Waste management companies in Europe

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1. Companies

1.1. Overview

The two largest companies in Europe are still Sita (the waste division of Suez) and Onyx (the waste division of Veolia). The next largest companies are now Remondis, formed by Rethmann’s takeover of RWE’s waste division, and FCC, which has become independent of Veolia. Sulo Group now claims to be the fifth largest, following its purchase of Cleanaway Germany.

Table 1. Major waste companies in Europe, January 2006

<table>
<thead>
<tr>
<th>Company</th>
<th>Parent and website</th>
<th>Home Country</th>
<th>Operates in countries</th>
<th>Employees</th>
<th>Sales €million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sita</td>
<td>Suez <a href="http://www.sitagroup.com">www.sitagroup.com</a></td>
<td>FR</td>
<td>Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Spain, Sweden, Switzerland, UK</td>
<td>45800</td>
<td>5500</td>
</tr>
<tr>
<td>Onyx</td>
<td>Veolia <a href="http://www.onyx-environnement.com/">www.onyx-environnement.com/</a></td>
<td>FR</td>
<td>Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK</td>
<td>71000</td>
<td>6200</td>
</tr>
<tr>
<td>Remondis</td>
<td>Remondis <a href="http://www.remondis.com">www.remondis.com</a></td>
<td>DE</td>
<td>Austria, Belgium, Czech Republic, France, Germany, Greece, Hungary, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Spain, Switzerland, Turkey, UK</td>
<td>17100</td>
<td>3300</td>
</tr>
<tr>
<td>FCC</td>
<td>FCC <a href="http://www.fcc.es">www.fcc.es</a></td>
<td>ES</td>
<td>France, Portugal, Spain, UK</td>
<td>55000</td>
<td>2090</td>
</tr>
<tr>
<td>Sulo/Altvater</td>
<td>Sulo <a href="http://www.altvater-umweltservice.de">www.altvater-umweltservice.de</a></td>
<td>DE</td>
<td>Austria, Estonia, Czech Republic, Germany, Poland, Switzerland, Poland, Ukraine</td>
<td>8000</td>
<td>1200</td>
</tr>
<tr>
<td>Cleanaway</td>
<td>Brambles <a href="http://www.cleanaway.com">www.cleanaway.com</a></td>
<td>AU</td>
<td>Australia (Cleanaway Germany sold to Sulo Group)</td>
<td>9973</td>
<td>&gt;1300</td>
</tr>
<tr>
<td>Biffa</td>
<td>Severn Trent <a href="http://www.biffa.co.uk/">www.biffa.co.uk/</a></td>
<td>UK</td>
<td>Belgium, UK</td>
<td>5441</td>
<td>&gt;1050</td>
</tr>
<tr>
<td>Alba</td>
<td>Alba <a href="http://www.alba-online.de">www.alba-online.de</a></td>
<td>DE</td>
<td>Bosnia, Germany, Poland</td>
<td>5000</td>
<td>&gt;700</td>
</tr>
<tr>
<td>Cespa</td>
<td>Ferrovial <a href="http://www.cespa.es">http://www.cespa.es</a></td>
<td>ES</td>
<td>Portugal, Spain</td>
<td>33000</td>
<td>&gt;685</td>
</tr>
<tr>
<td>Van Gansewinkel</td>
<td>ING/De Graekt <a href="http://www.vangansewinkel.com/">www.vangansewinkel.com/</a></td>
<td>NL</td>
<td>Belgium, Czech Republic, France, Poland, Portugal</td>
<td>3500</td>
<td>&gt;500</td>
</tr>
<tr>
<td>CNIM</td>
<td>CNIM <a href="http://www.cnim.com">www.cnim.com</a></td>
<td>FR</td>
<td>Czech Republic, France, Italy, UK</td>
<td>2764</td>
<td>554</td>
</tr>
<tr>
<td>Befesa</td>
<td>Abengoa <a href="http://www.befesa.es/">http://www.befesa.es/</a></td>
<td>ES</td>
<td>Portugal, Russia, Spain, UK, Ukraine</td>
<td>1316</td>
<td>359</td>
</tr>
</tbody>
</table>
1.2. Changes in ownership
There have been significant changes in the ownership of 5 waste companies which are internationally active.
One is a consolidation of the two largest German companies, as Remondis; two are cases of Spanish companies taking control of Spanish waste operators from Suez and Veolia; the fourth is a change from public to private ownership of the largest stake in Van Gansewinkel.

1.2.1. Remondis (Rethmann)
Remondis was formed in January 2005 when Rethmann AG took over the waste management business of RWE. Remondis is a large privately-owned German waste management and logistics multinational. It operates in Austria, Belgium, Czech Republic, France, Germany, Hungary, Netherlands, Poland, Slovakia, Switzerland, UK., and also in China, Japan, Taiwan and Australia. It claims to be the market leader in Poland in waste management. It has some operations in water with a number of PPPs in Germany.

In 2004 it agreed to take over 70% of the business of RWE Umwelt, the waste management subsidiary of RWE. Remondis thus becomes the third largest waste management multinational in Europe, after Veolia-Onyx and Suez-Sita.

For antitrust reasons, parts of RWE Umwelt making up 30% of the turnover in the environment division and 50% of the collection market, will be remaining initially with RWE. This means that initially 50% of RWE...
Umwelt's domestic waste contracts remain with RWE, but RWE aims to sell these within the next three years. On 9 June 2005 the FT reported that RWE was close to selling this remainder: bidders included Sulo, Cleanaway, and a consortium of German public utilities.

The consolidated company workforce following the merger was 22,000 employees with sales of €2.5 billion. Rethmann stated that most jobs would not be affected by the merger, partly because RWE Umwelt had already undergone highly intensive restructuring. In January 2006 Remondis reported that its total sales for 2005 were €3300m., and total employees 17100

1.2.2. **FCC (Fomento de Construcciones y Contrata SA)**
FCC is a Spanish company, quoted on the stock exchange. It had been indirectly controlled by Veolia through a holding company, but in July 2004 Veolia announced an agreement to sell its 49% stake in the company that controls to a group controlled by the Spanish construction group's chairwoman, Esther Koplowitz, for €916 million ($1.1 billion). This deal ended an attempt by rival Spanish builder Acciona SA to take over FCC, a move opposed by Koplowitz, the billionaire daughter of FCC's founder. Acciona still holds 15% of FCC's shares in the past year. FCC is deliberately expanding into services, including water and waste, which contributed 37% of its income in 2004 compared with 30% the year before: €1088m. came from waste and grounds maintenance.

This sale reduces Veolia’s market share in Europe, though it continues as a 50-50 partner in Proactiva, its international joint venture with FCC, which has contracts in Latin America.

1.2.3. **CESPA (now owned by Ferrovial)**
CESPA was formerly jointly owned by Suez and Aguas de Barcelona, itself controlled by Suez through a holding company. In 2003 it was sold to Ferrovial, a large Spanish construction company. Ferrovial has decided to expand into public services, and has also acquired Amey, one of the main facility management and infrastructure companies in the UK. CESPA’s sales in 2004 were €701m.

1.2.4. **Van Gansewinkel**
The Dutch municipal utility Essent formerly held 45% of the shares of Van Gansewinkel, which is active in Netherlands, Belgium, France, Portugal, Czech republic and Poland. In January 2005 this stake was bought by the Dutch financial group ING and venture capital firm De Raekt, for an undisclosed sum. De Raekt was acting for the private owner, Van Gansewinkel, who now owns 80% of the company directly and indirectly.

1.2.5. **Cleanaway Germany**
In October 2005 Cleanaway Germany was bought by the Sulo Group. The purchase also covers Cleanaway’s activities in Austria, Switzerland, Sweden and the Baltic States. The Sulo Group already owns a waste operation, Altvater. Sulo claim that “The new company will become Germany’s second largest waste management company and the fifth biggest in Europe with an annual turnover of approx EUR 1.2 billion and well over 8,000 employees”.

1.2.6. **AVR**
In December 2005 a consortium of private finance investors CVC Capital Partners (CVC), Kohlberg Kravis Roberts & Co. (KKR) and Oranje-Nassau Groep B.V. (ONG) agreed to buy all the shares in AVR from the municipality of Rotterdam. The sale is expected to be completed in March 2006. CVC stated that they intended to pursue a policy of active growth both through new contracts and through takeovers, especially in Benelux and neighbouring countries, including waste-to-energy, environmental services, and industrial services.

1.3. **Profits squeeze**
The parent groups of both Cleanaway and Onyx have stated that their proitability is too low and needs to be increased. Attempts to raise the rate of return may impact on employees or standards of work.
1.3.1. Cleanaway

In October 2005 Cleanaway Germany was sold to the Sulo Group. The rest of Cleanaway remains a subsidiary of the Australian group Brambles, but Brambles is reported to be considering selling Cleanaway which “delivered an unacceptable return on capital invested of 10.4 pct, in the first half ended December. This was well below its 15 pct target.”.

Cleanaway has experienced a profits squeeze in Germany as a result of tendering of recycling contracts; its London office is being closed, with the loss of 20 jobs, and responsibilities transferred to the Brussels office; Cleanaway has experienced a number of problems in UK contracts recently; sacked 4 of its senior managers in Lithuania in March 2005; sold its 50% of the PPP operation in Keila (Estonia) to Ragn-Sells in December 2004; and has been accused of ‘book-keeping manipulation’ and over-charging for its waste-handling services (through a PPP) in Tallinn (Estonia).

1.3.2. Veolia-Onyx

A Veolia presentation focussed on its profit objectives, defined as rate of return on capital employed (ROCE). It identified four groups of its business: France, which it describes as ‘mature’, with a ROCE of 11%; CEE, UK, and Asia, with a ROCE of 7% and rising; continental Europe (excluding CEE), with a ROCE around 5%; and USA, with an undefined but problematically low ROCE. In terms of services, it states that waste had a ROCE of 6.1% in 2002, but it wishes to increase this – like other sections – to over 10% by 2009.

Chart A. Veolia: profit targets

<table>
<thead>
<tr>
<th>Service</th>
<th>2002 CE (€m)</th>
<th>2002 ROCE</th>
<th>2009 forecast ROCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>11 838</td>
<td>5.7%</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>5 043</td>
<td>6.1%</td>
<td>&gt;10%</td>
</tr>
<tr>
<td>Energy Services</td>
<td>2 516</td>
<td>7.3%</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>1 257</td>
<td>7.3%</td>
<td></td>
</tr>
<tr>
<td>FCC</td>
<td>1 734</td>
<td>12.0%</td>
<td></td>
</tr>
</tbody>
</table>

1.4. Public/private shares

The private contractors’ combined share of the market varies across Europe. The public sector remains dominant in waste collection in most countries, but in many countries treatment is now largely privatised.
2. Sectoral issues

2.1. Pay and outsourcing

Sita has been involved in a dispute over pay in Sita Ost, which was the subject of condemnation by the European works council of Suez, which urged management to find a solution: “Enlargement can be no excuse for lowering pay and conditions and violating collective agreements” (September 2004).

However, under pressures of competitive tendering, the Ost workforce agreed to negotiate pay rates below the national agreement, in order to save jobs. There is a concerted attempt to reduce wages in Germany, but the unions are hoping to defend the national agreement; Germany has also lost 10000 jobs since 2000 because of cost-cutting. Other countries are also experiencing downward pressures on wages and jobs because of tendering, and smaller companies are.

The companies also complain of the pressures of competition. Rethmann (now Remondis) complains bitterly of the way that profits have been squeezed as a result of competitive tendering of waste disposal contracts by the German packaging recycler Duales System Deutschland AG (DSD). Rethmann’s complaints echo other criticisms of compulsory tendering: threat of closures, loss of quality. Municipal companies in particular and the major companies, including Remondis, have had to accept considerable losses. (Rethmann Aktuell 3-2004).

In the UK many of the current round of contracts will involve private finance initiatives (PFIs). Some require the purchase of a local authority waste disposal company, as in Cumbria, others entail construction of treatment plants or incinerators, as in Bedfordshire and Cornwall. Already there are examples of companies pulling out of shortlists to concentrate on more commercially attractive contracts.

2.2. Procurement directives and competition: inhouse and PPPs

Recent rulings by the ECJ on procurement have serious implications for waste management companies which are joint ventures between municipalities and private companies. The Halle judgment ruled that even if the private company only has a tiny shareholding, the entity cannot be treated as an ‘in-house’ deal and must therefore be put out to tenders following EU public procurement procedures. This ruling means that no joint venture PPP can be treated as an inhouse operation, contrary to existing practice in many cases.
The case concerned the German city of Halle's move to give a waste management contract to RPL Lochau, a firm in which it held a majority shareholding. Stadt Halle asked RPL Lochau to draw up a plan to build a thermal waste disposal and recovery plant without a call for tender and decided to negotiate a waste management contract with it, again without a call for tender. A rival firm interested in the contract, TREA Leuna, challenged the move.

Other waste management PPPs in Germany have been subjected to legal challenge on the same grounds. The city of Koblenz had created a corporatised company but has now contracted the work to Cleanaway instead. Germany is being prosecuted over failure to cancel the illegal award of contracts for waste water collection in Bockhorn and for waste disposal in Braunschweig, both in Lower Saxony. The EC is also pursuing a case against the the award by the city of Cologne in May 1992 of a 33-year waste disposal contract to the Abfallentsorgungs-und Verwertungsgesellschaft Köln mbH (AVG), an entity 25% owned by a private company. Germany argued that the contract awarded to AVG was exempt from Community rules as the city of Cologne, with a 75 % share in the AVG, exercised a level of control over the AVG which constituted an ‘in-house' relationship. However, the Commission believes that the conditions required under the European Court's case-law for an exemption from European procurement rules were not met, as the control over the AVG is not similar to that which the city of Cologne exercises over its own departments. In Wroclaw, Poland, the city replaced its municipal service with a number of private contractors.

Rethmann (now Remondis) has also stated that it expects European legislation to liberalise the sector: “I am sure that the Europe-wide liberalisation shall also reach the disposal of municipal waste........the directive should also contain a general definition of the term “recycling”. The different member states, however, are of different opinions as to how the term should be defined. Despite this, the Parliament and the commissions, supported by committees of experts from different interest groups, are trying to find a mutual solution.”

2.3. Packaging

Bulgaria has licensed four non-profit cooperatives to collect and recycle plastic, glass, metal and paper packaging in Bulgaria. (February 2005)Under the new EU directive, which took effect in February, traders and producers of packaged goods need to collect, transport and recycle packaging. Companies in Bulgaria can organise the collection, transportation and recycling of used packaging individually or via a licensed co-operative.

2.4. Impact on energy

European Directives are currently having a significant impact on both the UK electricity and waste management markets. The UK's Institution of Civil Engineers (ICE) and the Renewable Power Association (RPA) issued a joint report showing the huge potential for greater generation of energy from waste. The report, Quantification of the Potential Energy from Residuals in the UK, concludes that there is the opportunity for certain types of waste to produce up to 17 per cent of electricity generated in the UK by 2020. Almost 30 million tonnes of household rubbish was sent to landfill in England alone in 2003. The report states that more than half of this rubbish could be used to create enough power to light 2 million homes each year. A large majority of this waste is recognised in EU law as a source of renewable energy.

2.5. Problems with waste management in new member states

A recent report for the LOGON project (http://www.ceec-logon.net/reports/studies2004.htm - led by the Austrian local authorities association) identified problems in new member states, summarised as follows:

1. GOVERNANCE problems – The most striking problem is the failure to communicate. Local authorities rarely communicate with each other, have poor internal co-ordination between municipal departments, and have insufficient systems of consultation with local stakeholder groups. These problems, if left unchecked, will seriously undermine the efforts to implement and enforce environmental legislation.
2. **FINANCIAL** problems – Efficient waste management comes at a cost and this cost is presently too large for most municipalities in the CEEC. The provisions contained within waste legislation (especially those relating to taxes and charges) do not adequately cover the cost of providing quality waste management. Moreover, despite the influx of foreign aid and investment, most notably from the European Union, the bulk of this money remains tied up at the central level. The result is that too little money filters down to the local level where it is needed most.

3. **CAPACITY** problems – There is a significant lack of resources at both the central and the local levels. This translates into a lack of people to ensure compliance and enforcement, a lack of expertise, and most crucially a lack of good practice exchange. Greater efforts need to be made to build capacity by strengthening networks of support throughout the CEEC.

### 2.6. **Infringements and arrears**

Both Spain and Ireland have been found guilty of breaching the waste management framework directive 75/442/EEC amended by directive 91/156/EEC) by allowing illegal dumping. Greece has received a further notice over failure to clean up illegal dumping on Crete. In 2001 the court imposed a fine of EUR 20,000 a day on Greece concerning the same landfill site. By the time Greece complied with the ruling 2 1/2 years later, it had paid more than EUR 18 million in fines. (European Report April 13,16, 2005)

Britain has been caught attempting the illegal export of contaminated household waste to Chine. Dutch officials who intercepted the cargo at Rotterdam say that waste companies across Europe are colluding to avoid paying escalating landfill and recycling charges. (Guardian 7/4/2005)

Britain is also 4 years in arrears in implementing the Landfill Waste Directive. It has now introduced an allowance trading scheme to implement it. EU member states' performance in terms of compliance with the Union's environmental legislation: Spain appeared near to the bottom of the list, with 25 infractions, or cases in which EU directives have not been applied, or have been applied only partially or incorrectly. The worst-performing country was France, with 38 infractions.

#### 2.6.1. **Corruption**

Sita has been accused of corruption in Belgium in relation to a contract some years earlier. There have also been corruption scandals in Germany and Portugal related to privatisation of waste contracts.

### 3. **Employment**

Recent discussion of employment in the sector has focussed on new member states. Three presentations at a conference in Praha in 2004 addressed the question.

- a presentation from the EC on the socio-economic effects for new member states mentioned “Support for employment in eco-industries (several 100,000s of jobs in waste management)” (presentation by Otto Linher European Commission DG Environment Production, Consumption and Waste DGENV A.2 02/04/04 on Enlargement and EU waste policy: Benefits of compliance with Chapter 22 of the Acquis)

- a presentation by researchers from the EC joint research centre concerning prospects for the sector gives more precise estimates (Evolution of waste generation and management in EU Accession Countries Zheng Luo, Peter Eder Institute for Prospective Technological Studies (IPTS) Seville, Spain http://ipts.jrc.cec.eu.int and http://www.jrc.cec.eu.int ). It gives an « Estimation of direct employment: 50,000 to 80,000 jobs, appro. 70% in mixed collection and 16% in landfill. Low in recycling and separate collection (comparing to EU15).” It also presents the following slide, showing two forecasts, both for big growth in employment in the waste sector between 2000 and 2020.
Table 2. JRC forecast for jobs in waste recycling in new member states

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of jobs in 2000</th>
<th>Number of jobs in 2020 BAU</th>
<th>Number of jobs in 2020 ET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
<td>Minimum</td>
</tr>
<tr>
<td>Mixed collection</td>
<td>36,276</td>
<td>58,042</td>
<td>27,720</td>
</tr>
<tr>
<td>Separate collection-glass</td>
<td>432</td>
<td>605</td>
<td>2,450</td>
</tr>
<tr>
<td>Separate collection-paper</td>
<td>99</td>
<td>148</td>
<td>983</td>
</tr>
<tr>
<td>Separate collection-organic</td>
<td>2,676</td>
<td>2,676</td>
<td>24,166</td>
</tr>
<tr>
<td>Compost plants</td>
<td>284</td>
<td>284</td>
<td>2,560</td>
</tr>
<tr>
<td>Recycling</td>
<td>3,085</td>
<td>3,702</td>
<td>30,725</td>
</tr>
<tr>
<td>Landfill</td>
<td>8,380</td>
<td>11,732</td>
<td>6,960</td>
</tr>
<tr>
<td>Incineration</td>
<td>328</td>
<td>656</td>
<td>1,118</td>
</tr>
<tr>
<td>Total</td>
<td>51,560</td>
<td>77,844</td>
<td>96,661</td>
</tr>
</tbody>
</table>

A presentation by a researcher at Wroclaw included a projection for employment creation in Poland which appears to forecast an extra 1500 jobs by 2015. (Polish strategy for municipal waste management and the European situation Ryszard Szpadt, Wroclaw University of Technology  Integrated Waste Management & Life Cycle Assessment Workshop Praha, 2004)
Annexe 1. Further graphical information on structure and development of sector

Chart B.
Municipal waste - current situation

Waste composition

AC-12, 2000
100%=360kg/capita

Organic 33%
Paper/cardboard 18%
Plastics 11%
Glass 7%
Metals 4%
Others 28%
Hazardous 1%

Waste composition – AC12 details

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Hazardous</td>
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<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Metals</td>
<td>9</td>
<td>18</td>
<td>27</td>
<td>12</td>
<td>18</td>
<td>9</td>
<td>6</td>
<td>21</td>
<td>19</td>
<td>18</td>
<td>9</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Glass</td>
<td>21</td>
<td>8</td>
<td>49</td>
<td>9</td>
<td>25</td>
<td>24</td>
<td>23</td>
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<td>26</td>
<td>22</td>
<td>25</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Paper/cardboard</td>
<td>35</td>
<td>394</td>
<td>80</td>
<td>87</td>
<td>76</td>
<td>76</td>
<td>92</td>
<td>71</td>
<td>52</td>
<td>35</td>
<td>41</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>109</td>
<td>269</td>
<td>122</td>
<td>149</td>
<td>175</td>
<td>150</td>
<td>126</td>
<td>260</td>
<td>77</td>
<td>193</td>
<td>124</td>
<td>117</td>
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</tr>
</tbody>
</table>
Chart C. Predicted impacts of changes in legislation

### Table - Main changes expected in MSW management

<table>
<thead>
<tr>
<th>Waste Flow</th>
<th>Landfill</th>
<th>Incineration with energy recovery</th>
<th>Incineration without energy recovery</th>
<th>Composting</th>
<th>Recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>Growing production and GDP, and new consumption patterns will probably cause higher waste flows Pre-accession and community funds available for landfill construction</td>
<td>Stimulated by renewables policy, Waste Incineration directive, landfill directive however there is competition for material flows with recycling and composting</td>
<td>Incineration with energy recovery will be preferred Some of the existing plants are to be shut down because it's not economically worth to upgrade for compliance)</td>
<td>Biodegradables banned from the landfills will increase the need for composting</td>
<td>Packaging Directive will stimulate recycling. New targets are not yet decided.</td>
</tr>
<tr>
<td>Organic</td>
<td>Decrease of biodegradables by 75% (2004), 50% (2007), 35% (2014) of the base year according to the Landfill Directive, Deadlines are different for Enlargement Countries</td>
<td>Competition for waste stream with composting</td>
<td>Biodegradables banned from the landfills will increase the need for composting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper/cardboard</td>
<td>Achieved recycling targets will decrease the waste amounts going to landfill</td>
<td>Competition for waste stream with recycling</td>
<td>Competition for waste stream with recycling!!!</td>
<td></td>
<td>Packaging Directive will stimulate recycling. New targets are not yet decided.</td>
</tr>
<tr>
<td>Glass</td>
<td>Achieved recycling targets will decrease the waste amounts going to landfill</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td></td>
<td>Packaging Directive will stimulate recycling. New targets are not yet decided.</td>
</tr>
<tr>
<td>Metals</td>
<td>Achieved recycling targets will decrease the waste amounts going to landfill</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td></td>
<td>Packaging Directive will stimulate recycling. New targets are not yet decided.</td>
</tr>
<tr>
<td>Plastics</td>
<td>Achieved recycling targets will decrease the waste amounts going to landfill</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td>Achieved recycling targets will decrease the waste amounts going to incineration</td>
<td></td>
<td>Packaging Directive will stimulate recycling. New targets are not yet decided.</td>
</tr>
<tr>
<td>Hazardous</td>
<td>Many of the hazardous wastes are banned by Landfill Directive</td>
<td>Banned in MSW incinerators</td>
<td>Banned in MSW incinerators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Ban on tires, etc. Decreasing amount of household combustion ash due to programmes switching rural settlements heating to gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chart D. Integrated business: from Veolia Environnement

The treatment of waste: An integrated value chain

Collection and services | Disposal and treatment
---|---
MUNICIPAL
- Local service
  - STREET CLEANING
  - SEWAGE CLEANING
- Selective
  - Municipal Recycling Facility
- Recycled material
- Traditional

INDUSTRIAL
- On the site
  - INDUSTRIAL CLEANING
  - SORTING
  - TREATMENT
- Non recyclable
  - Recycled material

HAZARDOUS WASTE
- Conditioning
  - Recycling Platform
- Recycled product

SOLID WASTE
- Landfill
- Energy
- Agricultural fertilizer
- Waste to energy
- Metal recovery

Annexe 2. Summary of EU Waste Legislation


GENERAL FRAMEWORK

- The landfill of waste
- Framework Directive on waste disposal
- Strategy on the prevention and recycling of waste
- Implementation of legislation on waste
- Waste management statistics
- Competitiveness of the recycling industries
- Supervision and control of transfrontier shipments of waste
- Integrated pollution prevention and control: IPPC Directive


SPECIFIC WASTE

- Packaging and packaging waste
- Management of waste from the extractive industries
- Disposal of PCBs and PCTs
- Disposal of spent batteries and accumulators
- Disposal of waste oil
- End-of-life vehicles
- Removal and disposal of disused offshore oil and gas installations
- Use of sewage sludge in agriculture
- Environmental problems of PVC
- Waste electrical and electronic equipment
- Titanium dioxide
  - Disposal
  - Surveillance and monitoring
  - Programmes for the reduction of pollution

INCINERATION OF WASTE

- Waste incineration
- Incineration of dangerous waste
- Incineration plants
- New incineration plants

HAZARDOUS WASTE

- Controlled management of hazardous waste
- Basel Convention on the control of transboundary movements of hazardous waste

RADIOACTIVE WASTE AND SUBSTANCES

- Transfer of radioactive waste: supervision and control
- Shipments of radioactive substances
- Situation in 1999 and prospects for radioactive waste management
- Management of spent nuclear fuel and radioactive waste