

Research Report

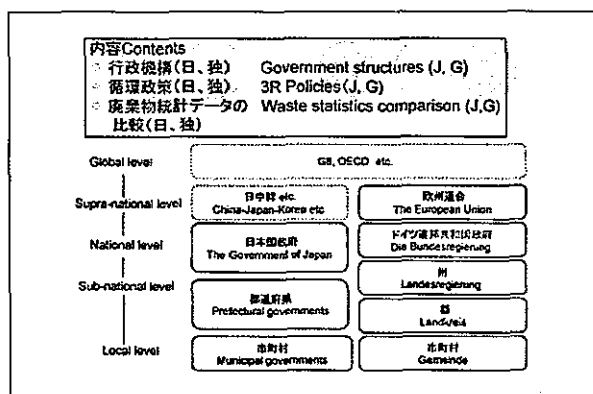
# "3R Policy in Japan and Germany"

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Today, I would like to outline the "governmental structures" responsible for 3R policy in Japan and Germany, and compare "3R policies" and "waste statistics" between the two.



## 1 Governmental structures (Japan)

3R policies are developed on diverse levels from global to local.

As examples of Japan, I have chosen the activities conducted on the supra-national level by Japan, China and Korea, on the national level by the Japanese national government, on the prefectural level by Hyogo and on the local level by Himeji City. I chose Himeji because that is a core city of the Hyogo Eco Town project.

In Germany, I have chosen the European Union, Die Bundesregierung, Nordrhein-Westfalen (NRW) as a federal state and Dusseldorf, which functions as both a district and municipality. Dusseldorf has about the same population and size as Himeji, therefore I

chose it.

**グローバル及び超国家レベルの3R枠組み**  
Global and supra-national level frameworks on 3R

- G8 サミット (G8 summit)
- 2004.6 3Rイニシアチブがレーアイランド・サミットで合意された。  
The 3R Initiative was agreed upon at the G8 Sea Island Summit
- 2005.4 3Rイニシアチブ閣僚会議  
Ministerial Conference on the 3R Initiative
- 経済協力開発機構 (OECD)
- 2001 「拡大生産者責任 政府への指導マニュアル」  
Extended Producer Responsibility - A Guidance Manual for Governments-  
各国の環境政策詳細、指標の提示、統計データ収集マニュアル など  
OECD Environmental Performance Review, Indicators, Data Collection Manual etc.
- 日中韓三カ国環境大臣会合 (TENN: Tripartite Environment Ministers Meeting)
- 2005.10 循環社会・循環経済を構築するため三カ国間協力の強化を合意  
Agreed to Strengthen Trilateral Cooperation to Establish a Sound  
Material-Cycle Society and Circular Economy

As an activity of the 3R policies on the global level, the 3R Initiative was agreed to at the G8 Summit in June 2004, and a Ministerial Conference of the 3R Initiative took place in Tokyo in April 2005, with 20 countries in attendance. OECD prepared a guidance manual on Extended Producer Responsibility (EPR) in 2001 and also an environmental performance review, indicators and data collection manual for governments. In Asia, the Environment Ministries of Japan, China and Korea hold a meeting every year. At this year's meeting, they agreed to strengthen cooperation towards building recycle-oriented societies and economies.

The Japanese government consists of a Cabinet and 11 ministries. At the core of the 3R policies is the Ministry of the Environment and the Waste Management and Recycling Department is in the ministry.

In Japan's case, multiple ministries develop 3R policies. The Ministry of Economy, Trade and Indus-



**ドイツ連邦政府の行政機構**  
Structure of the German Federal Government

Germany  
Population: 83 million  
Area: 357,000 km<sup>2</sup>

- 外務省 (Foreign Office)
- 内務省 (Federal Ministry of the Interior)
- 連邦財政省 (Federal Ministry of Finance)
- 連邦司法省 (Federal Ministry of Justice)
- 連邦国防省 (Federal Ministry of Defense)
- 連邦教育・研究省 (Federal Ministry of Education and Research)
- 連邦消費者保護・食糧・農村省 (Federal Ministry of Consumer Protection, Food and Agriculture)
- 連邦家庭・高齢化・婦人・青少年省 (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth)
- 連邦保健社会省 (Federal Ministry of Health and Social Security)
- 連邦環境・自然保護・原子研究省 (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
- Abteilung 2 (環境・自然保護・放射線保護・原子力安全本部)
- 自然保護部の事務的行政的任務 (事務的行政的任務)
- WA (水資源・廃棄物処理・土壌保全) (水資源・廃棄物処理・土壌保全)
- RS (放射線安全・放射線防護・放射線管理)
- 連邦交通・建設省 (Federal Ministry of Transport, Building and Housing)
- 連邦経済労働省 (Federal Ministry of Economics and Labour)
- 連邦経済協力省 (Federal Ministry of Economic Cooperation and Development)

各連邦州の事務的行政的任務 (各州) の職務は各州で決まっています。

implements policy is separate of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. What is very interesting is that the Federal Ministry for the Environment is in charge of resources and energy as well. They oversee nuclear power stations and renewable energies. However, regulations on the energy supply business come under the jurisdiction of the Federal Ministry of Economics and Labor, which equates to Japan's Ministry of Economy, Trade and Industry.

For what regards 3R policies, a bureau of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety named WA for keywords (water economy, waste economy and land conservation) is responsible. Another interesting point is the word Abfallwirtschaft, translated as "waste economy", used in Germany. This term is used widely and not just by the federal government. It would seem that, in Germany, the waste problems are recognized as economic problems.

**NRW州政府の行政機構 (1)**  
Structure of the NRW State Government (1)

NRW  
Population: 18 million  
Area: 34,081 km<sup>2</sup>

- Ministerpräsident (州政府首脳)
- Minister für Innovation, Wissenschaft, Forschung und Technologie (革新・学術・研究・技術)
- Finanzminister (財務)
- Ministerin für Wirtschaft, Mittelstand und Energie (経済・中産階級・エネルギー)
- Innenminister (内務)
- Minister für Arbeit, Gesundheit und Soziales (仕事・健康・社会)
- Ministerin für Schule und Weiterbildung (学校・さらなる教育)
- Minister für Bauen und Verkehr (建設・交通)
- Ministerin für Justiz (司法)
- Minister für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz (環境・自然保護・農業・消費者保護)
- Minister für Generationen, Familie, Frauen und Integration (世代・家庭・女性・一体化)
- Minister für Bundes- und Europazusammenhang (連邦・欧州関係)
- Parlamentarischer Staatssekretär für Verwaltungsstrukturen und Sport (行政構造・スポーツ)

各州府は各州で決まっています。

Let us next look at the governmental structure of

the NRW state. Germany is a federation of states, so state governments have the basic functions of the nation. States are involved in energy and justice, which is something you do not see in Japan's prefectures. The environmental administration lumps together nature conservation, agriculture and consumer protection.

**NRW州政府の行政機構 (2)**  
Structure of the NRW State Government (2)

Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz (環境・自然保護・農業・消費者保護)

- Zentralabteilung (中央)
- Landwirtschaft, Gartenbau, Ländlicher Raum (農業・園芸・田園空間)
- Forsten, Naturschutz, Agrarordnung (森林・自然保護・農業構造)
- Abfallwirtschaft, Bodenschutz, Wasserwirtschaft (廃棄物処理・土壌保全・水利経済)
- Immissionsschutz (排出管理)
- Verbraucherschutz (消費者保護)
- Grundsatzfragen, Planung und Koordinierung, Agenda21NRW (政策的課題・計画・調整・アジェンダ21NRW)

- Landesumweltamt (州環境庁)
- Effizienzagentur NRW (NRW効率化エージェンシー) etc.

This is the internal structure of the Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz of NRW. It is divided into seven organizations, I to VII. 3R policies are the responsibility of the fourth organization, the Abfallwirtschaft, Bodenschutz, Wasserwirtschaft.

Two policy implementing agencies related to this ministry are the state's Landesumweltamt and Effizienzagentur NRW that runs PIUS, which will be discussed in more detail in session 2.

**デュッセルドルフ市の行政機構 (1)**  
Structure of the Düsseldorf city government (1)

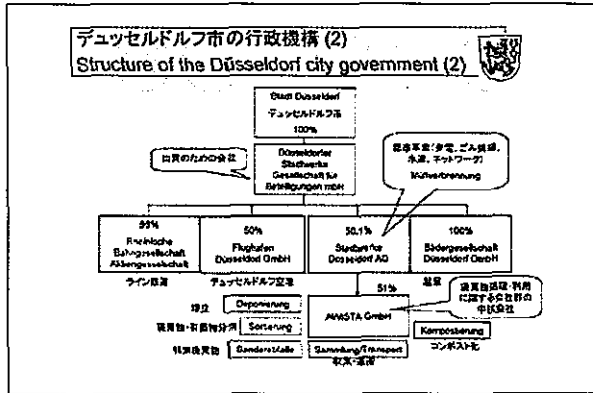
Düsseldorf  
Population: 570,000  
Area: 217 km<sup>2</sup>

- Oberbürgermeister (上級市長)
- Stadtämter (収入役)/Beigeordnete(r) (助役)
- Amf für Einwohnerwesen (住民制度局)
- Umweltamt (環境局)
  - Abt. Zentrale Dienste und kommunale Abfallwirtschaft (中央サービス市の廃棄物処理)
  - Abt. Betrieblicher Umweltschutz (企業の環境保護)
  - Abt. Umweltschutz und Umweltpolitik (環境政策・環境計画)
  - Abt. Gewässerschutz und Altlasten (河川湖泊保護・土壌汚染修復協議会)
- Zentrum für Personalentwicklung (人材育成センター)
- ※ 以上54局・機関など

Let us look at the governmental structure of the Dusseldorf as an example of a city. Dusseldorf is an independent city that functions as both a district and municipality. The mayor is called Oberbürgermeister.

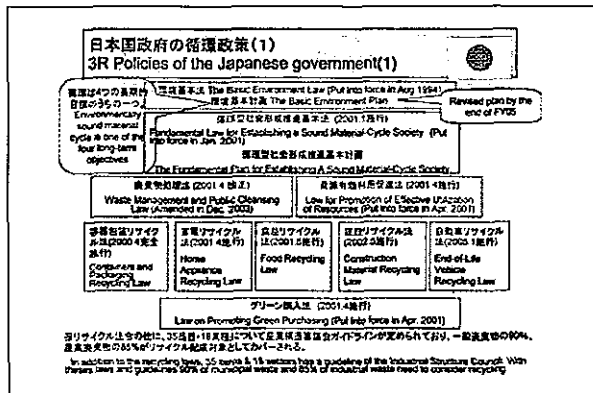
They have more than 54 bureaus and organizations, each of which performs different jobs.

One of the bureaus is the Umweltamt and one of the organizations underneath it takes care of waste economy, etc.



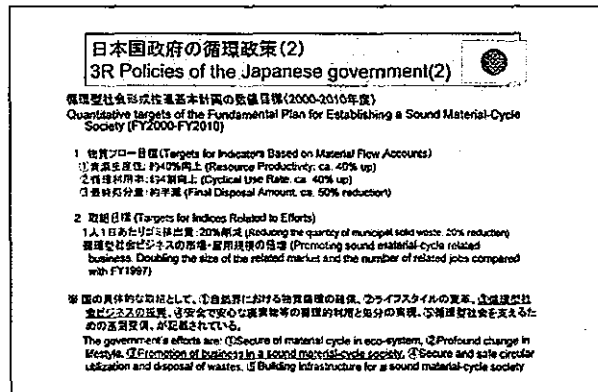
As in Japan, the city is responsible for the treatment of municipal waste. This figure shows the city-owned companies that take care of the waste treatment business in Dusseldorf and their ownership shares. In the case of Dusseldorf, power generation, waterworks and so forth are handled by a public corporation in which the city owns 50.1% via an investment company. The core entity involved with waste treatment is AWISTA, which is 51% owned by the public corporation. So, the companies and systems are built by sharing capital. The network of companies handles waste treatment in the city.

**3 3R policies (Japan)**



Next, I would like to look at the 3R policies of Japan.

The crux of Japan's 3R policies is the Basic Environment Law, based on which the country drafts a Basic Environment Plan. The current plan sets four long-term targets, one of which is the "environmentally sound material cycling". Directly concerning 3R policies are the Fundamental Law for Establishing a Sound Material-Cycle Society and the Fundamental Plan for Establishing A Sound Material-Cycle Society that is based upon it. There are laws governing resources that serve as the input of economic activity as well as the output, which is waste, and recycling of the various materials. They are the Containers and Packaging Recycling Law, Home Appliance Recycling Law, Food Recycling Law, Construction Material Recycling Law and End-of-Life Vehicle Recycling Law. And, there is a Law on Promoting Green Purchasing so that governments, large and small, promote green purchasing in their consumer behavior.

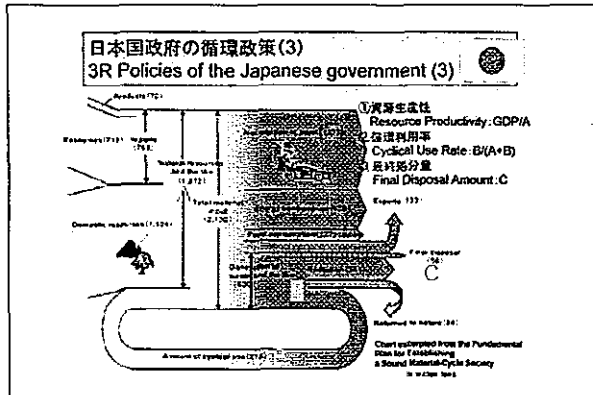


There are two kinds of numerical targets set forth in the Fundamental Plan for Establishing A Sound Material-Cycle Society; one is for material flow, while the other is for efforts.

Material flow targets specify three types of targets in "resource productivity", "cyclical use rate" and "final disposal amount".

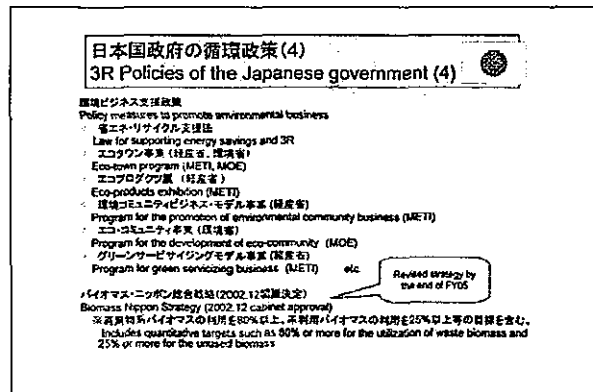
Effort targets are set for the "reduction of waste per capita per day", "doubling the size of related markets and jobs" and so forth.

The next slide shows material flows in Japan. It shows how the three material flow targets I just mentioned fit in.



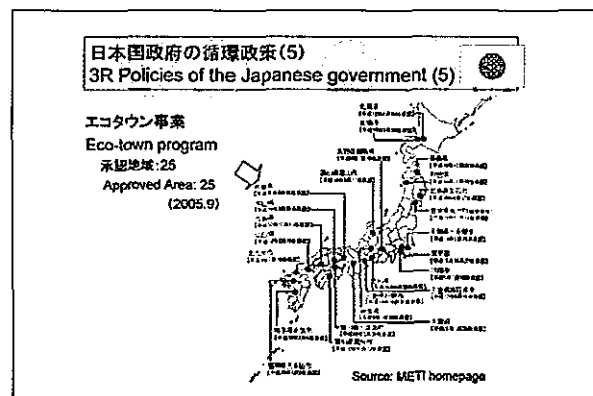
※ Enlarged figure on p. 14.

The Wuppertal Institute has been studying material flows for some time, so this is an area of specialty for them. In Japan, the National Institute for Environmental Studies is involved with this and is researching material flows via an international network.



Japan also develops policies from the perspective of promoting business rather than regulations.

The Ministry of Economy, Trade and Industry and the Ministry of the Environment have various support-

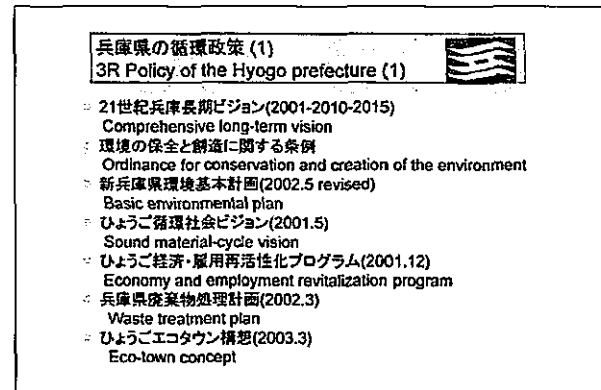


※ Enlarged figure on p. 14.

ing policy measures. For example, there are the "eco products exhibition", "eco community program" and "green servicing business program".

And, for what concerns biomass, the Cabinet adopted a Biomass Nippon Strategy in 2000.

This is a map of eco-town projects, one of the policy measures I just mentioned. Currently, 25 locations have been approved by the Ministry of the Environment and the Ministry of Economy, Trade and Industry.



Here are the 3R policy and related measures of Hyogo Prefecture. The policies of local governments basically comply with national policy. Also, local governments in Japan draft long-term comprehensive plans, which in Hyogo Prefecture is the "21st Century Long-Term Vision".

The Ordinance for conservation and creation of the environment compares to the Basic Environment Law of Japan. Hyogo's equivalent of the Basic Environment Plan is the "New Hyogo Basic Environmental Plan", while their version of a Fundamental Plan for Establishing A Sound Material-Cycle Society is the "Hyogo Sound Material-Cycle Vision".

Other than that, there are programs for economics and employment, waste treatment plans, and so forth. Within this structure of policies and programs is the Hyogo Eco Town Concept.

The slide lists some other initiatives. For example, there are the "promotion of 5R lifestyles (3Rs + Refuse and Repair)", "support for establishing container collection systems in community cooperative ways"



**欧州連合の循環政策(2)**  
**3R Policy of the European Union(2)**

Council Directive on Waste (廃棄物指令)  
 Key Words defined: waste, producer, holder, management, disposal, recovery  
 キーワードの定義: 廃棄物、排出者、保有者、管理、処分、回復

Council Directive concerning Integrated Pollution Prevention and Control (統合的汚染防止管理指令)  
 Concerned Industrial Activities: energy industries, mineral industry, chemical industry, waste management, etc.  
 対象産業活動: エネルギー産業、鉱業、化学工業、廃棄物管理 等

Council Directive on the Landfill of Waste (埋立指令)  
 Directive of the European Council and the Parliament on the Incineration of Waste (廃棄物焼却指令)  
 Council Directive on Packaging and Packaging Waste (容器包装指令)  
 Directive of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (廃電気電子機器指令)  
 Directive of the European Parliament and of the Council on End-of-Life Vehicles (廃自動車指令)

.....  
 \* Quantitative targets are set. (数値目標が設定されている.)

Pollution Prevention and Control" regulates industrial activity of high environmental load, therefore waste management is also dealt with. Other than that, there are individual directives for landfill, incineration, container and packaging recycling, and so forth.

The EU has various kinds of laws, but the word "directive" is frequently used in environmental administration. In the relationship between the EU and EU nations, there is debate as to how much power the EU has over its member states. A directive binds the member states to attaining targets, but the method for doing that is determined by the laws of each country.

**ドイツ連邦政府の循環政策(1)**  
**3R Policy of the German government (1)**

Perpektiven für Deutschland - Unsere Strategie für eine nachhaltige Entwicklung - (2002)  
 ドイツの展望 - 持続可能な発展のための我々の戦略 -  
 Targets such as resource productivity are set. (Double by 2020)  
 資源生産性などの目標が設定されている。(2020年までに2倍)

Closed Substance and Waste Management Act (1994)  
 廃物処理法

Ordinance on Landfills and Long-term Storage Facilities (2001)  
 埋立処分指令

Ordinance on Specialised Waste Management Companies (1995)  
 専門処理事業所法令

Ordinance on Transport Licences (1998)  
 運送許可指令

Ordinance on the Management of Municipal Wastes of Commercial Origin and Certain Construction and Demolition Wastes (2002)  
 事業系一般廃棄物法令

Ordinance on the Avoidance and Recovery of Packaging Wastes (1991)  
 包装指令

Electrical and Electronic Equipment Act (2005) etc.  
 廃電子・電機機器法 など

The overall strategy of the German Government is a "Sustainable Development Strategy". This strategy sets numerical targets and manages progress. Though Japan has governmental strategies for global warming prevention, biomass and the like, none exists for sustainable development.

The Closed Substance and Waste Management Act is the legal core of Germany's 3Rs. This law incorporates provisions on landfill, waste processors, packag-

ing and so forth.

**ドイツ連邦政府の循環政策(2)**  
**3R Policy of the German government (2)**

Closed Substance and Waste Management Act (1994)  
 廃物処理法

Definition of Terms (用語の定義)  
 Waste: all movable property in Annex I (廃棄物: 附則Iにある全ての移動可能な所有物)  
 Waste for Recovery + Waste for Disposal (廃棄物 → 利用廃棄物 + 処分廃棄物)

Basic Principles (基本原則)  
 1st: waste avoidance, 2nd: substance recycling, energy recovery  
 1番: 廃棄物発生抑制 2番: 物質リサイクル、エネルギー回収  
 Waste Management Concept, Waste Balance Sheet, 廃棄物管理コンセプト(構想)、廃棄物収支表

Product Responsibility (製品責任)  
 Development, Labelling, Obligation to accept returned goods, etc.  
 開発、ラベル、戻ってきた製品を受け取る義務 など

Planning Responsibility (計画策定責任)  
 The Länder shall prepare waste management plan.  
 州政府は廃棄物管理計画を作成する。

Promotion of Sales (販売の促進)  
 Public entities shall procure environmentally-sound products.  
 公的機関の環境配慮製品調達

Etc.

This slide shows the makeup of the Closed Substance and Waste Management Act that lies at the center of Germany's 3R policy. It is packed with terminology definitions, basic provisions, product liabilities, waste planning responsibilities, sales promotions of eco-friendly products, and more. Accordingly, it has elements of Japan's Basic Environment Law, Waste Management and Public Cleansing Law, Law for Promotion of Effective Utilization of Resources and Law on Promoting Green Purchasing.

The basic principle is first to prevent waste from occurring. Generators of waste above a certain volume are obliged to prepare a waste management concept and waste balance sheet.

**廃棄物の定義**  
**Definition of Wastes**

Japan	Germany (EU)
・廃棄物かどうかが議論 Point: Waste or not	・利用廃棄物か処理廃棄物かが議論 Point: "Waste for Recovery" or "Waste for Disposal"
・廃棄物の定義 Definition of Wastes	・廃棄物分類(categories of waste)、処理とは(disposal operation)、利用とは(recovery operation)
――産業廃棄物の定義 Definition of Industrial Wastes	・廃棄物目録(List of wastes)
――一般廃棄物の定義 Definition of Municipal Wastes (産業廃棄物以外) (Wastes other than Industrial Wastes)	① 鉱業...からの廃棄物 Waste resulting from mining... ..... ② 都市ごみ Municipal wastes

This slide shows how Germany and Japan define various wastes, and let me point out their differences. Germany's definition of waste carries over from the broad meaning of waste concepts of EU laws on waste.

As for this definition of waste, whereas Japan de-

bates whether or not a substance is waste, Germany mainly debates whether it is waste for recovery or waste for disposal. In categorizing waste, Japan first defines wastes, then defines industrial wastes and categorizes the remainder as municipal waste. On the other hand, Germany has a waste list that divides waste into roughly twenty categories, the twentieth of which is municipal waste. Accordingly, the wastes numbered from one to nineteen on the list in Germany equate to industrial waste in Japan.

**ドイツ連邦政府の循環政策 (3)**  
3R Policy of the German government (3)

Phase-out of Landfill sites (埋立地の段階的廃止)

- 1970s 50,000 rubbish tips (50,000箇所のごみ山)
- 2005 Pretreatment of all municipal waste  
全ての都市ごみの前処理
- By 2020 Complete phase-out of landfilling of municipal waste  
(都市ごみ埋立の完全廃止)

Sustainable waste industry  
持続可能な産業用地

Germany has set a target to completely phase out the burying of municipal waste by the year 2020. To attain that target, it is essential that they promote a sustainable waste industry.

**NRW州政府の循環政策(1)**  
3R Policy of the NRW state government(1)

Nachhaltige Entwicklung / Agenda 21  
持続可能な発展 / アジェンダ21

- Agenda21NRW (アジェンダ21NRW)
- Int. Network der Regionalregierungen für Nachhaltige Entwicklung (持続可能な発展のための地域政府の国際ネットワーク)
- Nachhaltige Gewerbegebiete (持続可能な産業用地)
- Ökologische Stadt der Zukunft (未来のエコロジカルな都市)
- Ökoprofit (エコ・プロフィット) etc.

This slide shows the comprehensive environmental policy of NRW (Nordrhein-Westfalen). "Agenda 21 NRW" is an activity imparted by a state legislature initiative and participated in by not only state government but also residents and businesses. This can be looked at as equivalent to the long-term comprehensive plans of local governments in Japan.

One division in the state Ministry for the Environment is promoting "Agenda 21 NRW". This division develops activities between local governments over an international network and general undertakings for certain areas and cities.

They are promoting a sustainable industrial site project called "Nachhaltige Gewerbegebiete", which is similar in content to Japan's Eco-Town Program. They are also implementing activities for general environmental measures called "Ökologische Stadt der Zukunft".

**NRW州政府の循環政策(2)**  
3R Policy of the NRW state government(2)

Abfallwirtschaft (廃棄物経済)

- Siedlungs Abfallwirtschaft (住宅地の廃棄物経済)
- Pflanzenabfälle (植物性廃棄物)
- Getrennte Sammlung (分別収集)
- Gewerbeabfallverordnung (産業廃棄物規定)
- Entsorgungsalles (処理地図)
- ALOIS-Boden und Bauschuttbörsen (土地・建築瓦礫取引所)
- Verwertung mineralischer Abfälle (鉱物性廃棄物の活用)
- Klärschlammverwertung (汚泥の活用)
- Umsteigerhilfe für das Europäische Abfallverzeichnis (ヨーロッパの廃棄物目録への置き換え支援)

This slide gives some specific activities of the NRW Abfallwirtschaft. Municipal waste is handled in Siedlungs Abfallwirtschaft. Pflanzenabfälle takes care of plant waste. Metal resources come under Verwertung mineralischer Abfälle, and Klärschlammverwertung makes use of sludge.

**NRW州政府の循環政策(3)**  
3R Policy of the NRW state government(3)

- Data Base for Waste Disposal and Recovery Plants (廃棄物の処理・利用施設に関するデータベース)
- All plants (approx. 3,100) are covered.  
全施設(約3,100)がカバーされている。  
Who is disposing, Which volume of Which waste type, How disposed etc.  
→ Waste balance, Material flow  
誰が、どの様なタイプの廃棄物とどのくらいの量、いかに処分しているか等  
→ 廃棄物収支、物質フロー
- PIUS (Produktions-Integrierter Umweltschutz)  
ピウス(生産統合環境保護)  
Cleaner Production Consulting and Supports for SME  
中小企業向けクリーナープロダクションの相談・支援

This slide is about the operations performed by agencies of NRW. A database of waste treatment and usage facilities has been built and small to medium size businesses are provided with counseling and sup-



port for cleaner production in a program called PIUS.

**デュッセルドルフ市の循環政策  
3R Policy of Düsseldorf**

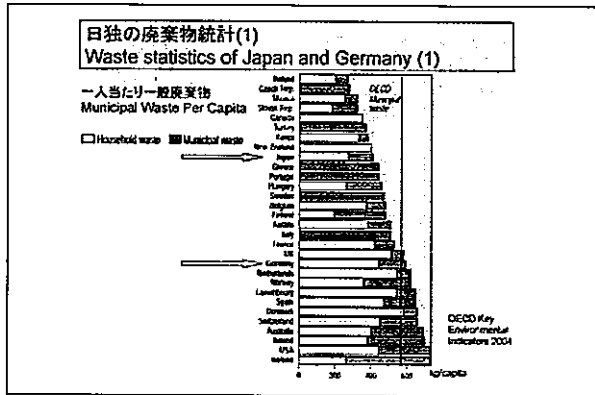
- Lokale Agenda (ローカル・アジェンダ)
- Kommunales Abfallwirtschaftskonzept (市の廃棄物経済コンセプト)
- Kommunales Abfallbilanz (市の廃棄物収支)
- Städtischen Abfallentsorgungssatzung / Abfallgebührensatzung (市の廃棄物処理条例 / 廃棄物手数料条例)
- Überwachung der ordnungsgemäßen Entsorgung von Abfällen aus Gewerbe, Industrie und Dienstleistungsbereichen, weitere Informationen für Betriebe (西工系・サービス業廃棄物に関する処理の規定遵守の監視、企業への情報提供)
- Überwachung der ordnungsgemäßen Entsorgung von Abfällen infolge von Bautätigkeiten (建設活動に伴う廃棄物の処理の規定遵守の監視)
- Vollzug spezieller abfallrechtlicher Regelungen zu den Themen Altfahrten, Klärschlamm, Bioabfall, Verpackungen (資源リサイクル、下水汚泥、バイオ廃棄物、包装に関する特別な廃棄物法の執行) etc.

This slide shows the 3R policy and operations of Dusseldorf. Dusseldorf has a Local Agenda 21. This Agenda focuses activities on processes; it does not end after plans have been drafted.

Processors of municipal waste must by law prepare a waste concept and waste balance. Moreover, Dusseldorf provides information on waste not only to residents but also businesses.

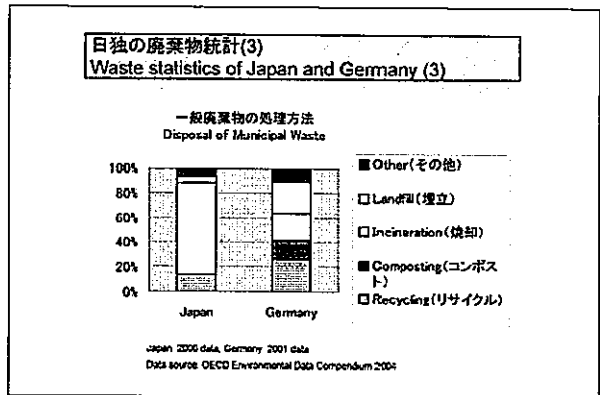
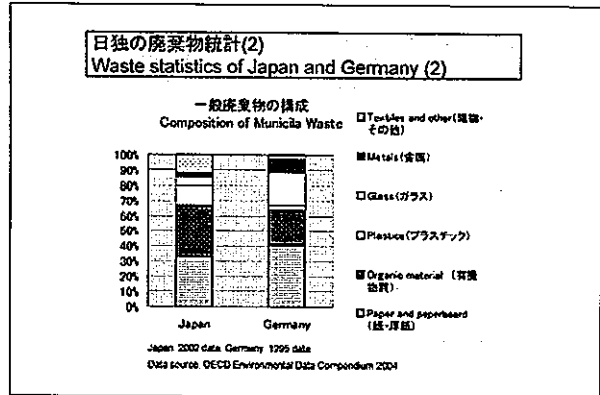
### 5 Japanese and German waste statistics

Lastly in my presentation, I would like to compare Japan and Germany by waste statistics.

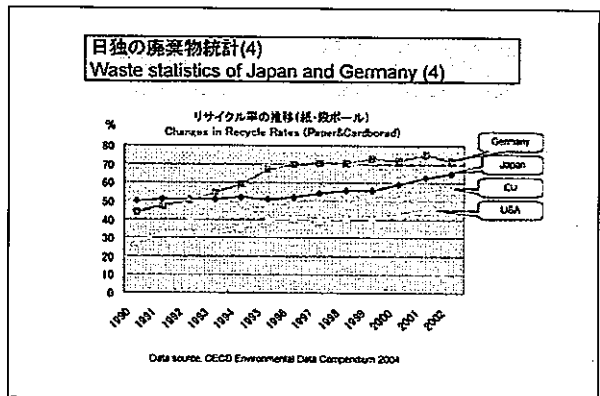


The numerical figures of this bar graph came from OECD and indicate the amount of waste per capita. The USA is one of the largest waste producing nations. Japan is still low, but Germany generates a comparatively high level of general waste.

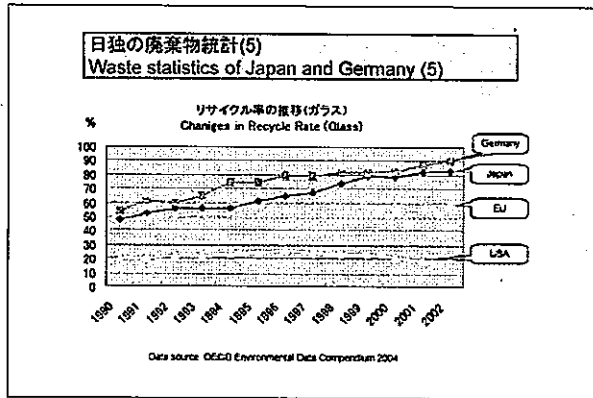
The next graph compares the composition of general waste. In Japan, plastics are abundant, whereas in Germany, glass is abundant.



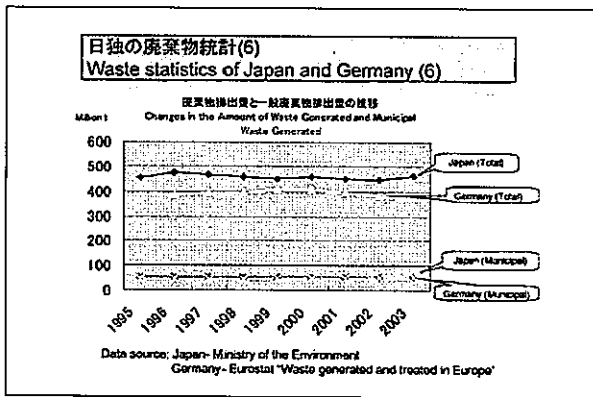
This graph shows the percentages of treatment methods of general waste. Japan uses a high level of incineration, whereas Germany turns to composting and landfill. Germany has decided to eliminate the use of landfill entirely by the year 2020.



This broken line graph compares the change in recycle rate of paper and cardboard amongst Germany, Japan, the EU and USA. Recycle rate is increasing across the board. Germany has the highest recycle rate, followed by Japan, then the EU and finally the USA.



This graph compares the change in recycle rate of glass amongst the same four countries and territories. As with paper and cardboard, Germany has the highest recycle rate, followed by Japan, the EU and the USA in that order.



This graph shows the change in industrial waste generation and general waste generation. Perhaps because Japan and Germany define it differently, I was unable to find statistical data for comparing industrial waste. Therefore, I compared the total amount of waste between industrial waste and municipal waste against the amount of waste in Germany, then came up with this graph. The difference between the total and municipal waste can be considered the industrial waste as Japan defines it.

Germany produces about 80 to 90% the total waste

of Japan. Considering Germany has about 60 to 70% of Japan's population and GDP, Germany generates more total waste than Japan, as was the case with general waste per capita. However, Germany may be producing more waste because they have a broader definition of waste.

As a conclusion, I would like to raise seven points on the 3R policies of Japan and Germany.

- まとめ (Conclusions)
- ・ 環境に関する政策の統合  
Policy integration on the environment
  - ・ 持続可能性戦略/アジェンダ21と長期総合計画  
Sustainability strategy/Agenda 21 and Long-term comprehensive plan
  - ・ 廃棄物経済という概念  
Concept of Abfallwirtschaft
  - ・ 廃棄物政策と資源・エネルギー政策の統合  
Integration of Waste policy and Resource/Energy policy
  - ・ 物質フロー分析の進展  
Development of Material Flow Analysis
  - ・ 地域産業の再生への取組み  
Approaches towards regeneration of regional industry
  - ・ 世界をリードする日独  
Japan and Germany are leading the world.

First all, Germany and Europe are pushing integrated environmental policy. When the environment is recognized as important, it is conceivably possible to develop integrated policy on the environment. Japan, however, does not seem to have gotten that far.

Next, perhaps because Japan has had long-term comprehensive plans for some time that concepts like a sustainability strategy or agenda 21 have not spread.

Germany looks at waste as an economic issue.

Germany devises 3R policies from a total perspective by looking not just at waste as the output but also resources and energy as inputs.

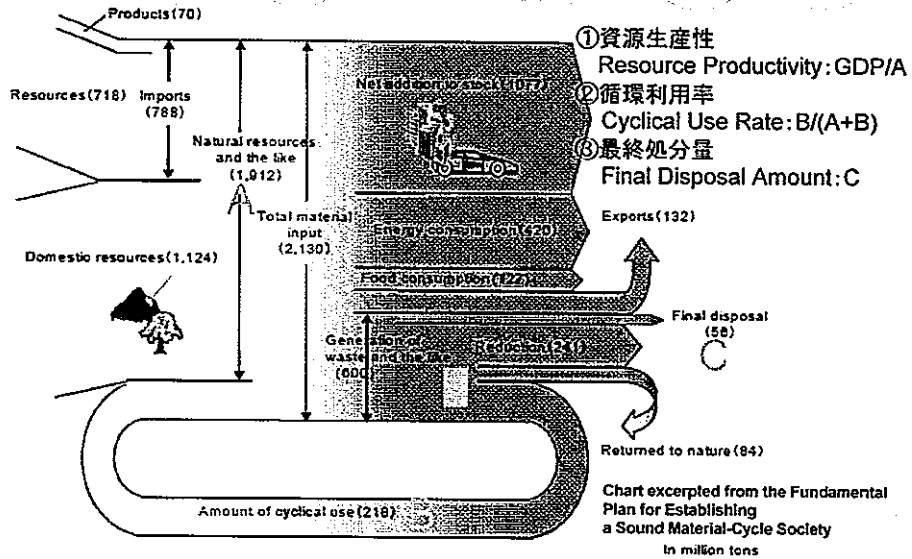
Both Japan and Germany are applying material flow analysis. Both Japan and Germany are working to revive local industry in each their own way.

Lastly, in terms of recycle rate, Japan and Germany lead the world. Cooperation between the two is very important.

### Reference sites

- Japanese Ministry of the Environment: <http://www.env.go.jp/>
- Environment Bureau of the Hyogo Prefectural Government:  
<http://www.pref.hyogo.jp/JPN/apr/>
- City of Himeji: <http://www.city.himeji.hyogo.jp/>
- Environment DG, European Commission:  
[http://europa.eu.int/comm/environment/index\\_en.htm](http://europa.eu.int/comm/environment/index_en.htm)
- German Federal Ministry for the Environment:  
<http://www.bmu.de/english/aktuell/4152.php>
- Ministry for the Environment, NRW: <http://www.munlv.nrw.de/index.html>
- Environment Agency, NRW: <http://www.lua.nrw.de/>
- Efficiency agency, NRW: <http://www.efanrw.de/>
- City of Dusseldorf: <http://www.duesseldorf.de/de/>
- Environment bureau, Dusseldorf:  
<http://www.duesseldorf.de/umweltamt/index.shtml>

日本国政府の循環政策 (3)  
3R Policies of the Japanese government (3)



日本国政府の循環政策 (5)  
3R Policies of the Japanese government (5)

エコタウン事業  
Eco-town program  
承認地域: 25  
Approved Area: 25  
(2005.9)

