Andrew.Prag@oecd.org

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Anticipating new market conditions

- **Internet and other new market outlets:** ensuring EPR definitions and enforcement can capture new actors
- **Increasing value of waste:**
 - **Reassessing** need for EPR when waste streams reach positive value
 - **Beyond average value:** understanding heterogeneity in the waste stream
 - Considering how to support **new ownership structures** (leasing and services)
- *Need for continuous evaluation of the environmental and social value of EPR policies and periodically assess scheme boundaries*

1

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MEP

WEEE Policies and Practice of Treatment Fund Subsidy System in China

Mr. ZHENG Yang
Section Chief of E-waste Management Division
Solid Waste and Chemicals Management Center
Ministry of Environmental Protection of P.R.China

GLOBAL FORUM ON ENVIRONMENT
17-19 June 2014, Tokyo, Japan



MEP

Content

1. WEEE Regulations and Policies in China
2. Current Practice of WEEE Fund System
3. Challenges and Future Perspective

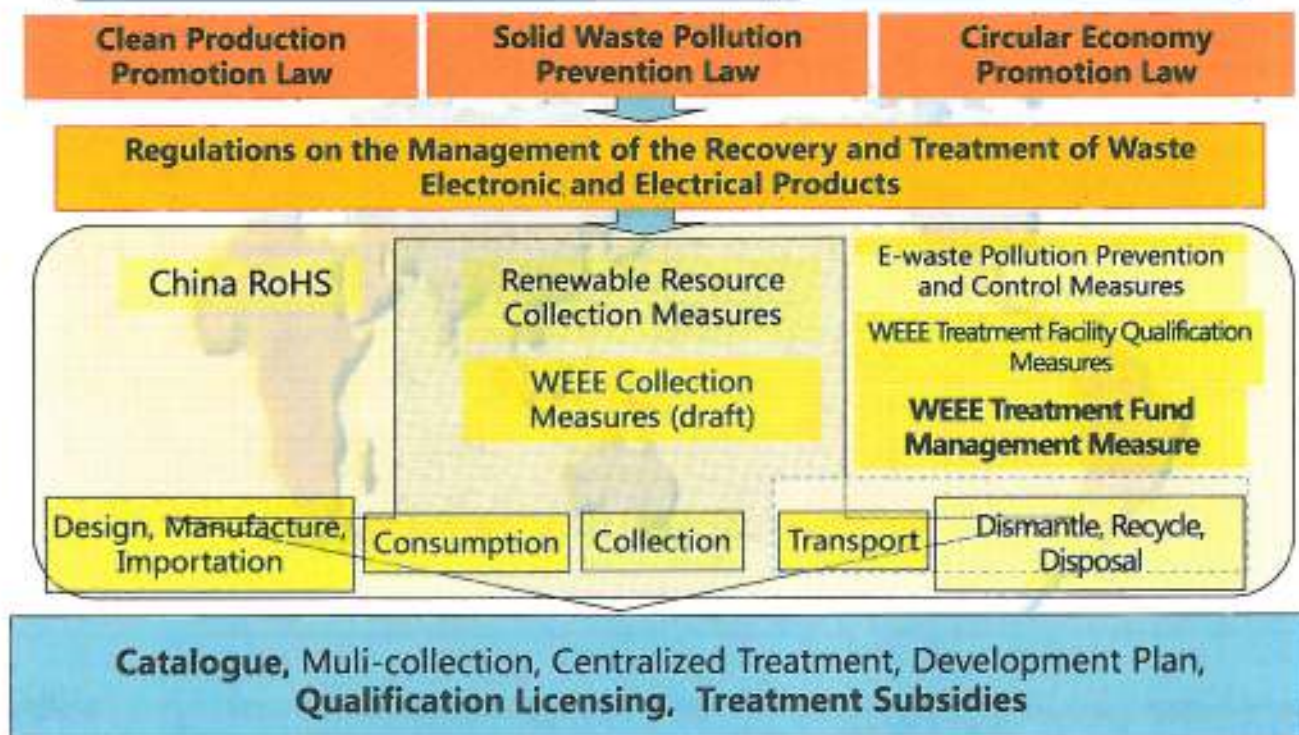


Progress of E-waste Regulations in China

Year	Legislation
1995, 2005	Law on the Prevention and Control of Environmental Pollution by Solid Wastes
2002, 2012	Law on Clean Production Promotion
2006	China RoHS (by MIIT)
2008	Measures on E-waste (by MEP)
2009	Law on Circular Economy Promotion
2011-2012	China WEEE Regulation and its supporting policies

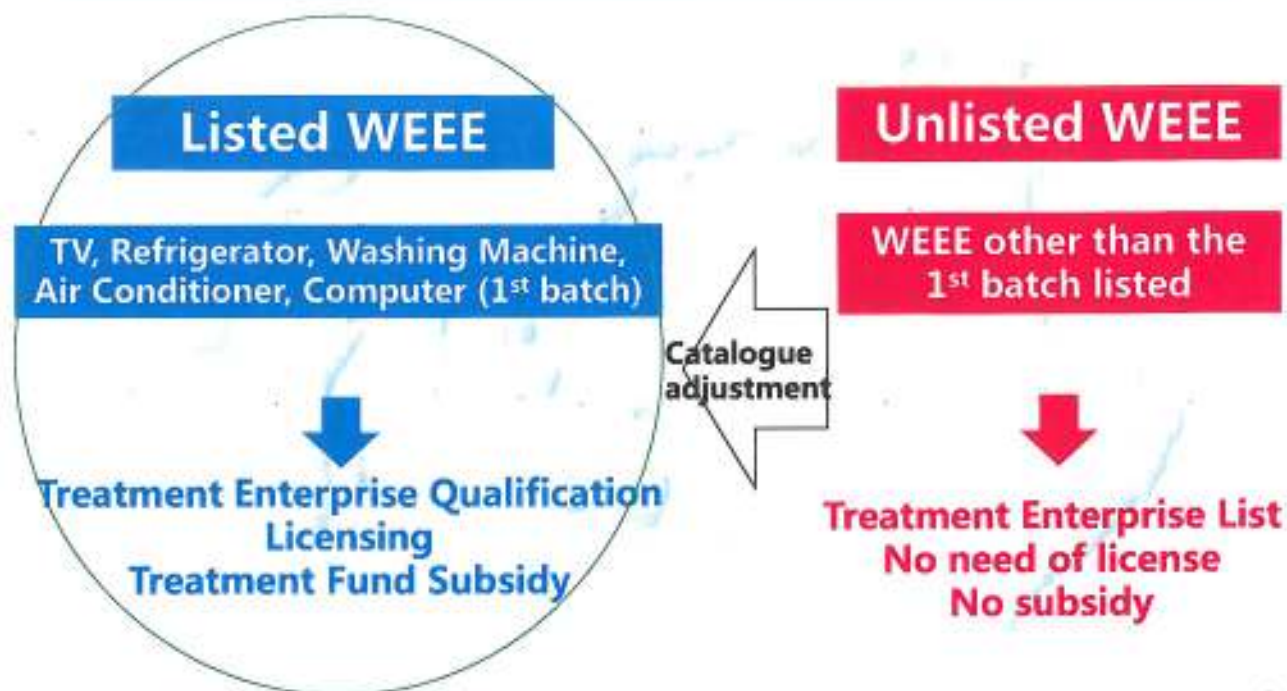


E-waste Legislation System





Catalogue of Waste Electronic and Electric Products for Treatment



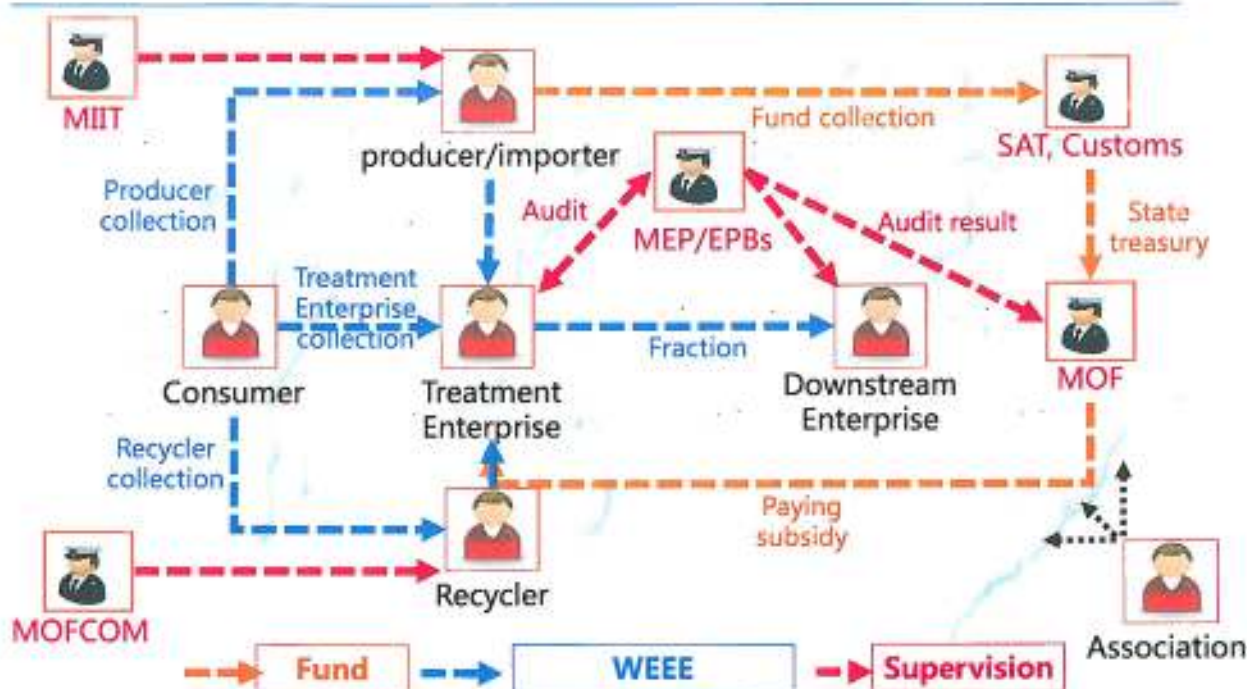
Treatment fund subsidy

The state establishes a fund for the treatment of WEEE to subsidize the recover and disposal of WEEE





Treatment fund subsidy



Current Practice of WEEE treatment fund

- **By the end of 2013, 91 qualified enterprises have been authorized to be funded, with total treatment ability of about 80 million units WEEE per year.**





MEP



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Current Practice of WEEE treatment fund

- *In 2013, about 43 million units WEEE were confirmed to be dismantled and reprocessed by the funded enterprises.*
- *Since 2012, 1877 million RMB of treatment subsidy has been paid to the funded enterprises.*





Challenges and Future Perspective

- **Main challenges**
 - *Informal collection, repair, refurbishment, recycling and disposal activities*
 - *Air conditioners, fridges and washing machine are difficult to collect*
 - *Illegal importation*
 - *Lack of recycling and disposal technology (especially precious metal recycling, disposal of lead glass, liquid crystal, etc.)*
 - *Cheat in subsidy application and audit*



Challenges and Future Perspective

- **Next step**
 - *Expand WEEE Catalogues*
 - *Strengthen pollution prevention and control, promote ESM of WEEE treatment industry*
 - *Enhance resource efficiency during recycle*
 - *Ensure appropriate use of treatment fund*
 - *Push WEEE collection system construction*



MEP

Solid Waste and Chemicals Management Center,
Ministry of Environmental Protection



Wastes, Chemicals, Contaminated site, Heavy metals

Policy Research

Survey, Measurement,
Technical analysis

Supervision, Audit,
Technical verification

Guide local
centers

R&D

Information analysis,
Technical service

Training, Consultancy

International
cooperation

Towards the leading organization in China on EPR and E-waste
research, management and technology!

<http://www.swmc.org.cn>

固体废物管理(固体废物)化学管理技术中心
Solid Waste and Chemicals Management Center, Ministry of Environmental Protection



MEP

Thank you for your attention!



Contact Info:

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- Tel: +86-10-84665534
- Fax: +86-10-84665559

<http://www.swmc.org.cn>

固体废物管理(固体废物)化学管理技术中心
Solid Waste and Chemicals Management Center, Ministry of Environmental Protection

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