

Minutes of the

10th Assises des Déchets

21st and 22nd October 2009



Assises des déchets



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Preface



Mr Jean-Louis Borloo

*Minister of State,
Minister for Ecology, Energy,
Sustainable development and Sea*

The *Assises des Déchets* have been, for ten years now, a compelling event for all waste sector players: State agencies, elected representatives, businesses, association officials, ... This National Waste Conference is an opportunity, every year, to take stock of the actions that were initiated and to propose new lines of work.

Concrete actions were particularly numerous in 2009: promulgation of the Grenelle I law whose Article 46 defines a new road map for coming years, doubling of the ADEME budget, launching of an ambitious communication campaign, reformation of the General Tax on Polluting Activities (TGAP), creation of the new National Waste Council on the 9th of September 2009, where local elected officials, trade unions and associations are now largely represented... I also had the opportunity to present, with Chantal Jouanno, on the 14th of October 2009, in a Council of Ministers, a communication on the implementation of the governmental waste action plan, whose main priorities are prevention, the creation of more incentive pricing and green labelling. Moreover, the recycling channel is now part of the 18 green channels identified by the government. It shows the headway made by all players to reach the target set in the Grenelle Environment Conference, namely a reduction of our waste production by 5 kg per year and per inhabitant over 5 years.

All the more so since the draft law of national commitment for the environment or the so-called "Grenelle II" law is going to enable us to reach another milestone by providing for many tools to the benefit of the various players: creation of three new enlarged producer responsibility channels, drawing up a diagnosis in relation to waste management before the demolition of any building, limitation, in each territory, of waste disposal and landfilling... In short, thanks to everybody's involvement, everything is now in place to durably reverse the trend.

My last word will be to thank all those who struggle daily to help us carry out the shift from a "society of carelessness and abuses" to a "socially and environmentally responsible society".

Jean-Louis BORLOO

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Speeches of personalities



Speech by...



Mr Yves Metaireau

chairman of CAP Atlantique,
Mayor of La Baule

*Mr Secretary general,
Mrs and Messrs Elected representatives,
Ladies and gentlemen,*

This year again, the Regional Directorate for Industry, Research and the Environment (DRIRE) entrusted us with the organisation of these *Assises* on waste, for their 10th edition.

I would like to heartedly thank organisers, particularly Mr Hubert FERRY-WILCZEK, and welcome all participants to this conference, a milestone event in the busy schedules of elected representatives, professionals, industrialists and heads of Equipment and Environment services, this issue having been very much integrated to our behaviours and lying at the heart of our environmental concerns. Several targets were debated during the Grenelle Environment Conference. Among others, our country wishes to reduce its waste volumes by 7% within 5 years and to reach a household waste recycling rate of 35 to 45% by 2015.

Fossil energies will probably soon come to depletion. The world population will rise to 9 billion inhabitants in 2050. The demand for energy, especially in countries like China, India or Brazil, will double by that date. As a consequence, we more than ever need to address the issues of separate collection, recycling and waste energy recovery – in our developed countries certainly even more than in other countries. Emerging countries have become aware of their misery and can no longer tolerate that 20% of the world population monopolise 80% of current energies.

Yet while it is impossible to generalise our consumption model, one cannot prevent others from trying to achieve such a model it and from making their own growth a priority.

And if we have become virtually unable to lead the world momentum or exert any influence, we can at least show the example.

Successful state policies imply being taken over by local elected officials and, most importantly, bringing about a change in citizens' behaviours. In this regard, I would like to very briefly present our action in CAP Atlantique, the Urban Community that gathers 15 municipalities spreading over the Loire and Vilaine departments.

- a) We first launched an ambitious communication campaign with our diffusion means, via “sorting ambassadors”, the mass media, but also and, most importantly, via our collection teams. In seasonal residential groups, we raised caretakers’ awareness.
- b) We put in place carefully selected structures on our territory: 9 waste sorting units, 6 green waste platforms, 800 voluntary input containers for glass, newspapers, magazines and light packages. Domestic refuse containers and plastic bags for light packages as well as 12,500 individual composting units were distributed for free.
- c) We set up five separate collection centres for W3E (580 t in 2008 i.e. 8.3 kg per capita) and the DASRI (waste of activities of care with infectious risk) for about 1,700 boxes collected.
- d) As for domestic refuse, we are resolutely oriented towards treating our 30,000 tons, i.e. about 80%, by means of “energy recovery”, a costlier method but harmless for our soils and our water tables, which particularly matters in the La Baule countryside, i.e. the Guérande peninsula territory of mingled water and earth permeated by the Brière wetlands, salt marshes and shore waters.

“...all these actions have a sense: that to preserve the environment...”

The purpose of all these actions is to preserve the environment and their financial outcome is to check the increase in the collection tax, which soared on many local administrative territories that had not prepared for these new requirements. Tomorrow, incentive pricing, after integrating part of weight or volume based fees into the calculation of the Charge for Removal of Household Waste (TEOM), will strongly incite users to take out only full containers and to sort waste instead of composting it.

This should help local territories save or at least stabilise transfer and treatment costs that will certainly keep increasing, on the grounds that I was putting forward earlier in relation with energy costs.

Madams, Sirs, I wanted to share with you the field experience of an average-sized local community. You heard the changes in behaviours that elected representatives’ willingness coupled with offensive communication actions can bring about, even in our country and our touristic resorts where, by definition, people on holidays are less concerned and ready to accept constraints than they are in their principal residence and daily life.

It is also thanks to a national conference for reflection and exchanges like the *Assises* that we will learn, understand and progress.

Speech by...



Mr Jean-Pierre Le Scornet

Vice-chairman of the Regional Council
for the Pays de la Loire

*Mr. Mayor of La Baule,
M. Regional Director (for Industry, Research and Environment)
Madams and Sirs,
Dear friends,*

I am excited to participate to these *Assises des Déchets* organised for the 10th consecutive time in our region, here in La Baule.

These *Assises* are a compelling event for all players of the world of waste, for local territories' elected officials, associations, industrialists, waste producers and eliminators and for State representatives.

We are particularly happy about the Region being an historic partner of the *Assises* since their first edition, thus it is natural that our Regional Assembly continues to participate to debates in La Baule.

This is for at least two reasons this year:

- First, because we are to finalise our Regional Hazardous Waste Plan (PREDD) in 2009 and because we have learnt very valuable lessons from this experience that we would like to share with you.

What did this PREDD bring about?

On the one hand, it enabled us drawing up a diagnosis on the regional situation that showed that we availed of a satisfying number of treatment facilities but were not enough knowledgeable of waste stocks per category and territory. It also led us to question some flows such as those of waste from activities of care.

A lesson learnt is that no planning tool like the PREDD can be applied in the field without a consensus among stakeholders.

- Another valuable reason for being here is that we need anticipate future tendencies. In this regard, the waste issue is emblematic. Like a number of other issues, we can no longer content ourselves with short-sighted management and act as if nothing had changed.

On the contrary, we have to produce less waste, which implies deep changes in our habits and behaviours as well as in our production and consumption modes.

Waste has become a challenge for our modern societies:

- yearly production of household refuse doubled between 1960 and 2000;
- the cost of their management has reached 11 billion Euros;
- we are now aware of the impact of waste treatment on health and the environment.

Besides, our waste represents a significant challenge in a context marked by the pressure on energy and raw material resources and by the fight against global warming.

Furthermore, the issue of the impact of treatment facilities on the environment and health is often raised. Permanent improvement and transparency must be sought.

In this context, I have the feeling that players are faced with a serious lack of information about impacts on the environment and health, about costs and the performance of the different processes. At the same time, they have to make complex choices – our elected representatives in particular! – about the way to treat waste.

I mean by all this that the waste issue lies at the heart of challenges and contradictions of our societies... „

Contrarily to supposedly responsible discourses, we actually tend to consume always more!

It is thus advisable to develop proactive policies primarily focused on reducing waste production, strengthening recycling channels, developing eco-design.

I would like to say a few more words about the eco-industrial channel based on waste management or treatment. I am very glad that a significant number of businesses from the Loire department are among leaders on this market. They heavily invest in research into new production and treatment methods that will ultimately make it possible to reconcile individual behaviours with collective necessity.

The Region also wishes to encourage and develop its offering in terms of public policies based on this approach, within the framework of:

- our environmental policies,
- our economic action policies,
- professional training sessions,
- technological research & development,
- territorial policies.

To conclude, let me share with you targets that were set by the PREDD of the Pays de la Loire for 2020:

- reduce the production of hazardous waste (HW) by 4%;
- reach 80% of reclamation of HW produced in the Region;
- reach 80% of treatment of HW volumes in the recovery channel;
- develop an alternative to road transport for at least 3% of HW volumes treated in the Region.

As a complement to these targets, we are going to integrate to our next budget a number of new measures in line with our competencies in the field of HW.

They will include:

- supporting investments for the acquisition of HW collection tools;
- strengthening our support to punctual and targeted collective collection operations;
- promoting eco-design;
- organising training sessions on HW.

I thank you for your attention and wish you nice *Assises*!

Speech by...



Mr Hubert Ferry-Wilczek

Secretary General, Assises Nationales
des Déchets association
Director, DREAL Pays de la Loire

*Mr. President,
Madams and Sirs Elected Representatives,
Madams, Sirs,*

Jean DAUBIGNY, the Prefect of the Region of Pays de la Loire, asked me to convey his apologies for not being able to join you today, and to represent him at the opening of these tenth *Assises des Déchets*.

Background of the 10th Assises

Today is the tenth edition of this event that, every two years, brings together waste management players here in La Baule. After the last edition, the question of the perpetuation of such an event was raised: had everything not already been said? We have made such a headway since September 2007!

At that time, the Grenelle Environment Conference was ongoing. It ended in October 2007. Since then, the transposition of its commitments into French legislation and into actions has largely mobilised the State and its partners. Waste and sustainable consumption have been major topics in this work.

Chantal JOUANNO, who will honour us of her visit tomorrow for the closing session of the *Assises*, has recently presented the 2009-2012 national waste management policy. Its targets echo the Grenelle I and draft Grenelle II laws, and are backed by other measures – taxation measures in particular.

In a few words, the targets of the plan are as follows:

- make France one of the pillars of the European society of prevention and recycling, the two key notions of these *Assises*,
- get integrated into the EU framework to anticipate it; since 2007 the *Assises* have been the symbol of this opening and working together thrust in Europe,
- suit the means to the ambitions.

At that time the so-called European Framework Directive of "WFD" was being finalised. It was adopted in November 2008. It also sets ambitious targets for Member States in adapting their waste management policy. The waste management hierarchy that it puts in place should be followed during the two days of this conference:

- 1.prevention
- 2.reuse
- 3.recycling
- 4.recovery
- 5.disposal (last resort)

In this national and European context, the Assises des Déchets association, the State and with them all Assises partners, concluded that the benefit of perpetuating the exchange within the framework of the *Assises* in La Baule was obvious, and everybody reiterated their support to this event. We are keen to carry on the opening towards our European partners. The topic is indeed at the forefront of all EU Member State concerns. The State is thus very excited to see these *Assises* happening again in La Baule.

“...this very harsh crisis is also an opportunity to rethink our lifestyles and consumption habits...”

Since last year, another major event added to the context of waste management. I am referring to the economic crisis that has been affecting our countries, and our region's inhabitants were not spared, neither were its businesses. The crisis, from the waste point of view, obviously presents risks – closing down businesses and abandoning polluted sites for example. But this very harsh crisis is also an opportunity to rethink our lifestyles and consumption habits. So far, the economic activity and the volumes of waste produced had been evolving in parallel; thus the drop in waste production appeared as an indicator of the current economic crisis!

Conversely, the challenge is to make sure that economic growth is not accompanied by an increase in our waste production. It is up to us to advance waste prevention and to make the famous Grenelle motto "*the best waste is waste that is not produced*" a reality.

Action of the State in the Region

Since 2007, the State has undergone a number of reshuffling processes as part of the General Review of Public Policies (RGPP). This enabled us organise to take up Sustainable Development challenges and implement orientations advocated by the Grenelle Environment Conference. The new DREAL (Regional Directorate for the Environment, Planning and Housing) is an example thereof.

To go back shortly over policies implemented by State's regional agencies, the following points may be mentioned:

- the territorialisation of public action relies on planning as a fundamental leverage. Some plans are elaborated under the aegis of local governments, but in all instances the State is fully involved in waste management plan evaluation, implementation and follow-up. To be efficient, these plans must indeed involve all channel players – public players in particular.

The purpose of construction and civil engineering sector waste management plans is for example to develop material recycling and to limit the extraction of new mineral resources. In this regard, the prefect of a region set up an aggregate observatory, so that every player can have a clear vision of available resources and needs for such resources.

These plans, if they are drafted in a collective and concerted manner conducive to acceptance, can facilitate the implementation of projects in the field – e.g. the establishment of a treatment facility – and make it possible to overcome reluctant attitudes.

- the implementation of waste management policies led to the emergence of new projects: new recycling and recovery channels and facilities came about in recent years in the region.

As for waste energy recovery, it is perfectly consistent with anti-global warming policies, notably those relating to "renewable" energies.

Classified facility inspection services are vigorously acting in relation with waste treatment facilities and various polluted sites and soils to prevent nuisances, negative impacts on the environment and hazards. It is a complicated issue because these facilities, albeit indispensable to our society, often cause significant nuisances for neighbouring communities, and solutions are not always easy. Besides, I would like to stress that the Regional Health and Environment Plan (PRSE2) drafting approach also focuses on the prevention of diffuse pollutions and of chronic hazards we are all confronted to on a daily basis.

- As a complement to these actions, the State has been allocating substantial means. Let me just mention, as an example, the subsidies under the Grenelle commitments and the economic stimulus package to restore polluted sites.

This is all I wanted to say now about waste management. I hope that the exchanges of the next two days will allow you to thoroughly review the various aspects of the waste and sustainable development issue.

Acknowledgements

To conclude, I would like to convey my great thanks to the organisation team. They had to run a race against the clock, to receive you today, even more than usually. I pay tribute to their dedication over the last months.

Of course, my thanks also go to those who, hand in hand with the *Assises des Déchets* and the State, have been faithfully supporting this event and have contributed to its success, among which, in the first place, the Regional Council of Pays de la Loire, a reference partner in the organisation of this event.

Thank you of course to Mr. Mayor of La Baule for welcoming the *Assises* in his city again.

Lastly, I would like to thank the workshops facilitators and co-facilitators as well as all our guest speakers, for the time they devoted to the Assises, firstly in preparing quality exchanges and then in joining us in La Baule (and I more particularly salute all guest speakers who came from across the borders to debate with you).

Thank you for your attention. I wish you fruitful exchanges over the next two days.

Speech by...

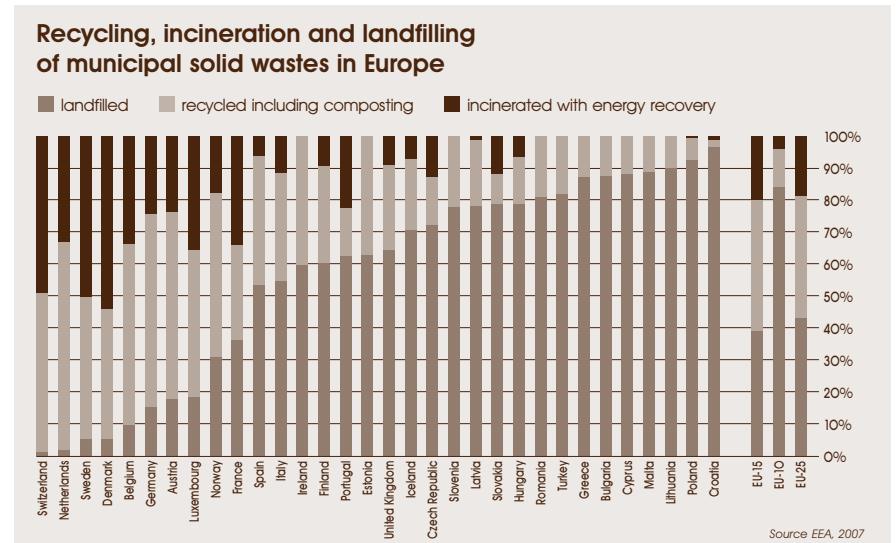


Mrs Karolina Fras

*Policy officer, production, consumption and waste unit,
European Commission*

Madams, Sirs,

I would like to present you what is being done at European level in the field of waste, and the way this issue is being addressed. I shall first remind you that waste is considered by the Commission in three different ways: as a resource, as a source of emissions, and as an exchangeable good. We shall then look at the implications of these three ways to regard waste for current and future European Union's policies.



Let us therefore first address waste as a resource

Needless to say, waste nowadays represents a very valuable source of 'secondary' raw materials, as showed by the increase in waste trade and by the creation of significant recycling markets. This fact is all the more important since Europe avails of virtually no stock of raw materials. Recycling is therefore necessary to obtain the 'secondary' raw materials that are indispensable to us.

And yet, overall, at European level, 50% of potentially recyclable waste is not recycled and is thus sent to landfills. Of course recycling rates vary from one material to the other. Thus, according to a 2004 survey updated in 2008, the highest reclamation rates are those of tyres, iron, steel, metals, paper and cardboard. In contrast, the lowest reclamation rates are those of biowaste, plastic and textiles.

Furthermore, there are significant discrepancies in practices between Member States. Thus the main objective of waste-related European policies should be to incite countries with the lowest rates to recycle more and better, in order to mitigate these differences.

Waste and emissions		
Consultancy	Focus / scenario	Additional potential in Mt CO ₂ equivalent saved
Oekopol	Recycling MSW (WFD target)	88
Prognos	Recycling MSW (WFD target) + 12 waste streams	140 – 230 Mt/year (16 – 27% of EU Kyoto target)
FFact	Energy from waste (40% in WtE)	45
EEA	Decreased landfilling, increased recycling and energy recovery	85

Let us go now over waste considered as sources of emissions

All waste that ends up in landfills emits methane if it is not properly treated. It is particularly true for biodegradable waste that, when decomposing, generates this powerful greenhouse gas. By setting new recycling targets, the new Waste Framework Directive (WFD) should thus make it possible to reduce the emissions of CO₂ into the atmosphere by about 230 million tons a year, which represents 30% of the objective set in Kyoto for Europe.

Lastly, waste is regarded as an exchangeable good

We know that markets and waste are a reality, but also that they are not very mature yet. A small deal of public intervention and assistance is therefore necessary to avoid fluctuations due to events like economic crises.

How can we improve our way to treat waste in Europe?

Three types of measures are possible. We can use legislation. This is what we have been doing, and we are often pressurised by Member States to promulgate more laws: we recently reviewed the WFD. There are many other Directives to manage flows, and we have been reflecting on drafting new Directives if necessary, for biowaste for example...

However the best Directive will only be fully effective if it is properly enforced. The crucial problem is therefore a better enforcement of existing legislation, in

particular three laws that pose problem: the waste treatment law, Landfill Directive and the WFD. We have even been thinking of setting up a waste legislation enforcement agency and possibly entrust it with the monitoring of the situation in the field. We are currently carrying out a feasibility study.

Lastly, we need to care about markets themselves. If we do not want to enhance recycling, we must avail of markets capable of absorbing recyclates. Measures are thus currently being taken with regard to their quality, their perception by the public, including the standardisation of information labels... We are also working on reducing transaction costs and on stabilising the 'secondary' raw material market. One way or another, these are the principles that we tried to apply to the WFD. It is of course not exhaustive, for it would have had to have the size of an encyclopedia!

Let us now mention a few drivers for resource use efficiency

The six most important ones are:

- introducing a waste management hierarchy;
- introducing the lifecycle concept;
- clarifying some definitions: reclamation, which allows classifying incinerators as systems of reclamation, instead of rejection, if they fulfil some efficiency criteria; waste and its waste status, derived products...
- imposing separate collection and setting new recycling targets;
- lastly, focusing on waste prevention.

I will more thoroughly address only three of these issues, which were put forward in the directive drafting.



The first issue is the waste treatment hierarchy

The famous 5-step Waste Hierarchy, corresponding to the 5 treatment methods in the order or priority, is enforceable in all Member States and must be reflected in their waste management policies... The principle is to stay at the highest level of this hierarchy, in order to avoid producing waste. However, what matters is not strict abidance by the hierarchy: before all, the best environmental outcome must be sought. Therefore, we recommend applying the hierarchy based on a product lifecycle analysis...

ONLY ONE EARTH



Some targets in eu waste legislation

		min recovery	min recycling	collection rate
Packaging	2008	60%	55%	
Cars	2015	95%	85%	100%
Electronics	2006	70%	50%	min 4 kg per inhabitant per year
Batteries	2011		50% to 75% (efficiency)	
	2012			25%
	2016			45%
Tyres	2006	0 landfill of tyres		
Biowaste diverted from landfills	2006	Reduction to 75% of the 1995 level		
	2009	Reduction to 50% of the 1995 level		
	2016	Reduction to 35% of the 1995 level		
New targets	2015	Separate collection: at least paper/metal/plastic/glass		
(WFD)	2020	50% household waste		
	2020	70% construction and demolition waste		

The second issue put forward is that of the new recycling targets set for 2020
They were set at 20% for household and associated waste, and to 70% for construction waste. We are currently working on calculation methods...

The third Directive's chore issue is prevention

Many have judged that we could have gone much further. Personally, I also think that we could have done more. But it is only a beginning, and a number of actions might follow in this direction... The Commission wants to set up a system for Member States to share best practices and to create indicators...
Altogether, we avail of a certain number of legislative tools that provide us with action frameworks, among which the most important targets can be underlined: recycling, reuse, collection and reclamation, depending on flows. A matrix is a very interesting tool (cf. slide 4).

As a conclusion

It must be strongly reminded that waste is a resource and not an undesirable burden. The WFD and other European legal instruments provide a number of means to build an efficient European economy. To that aim, these means must be properly allocated... before contemplating any additional legislation.

Thank you for your attention.



Wednesday

21st October 2009

Plenary session 1

Framework Directive: towards a real European waste policy?
Questions are raised but no harmonisation is happening

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Plenary session 2

Prevention and recycling: time for a new step
From mobilisation to collective incitement

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Workshop 1

One only status for waste in Europe?
The key issue of end-of-waste status

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A waste plan: and then what?
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Workshop 3

**Waste management faced with the challenge
of the climate and energy transition**
Incineration and fermentable waste: potentials and illusions

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Workshop 4

Innovation – towards a dispassionate debate
Relevance as a core notion

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Plenary session 1

Framework Directive: towards a real European waste policy?



Session leader:

Mrs Patricia BLANC, head of the service for prevention of nuisances and quality of environment, French Ministry for Environment

Assistant:

Mrs Isabelle MARTIN, director of legal affairs, SITA

Facilitator:

Mr Philippe LEFAIT

With the participation of:

Mr Stéphane ARDITI, project executive for waste and product, EEB

Mrs Karolina FRAS, policy officer, sustainable production and consumption unit, European Commission

Mr Didier IMBERT, director, SITA

Mrs Fabienne LABRETTE-MENAGER, chairwoman, Conseil National des Déchets, deputy of the Sarthe region

Mr Jérôme LE CONTE, general manager France, Veolia Propreté

Mr Laurent MICHEL, risks assessment and prevention general manager, French Ministry for environment

Mr Michel QUATREVALET, representative, MEDEF (the French Business Confederation)

abstract

Varied opinions were expressed regarding publication of the Waste Framework Directive on November 19, 2008. This written text will be obligatory for each Member State before December 12, 2010, simplifying the European landscape regulations, and clarifying a number of definitions.

The Directive notably focuses on re-use and recycling, drawing up a hierarchy of waste treatment solutions which must be applied in the following order of priority: 1. prevention (the preferred option), 2. re-use, 3. recycling, 4. recovery (including energy recovery), 5. elimination, as a last resort. The text also declares the minimum recycling objective of 50% to be reached before 2020.

The Directive was generally approved by the majority of observers and players regarding the listed objectives, the reinforced preventative approach—equivalent to *Grenelle Environnement* in France – and the extended responsibilities for waste producers. Others were disappointed, insisting that prevention principles are not clear enough, that re-using and recycling goals are not challenging enough, even though the energy recovery debate is still as fervent as before...

Each Member State will now be checked in regard to progress made for this mandatory text. The former must redefine their national policies, demonstrating a commutation with a potential for real change as long as the economic crises does not impact secondary raw materials or energy.

Comitology: a consultation process

End of waste status criteria are being defined within the framework of a comitology process. What is this “mysterious process”, Karolina Fras asks? In practice, it is nothing mysterious, but a work that was initiated long ago by “a group of experts of the European Commission’s Joint Research Centre. These experts liaised right with industrialists and professionals from the recycling and reclamation sectors that were already regulated by these standards. The goal is not to reinvent the wheel but, by means of such consultations, to set a common standard that could be promulgated at EU level. The EU Commission will only issue a proposal that will then be put to Member States ballot. The aim is to support recycling markets and to improve the way the waste legislation is enforced. It is in no circumstance to create another administrative burden for the industry. Today, the work has made good progress in relation to some waste flows, especially waste from steel, iron, aluminium and copper. Criteria relating thereto are due to be adopted by 2010. Other criteria for paper and glass will follow.” The Commission decided, states Stéphane Arditi, “to give priority to well known products. But we’ll eventually have to address more complicated matters.”

Questions are raised but no harmonisation is happening

Europe enabled breakthroughs in waste prevention, recycling and treatment. This opinion expressed by Jérôme Le Conte, the general manager of France of Veolia Propreté, is unanimously shared by participants in this first plenary session. The introduction of the new Waste Framework Directive (WFD) is an additional step in this process. That being said, all difficulties have not yet been overcome. The first difficulty has to do with the end of waste status: should declassified waste be considered as “non waste”, sub-product or product? When does this change in status happen and based on what standards? The ongoing comitology process should answer all these questions. It promises to be long, in particular as far as the most complex waste is concerned. Be as it may, the harmonisation of practices within the 27 Member States is necessary as is the implementation of planning programmes integrating a dimension that is clearly asserted by the WFD: waste prevention, and not only their disposal any more.

What conditions to end waste status?

The enforcement of the WFD in every Member State clearly raises the question of the end of waste status. The comitology process (see box) that is being set up is intended to define the criteria to end the waste status. Some participants like Didier Imbert, deputy director of the SITA Group, considers that “the situation will remain confusing” until end of waste status criteria are defined. The risk is “discrepancies in its application by the various States that could lead, at worst, to environmental dumping.” Stéphane Arditi, waste and product policy officer in the BEE reacts to such concerns by stating that a clause of the WFD provides that no Member State can decide alone to end waste status. “The subsection 4 of article 6 indeed provides for minimum prerogatives of the Commission in this regard.”



In France, the French National Waste Council (CND) chaired by Fabienne Labrette-Ménager is set to work on transposing the Waste Framework Directive into French law. “It means of course, says Fabienne Labrette-Ménager, that we’re going to reflect on the end of waste status: when does waste cease to be waste, what does it become? May we refer to it as secondary material? Sub-product? Who will provide answers to these questions?”

A definition by default?

Michel Quatrevale, a representative of the MEDEF (the French Business Confederation) who chairs its production and consumption group, which gathers waste treatment businesses as well as product and waste producers, states the following: “In Europe, either you’re waste or you’re not. Nowhere is a definition of product to be found. This definition by default poses problems.”

At this stage of the debate, Karolina Fras, policy officer in the European Commission’s production, consumption and waste unit, reminds the audience that “The end of waste status criteria existed before the WFD was introduced. Something that is recycled is no longer considered as waste at some point in this process.” Yet Member State wouldn’t rely on the same criteria to determine at what point the change in status was to occur, “to the extent that the European Court of Justice ruled and determined where this point of rupture was. However, it didn’t take technical criteria into consideration, it didn’t consult industrialists, nor did it take the market into account or care about the fact that we need to exchange secondary raw materials because we need it”. After such an imperfect answer, “we’re now trying to establish new technical criteria, in other words new standards in relation to the stage at which waste may be considered as sufficiently

recycled to exit waste status and become a product. This means that it will then be subjected to product-related legal provisions and hence to the REACH regulation."

Always more consumption?

Is there not a risk of the transition from waste to product status accelerating the development of a consumer society as a result of an ongoing production/recycling process, asks Jean Reverault, president of the CALITOM, a public waste agency in the Charente region?

Michel Quatrevalet answers this relevant question by asserting that "eco-design has become extremely important for industrialists. It's to be noticed that the most significant environmental impacts result from the use of products, not its manufacture or end-of-life." But let us not delude ourselves. "Long life-cycle products can be totally counter-productive from an environmental point of view." Moreover, eco-design is an issue that is currently being discussed by Europe, says Stéphane Ardit, within the "so-called 'energy using' project. It should then be possible to update rules without having to change everything. For instance, as far as computer powering systems are concerned, the idea is to define minimum energy consumption requirements supposed to eventually lead industrialists to design computers whose powering system can be replaced by a more efficient system."

Non waste or product?

Michel Quatrevalet considers that this regulation "requires a tracing chain that cannot operate for anything derived from waste. For businesses involved in recovery or recycling, it's a real nightmare."

Therefore, should it be referred to product or to "non waste" on which the REACH regulation would apply as suggests Michel Quatrevalet? In Karolina Fras' opinion, things are clear: for waste to enter product status, "*it should first go through a reclamation operation that can be as simple as sorting. This product that of course should have no negative impact on the environment or human health must fulfil technical criteria and comply with laws and standards that we need to elaborate.*"

Standards are needed

With regard to the need for standardised products, Jérôme Le Conte, the general manager of France Veolia-Propreté, considers that "*standards for products derived from waste should be the same everywhere in Europe. It's advisable to carry out this extremely important standardisation work in different stages, from the simplest products to more sophisticated ones. Let's not complicate things by introducing incomprehensible laws that will ultimately prove inapplicable.*" In this perspective, the ongoing comitology process is crucial. Indeed, as Didier Imbert says, "*waste may be very quickly classified as products if based on an undemanding vision of quality.*" Harmonisation at European level is therefore all the more necessary since, as Stéphane Ardit puts it, "*products travel more freely than waste. If the waste war between industrialists is to be avoided, a standard for the exchange of waste between countries based on rules accepted by all needs to be introduced.*" But Michel Quatrevalet cautions that it is useless "*to set very stringent standards for materials that travel if it's*

only to facilitate their exportation to areas where less demanding standards apply. Mindful of this outside versus inside EU waste treatment issue, we must look beyond a strictly European approach."

Michel Quatrevalet and Stéphane Ardit point out the necessity to consider waste as a resource in an overall context notably marked by the increasing scarcity of natural resources. To Michel Quatrevalet, "*this matter has not yet been given the attention it deserves in Europe.*"

Planning: from disposal to management and prevention

The strengthening of planning is also an important aspect of the Waste Framework Directive. "*When the first Assises des Déchets took place in 1991, says Laurent Michel, Director General in charge of prevention and risks in the Ministry of Ecology, Energy, Sustainable Development and Sea (MEEDDM), the first waste disposal departmental plans were being initiated. The WFD now refers to management plans while stressing the need for prevention programmes.*" The change in terms "*shows that planning should be a tool to define evolving waste management strategies, states Stéphane Ardit. Indeed, he asks, who can say what will happen in 30 years, given the pace of technological innovations? A good planning tool is primarily a tool to define recycling approaches while taking the treatment hierarchy set forth in the directive into account. The WFD, he warns, was not intended to strengthen the waste sector even though it's a reality that it caters for.*"

What should be the coverage and size of tools to develop? According to Fabienne Labrette-Ménager, "*these plans must take two elements into account: self-sufficiency, on the one hand, which implies making sure that treatment units aren't oversized and, on the other hand, proximity. Otherwise, the risk is that some local authorities could be tempted to get waste from outside their territory to ensure their tool's cost effectiveness.*" Jérôme Le Conte puts this point of view into perspective: "*compared to other countries in Europe (Germany, the Netherlands),*

Planning on the scale of a population centre

The example of Vitry/Saint-Dizier/Bar-le-Duc

'Planning will now have to take the notions of population or economic centre into account, contrarily to the provisions of the Grenelle Environment Conference 2, explains Stéphane Ardit. It's important that local authorities in charge of drafting waste disposal and management plans don't get locked up in a purely administrative dimension.' There is a risk of costly and counter-productive duplication risk. Stéphane Ardit takes the example of "the Vitry/Saint-Dizier/Bar-le-Duc territory in the East of France. This 200,000-inhabitant territory spreads over three departments and two regions. A reflection may take place either in each department without taking the other department's situation into account, or at the level of this population centre with its own treatment means. You won't get the same plan, economic impact and environmental footprint in both instances.'

To conclude, a successful planning process implies, before making any choice, reviewing different scenarios beyond the sole administrative context of the concerned territory.

French facilities are largely undersized. We have too many small-size sorting units that cost a fortune to local budgets. According to him, France has been hesitating to create large facilities on waste transport related grounds. But the development “*of alternative transportation modes such as river transport*” is a promising track.

Necessary harmonisation

How can regulations and practices of the 27 UE Member States be harmonised? Basically, participants say it is very complicated. Jérôme Le Conte points out huge discrepancies in practices of the different countries, “*like in Denmark, or conversely, in Greece. In France for instance, the levy of the General Tax on Polluting Activities (TGAP) on sites of non-authorised landfills is a practice that would stir outrage in an Anglo-Saxon country!*” In Michel Quatrevalet’s opinion, the first difficulty is the language barrier: words do not have the same meaning everywhere. “*Translating texts in relation with waste management in 27 languages for them to be understood in the same manner by everyone is an enormous challenge.*

Laurent Michel considers that harmonisation is especially necessary for major issues such as waste flows, health and environmental impacts, etc. “*Apart from standards, he says, there's a need for common definitions...*” Actions have been successfully taken, in particular in terms of treatment facility related regulations. To Laurent Michel, harmonisation should first concern waste disposal and recovery, but monitoring practices also need to be harmonised. The implementation of such major objectives is more a matter of subsidiarity, “*provided of course that it shall be correctly monitored.*” Didier Imbert shares this approach. He says that it is important for all countries to get involved into the harmonization process, in particular as part of the comitology process. “*France was not always very present, he recognises. But things are changing, especially since the Grenelle Environment Conference. It's up to us to defend our arguments, since*

there are no good or bad approaches, but only different ones. It's up to everyone to defend their point of view, to actively get involved to reach a decision shared by all.” It is not easy to reach this balance, Karolina Fras notes, “*because waste issues are complex. As far as the various domestic markets, resource movements, environment protection and environmental impact reduction are concerned, harmonisation is indispensable. In terms of whether waste should be collected in yellow or green bags, I think we must leave it up to Member States!*” Stéphane Ardit justifies the need for harmonisation by the fact that “*we're evolving from a waste society to a recycling society. If waste is treated as such, subsidiarity doesn't pose any problem. However, in a resource-related approach, harmonisation is indispensable.*”



Waste in Europe, products in Africa?

Jean-Pierre Ymele, a member of HYSACAM (Hygiene and Salubrity in Cameroon) wonders about the shipments of waste to the African continent used as products. “*Is there a debate on this matter at European level?*”

he wonders. Yes, answers Karolina Fras. “*What we consider as waste should ideally be considered as such.*” The same applies to products. That being said, Europe is aware of abuses: “*a shipment out of vive outside Europe tends to be illegal because there are not enough treatment facilities in compliance with the very high standards that are in force within the European Union.*”

Jérôme Le Conte finds it necessary to “*distinguish between reuse and the object that has become a waste. Reuse is foreseen in the EU legislation.*”

Unfortunately, there's hardly any legislative framework for such reuse”. It is not rare that, under the pretext of using products intended to be reused, unscrupulous people “*complete toxic waste containers, provoking disasters like one knows.*”

Plenary session 2

Prevention and recycling: time for a new step



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Mr Bruno GENTY, vice-chairman, France Nature Environnement
Mr Jean-Louis MERRIEN, vice-chairman, Rennes Métropole
Mr Pascal SECULA, chairman, FEDEREC (French Federation of Recovery and Recycling)
Mr Philippe VAN DE MAELE, chairman, ADEME

abstract

Associations, citizens, industrialists, politicians, researchers and consumers are demanding more action and less talk.

Notably in regard to prevention, it seems useless to incessantly repeat the same phrase that the best waste is no waste. People are anxious to see results from strategic approaches. Perhaps the debates are lacking more detailed insight to the problem of resource management, qualitative prevention or integrated product policy...

Recycling also suffers from a lack of tools, incentives, and measures in this "market" with decisive levers not sufficiently mastered for the standardized administrative regulations and geographical organization. Lastly, from an economic standpoint, the associated dangers, notably with the raw products, must be clarified. All competition must be explored between recycling and elimination, as well as assessing the impacts and the REACH (*Registration, Evaluation, Authorisation, and Restriction of Chemicals*) regulation application, study the user constraints for secondary raw materials, not forgetting to examine the existing methods in the West as opposed to developing countries.

Imaginary stumbling blocks

Contrarily to some preconceived ideas, prevention can lead to encouraging outcomes in the field... And so with plastic bags in supermarkets. "Four years ago, on our territory, associations called for the suppression of plastic bags at supermarket cashiers," the vice-chairman of Rennes Métropole Jean-Louis Merrien says. "We signed a charter with large-scale retail outlets' in September, and in November, after a few communication campaigns, plastic bags had already been removed! No difficulty was insurmountable.

Admittedly, citizens bought quite a lot of reusable bags during the first year, but it eventually stabilised." The experience with water is another example.

"After a pollution peak 10 years ago, mineral water bottles were distributed in schools restaurants. After verifying the irreproachable quality of running water, year after year, we wrote to pupils' parents that we were about to suppress bottles. Out of 8,000 meals distributed every day, we got only two protest letters. We mean by this example that we sometimes tend to exaggerate difficulties."

From mobilisation to collective incitement

Consumers, law-makers, local governments, associations, recycling companies... more than ever, everyone must urgently get involved in waste prevention. The 1992 law had made it a priority – yet the time has finally come to suit the action to the word. The Grenelle Environment Conference defined means and objectives against a background of a new waste consciousness.

Why should prevention be preferred? Is it possible to act in favour of prevention and recycling in at the same time? What are key success factors? To what extent are prevention and recycling complementary? May prevention contribute to a new development model? These are all important issues that are among priorities identified in the European Waste Framework Directive (WFD) and, in France, by the Grenelle Environment Conference.

"Behind these choices, the goal is very clearly to optimise the use of material and purchasing behaviours in order to reduce impacts and costs", says Philippe Van de Maele, chairman of the ADEME. "We need to reflect on a new low-energy, material and water development model that would deliver less carbon and pollution. But challenges aren't of an environmental nature only, they're also financial and social, they're about enabling businesses, local governments, and ultimately... citizens, to save energy."

As a reminder, the Grenelle objectives are to reduce the production of waste by 7%, i.e. 5 kg a year per person over 5 years. *"Knowing that each person generates about 390 kg of waste every year, we could go even further!"* A survey by the ADEME indeed revealed that about 7 kg of household waste of an average citizen were from unpackaged food products. Based on the average number of trolleys per year, it was estimated that a sane management by consumers would make it possible to gain up to 25 kg in a very short time frame,



while inciting producers to advance eco-design. *"Likewise, a 20% reduction could quite easily be reached by businesses, since financial return is to be expected from investments."*

Shared challenges

FEDEREC, the Federation of Recycling Companies, brings together 1,500 businesses, 35,000 employees, and produces 38 million tons of recycled raw materials. *"I'm thus not in the best position to talk about prevention,"* says its chairman Pascal Secula jokingly. *"But as citizens, we're aware of this priority that often lies upstream from our businesses. The raw materials we produce today are indispensable insofar as natural resources aren't sufficient any more to ensure world society's durability."*

France Nature Environment even devised a slogan on upstream prevention and downstream recycling, simple and understandable by all: *"Sorting is super good, dump less is even better"*. The association considers that it is time to suit the action to the word. *"We belong to naïve people who thought that with the 1992 law, prevention would right away become a priority and would instantly be followed by concrete actions from businesses and consumers"*, says its vice-president Bruno Genty regretfully. *"But thanks to the Grenelle Conference, financial means are now being mobilised."* 600 to 700 million Euros are to be allocated over 3 years, of which one third for prevention plans and action programmes.

Jean-Jacques Dohogne, a policy officer in ACR+, is impressed. *"With such amounts, France is ahead of European requirements for 2013 and is going to be able to take efficient actions! Much progress was achieved in recycling in the last 20 years, yet we've hardly taken any concrete and quantifiable prevention actions at European level. Pilot projects with no upstream strategy nor any evaluation scheme have been initiated so far."*

Better outcomes should be reached with such means. “*The city of Rennes is ahead of the objective by 7%, with about 300 kg of annual waste per capita versus 390 kg at national level. That figure, though, doesn't include refuse transferred to waste sorting units whose costs are also supported by local governments!*”, the vice-chairman of Rennes Métropole Jean-Louis Merrien insists. “*Yet, thanks to annual subsidies, our prevention budget is going to rise from 200,000 to 400,000 Euros. Given means allocated, isn't the 7% objective too low?*”

Philippe Van de Maele takes the opportunity to remind the audience that this Grenelle Conference target is a minimum level and that the objective is of still another nature. “*A lot is invested to make up for the delay. The goal is that the 60 million consumers play the game!*”... Since 1992, Rennes inhabitants succeeded in going under the French average by 20%. “*We should thus be optimistic and believe in citizens, Jean-Louis Merrien deducts, while at the same time defining indicators to accurately evaluate the amounts avoided thanks to prevention actions, in particular on small territories where many factors have significant impacts on such amounts*”, adds Bruno Genty.

From the very design...

How to cope with prevention and recycling at the same time? Pascal Secula thinks that demand, in particular, must be acted upon. “*Like with overprinting on bags in department stores to avoid over-packages, recycling companies should work on the design of products delivered on the market. Let's avoid complex products that will eventually need to be treated and undergo an energy recovery process, hence high costs. That's how we'll be able to easily reach our 75% recycling target. Boldness is wanted.*”

Philippe Van de Maele looks much farther beyond, referring to eco-design, purchasing behaviours, consumer awareness raising... “*Prevention encompasses the whole chain! Sorting, recycling and recovery are essential, provided that all efforts are made upstream.*” Local communities but also businesses are faced with this economic challenge. “*Inquiries have shown that the production costs of businesses that had analysed their energy and material consumption and had engaged into eco-design had dropped.*” Not to mention the impact on employment that went up by 2% a year over the last 10 years in environment and recycling sectors, thanks in particular to the creation of environment agencies. “*And even if tomorrow prevention has an impact, it's not going to entirely eliminate waste production,*” Pascal Secula recognises. “*Our businesses are thus still present with increasingly efficient tools... and jobs that cannot be delocalised.*” There is a compelling need for regulations if one is to move forward on the path of success. “*Departments are requested to establish waste disposal plans on the one hand, and prevention plans on the other hand, which poses planning problems,*” complains Jean-Louis Merrien. “*The solution could be a unique waste plan, with several chapters.*” He asks about the General Tax on Polluting Activities (TGAP) that is to levy funds for local prevention and reduction programmes: “*Why wouldn't 50% of this tax be supported by local governments that send their waste to landfills or incinerators, and 50% via the Enlarged Producer Responsibility scheme?*”



Waste, a raw material?

Is the definition of “waste” changing? Pascal Secula, chairman of the French Recycling Federation FEDEREC, notices indeed. “Today, those referring to products derived from recycling as ‘raw materials’ albeit competent, are hardly heard. We keep talking about ‘sub-products’, ‘recoverable waste’, ‘recyclable products’, etc., although with the new WFD, we should now dare using the notion of ‘recycled raw materials’ without adding ‘secondary’. Indeed, 50% of the products we consume are now manufactured with such recycled raw materials. In other words, without them, the planet would cease functioning, since the production of consumption goods cannot rely on natural resources only.”

The vice-chairman of France Nature Environment Bruno Genty does not share this opinion. “Waste is first and foremost a resource for waste operators! So far, citizens and businesses haven't noticed that they allowed making money. On the contrary, they cost money. And if waste was a source of renewable energy, why in this case should people not be incited to produce more? One cannot indefinitely point at the environmental emergency situation and be willing to go on following the same model with excuses to continue wasting resources. Sorting and recycling is therefore very good since no matter how valuable prevention actions, there'll always be waste. So let's try at least to recover the waste that remains!”

... up to consumers

Finally, the solution seems to lie in mobilising stakeholders and distributing roles. The French state and European institutions are those in charge of drafting regulations, yet consumers have indeed the power to collectively influence demand and hence retailers and producers, while local governments can incite citizens to change their practices, via in particular their association partners. *"Rennes Métropole set up a committee to make propositions on waste-related innovations that brings together environmental associations, representatives from the CROUS (Regional Centre of the University and School works), from the HLM (public housing agencies), co-ownership management agents, etc., to reflect on waste reduction and the actions that are going to be taken in coming years."*

Bruno Genty takes the same stance: *"In a territory, whatever its size, waste gets generated by human activity in amounts that depend on the way it's organised. Therefore, the concerned territory's players must be consulted to figure out how they can limit waste production."* Registered social landlords, for example, now impose the use of concentrated cleaning products free of hazardous substances and encourage composting at the bottom of buildings... *"The goal is to substitute genuine partnership approaches of a durable, participative and more dynamic character to the French tradition of advisory committees."*

Jean-Jacques Dohogne considers multi-player and multi-tool approaches as positive, provided that opportunities to study and change consumers' behaviours shall not be missed! *"Right now, many supermarkets display environment friendly or European labels or their own. Concepts like logos and carbon footprint are sometimes clear, yet I'm not sure that people generally know what they mean or are well informed. These large-size retailers need to know their consumers."*

Consumer, offering, label: *"this equation is very important"*, Philippe Van de Maele confirms. He also reminds the audience that the inscription of information on carbon, energy and pollutants on different products' labels is among targets set in the Grenelle conference. *"But not everything should be expected from consumers. The whole chain should get involved not to lose any time."*

The incentive option

It could be learned from experiences beyond France's borders, like in Alost, the city of Flanders where Jean-Jacques Dohogne lives. *"In the last 20 years, we implemented several waste plans that made us progress. Today, 105 kg of residual waste are produced per year and per capita for more than 300 kg of recycled waste... thanks to incentive taxes. In other words, bags of residual waste deposited outside our homes cost much more than compost containers, paper, glass and other bags. The same applies for separate collection centres, where deposit is free of charge only up to 50 kg."*

As a counterpart, significant means are being allocated, e.g. to encourage composting. Figures say it all: 2,500 'compost advisors' in the region, i.e. 5 in 10,000 inhabitants, doing promotion, consultancy..., 37% of inhabitants are engaged in home composting with a focus on qualitative composting... *"We created a waste*

Incitement and information

How can an action like introducing an incentive fee be effective if there is no information about it? The question arouses discussions between participants. *"Consumers have to support the impact on prices of the Enlarged Producer Responsibility principle. It's quite significant, since it represents more than a billion Euros out of the 5 to 6 billion Euros spent by local governments for their waste management,"* states Bernard Casnin, a policy officer at the Housing General Confederation. *"But without information, how can an incentive scheme be efficient?"* As far as packages are concerned for instance, consumers don't know that Green Points costs them 411 million Euros a year! When will a genuine information policy be carried out, as prescribed by the 1992 law, involving all players to encourage virtual behaviours, whose potential benefits we're not yet able to assess?

Reminding that the EPR scheme does not directly operate as an incentive measure, the chairman of the ADEME Philippe Van de Maele however recognises that the time has certainly come to change consumption habits. *"But I'm not sure that there shouldn't be other indicators but cost and price. In this regard, the law of national commitment for the environment is going to impose, from 2011 onwards, the provision of a number of information to consumers to help them in their choices. However, we must respect their free choice... while increasing their awareness."*

The vice-chairman of the General Council of Indre-et-Loire, Alain Kerbriand-Potic, confirms that the introduction of an incentive fee in its city was successful in particular thanks to public information meetings organised with the help of the ADEME. *"We should no longer hesitate to increase it gradually over time... based on regular consultation with citizens."* Why not adopt a door-to-door approach as is the case in Flanders for example?

To Nicolas Garnier, the general delegate of AMORCE, the impact of the incentive scheme is necessarily felt at the time of purchasing. *"That's when consumers are able to choose if they're informed about the nature and the amount of waste generated by products put out for sale".* He reminds the audience that a few days earlier, the Senate had voted 4 important measures that, *"unfortunately, could be withdrawn by the National Assembly,"* namely, the obligation for shops to display the products that generate the smallest quantities of waste, the obligation to specify whether products are recyclable or not, the diminution of the number of Green Points if the waste generated is not recyclable, and the possibility to place a receptacle for excess packages at cashiers.

Lastly, although he is in favour of it, Bruno Genty considers that *"it's a mistake to think that an incentive scheme will be enough to reduce waste. In France, indeed, we wish the proceeds of fees could cover the entire cost of the service. Yet, in Belgium, they contemplated that the fee would fund at least 50% of costs and that budgetary measures would need to be taken for the remainder, until the 'true' cost is gradually defined. But to that aim, in France, local governments' general codes need to be reformed. That being said, I'm totally in favour of this pay-as-you-dump system."*

management system that puts us ahead. Our costs are lower because we produce less... while reducing greenhouse gas emissions."

Jean-Louis Merrien reacts: "Contrarily to what one may think, waste sorting units are not free of charge in France. Admittedly, for local governments, treatment per ton is less expensive than with door-to-door systems, but as far as taxpayers are concerned, it's not so certain since the price of fuel, depending on transported volumes, must be added to the tax." Likewise, with regard to composting – although this also has to do with prevention –, are local governments supposed to fund actions for the management of waste that it is difficult to quantify and, most importantly, that can no longer be considered as such?

"Today, in European and national law, waste is characterised by the act of abandoning it," Bruno Genty confirms. "Using cooking or gardening residues to produce one's own compost is no act of abandon. However, putting them in front of one's door or depositing them in a waste sorting unit is considered as act of abandon. As per regulations in force, it comes to creating waste."

In terms of incentive pricing schemes, Philippe Van de Maele recognises that only few are in force on the national territory. "But there's support for a reflection to be conducted in this regard. Besides, I think that the implementation of an incentive scheme for part of collection efforts within a 5-year timeframe has been included in the Grenelle commitments. It's only one of the tools to be advocated, as none should be neglected. We must all come together, work and progress in the right direction by exploring all possible solutions."

On the scale of territories

The last main question that was raised was: may prevention eventually foster a new model of development? "In terms of prevention, the question that is raised in the various European, national and local territories is: can we change our production and consumption modes?", says Bruno Genty. "Some practices are already being successfully applied." For example, copy machine manufacturers have ended their practice of producing units intended to go out of service after a certain period of time. "Today, they make machines available to their clients on a pay-per-use basis. In other words, skills are now being used to redevelop products to make them dismountable and repairable to reap the benefits at stake."

Bruno Genty considers that this is an opportunity to start focussing on the territorial scale again. Goods are indeed often manufactured in countries with good compromise between qualification of manpower and its compensation. "However, technicians in charge of maintaining equipments must be present on the territory". Likewise, in islands for example, it can be interesting to solicit local beverage factories and, in this way, provide these businesses with a competitive edge. "Contrarily to France, reusable packages are less expensive than disposable ones!" The other advantage is the community-based approach. "There's no separation between consumers on the one hand and producers on the other hand. There's a co-responsibility that

certainly implies educating people, accompanying and advising them..." An ADEME inquiry thus demonstrated that adequate consumption choices lead to waste reduction and money saving. "Hence the risk with incentive fees to even more penalise the least well-off, who are already the victims of wrong consumption modes and who may prefer to burn their waste in the back of their yard or dispose of it in the woods."

Admittedly, some trades could disappear as a result of such changes in practices, like the distribution of advertising material in mail boxes. "But many other trades will appear or reappear," asserts Jean-Louis Merrien. It should be the case for example of ink cartridge refill manufacturing, bike repair shops, services for the rental of dishes or cups for parties, etc. "It's often a matter of just one person or a few people taking initiatives or getting motivated, as was the case for community composting. We had foreseen its environmental and financial benefits but not its social impact. Today, people gather in small groups around a composting unit and talk about gardening, holidays, children... we discovered that along the way!"

Workshop 1

One only status for waste in Europe?



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abstract

The issue of waste management priority remains, in the framework of the Directive transcription, within each Member State law, and its undeniably varied interpretation depending on the geopolitical interests. Even if this text shows real progress, many shady areas still remain. Questions still raised – what is waste and what isn't? Then what are the legal, technical, economic and environmental consequences regarding recycling activities, in the same way as with the implementation of REACH regulations.

The key issue of end-of-waste status
Settling the issue of end-of-waste status seems to be an indispensable prerequisite to the introduction of a single waste status in Europe. The process has started for five major waste streams, but it promises to be long, with an endless list of applicants. What are the criteria? Does a recovered waste automatically become a product? Which one of the waste and REACH regulation applies? These are fundamental questions in this debate.

From a waste society to a recycling society

The end-of-waste status is unquestionably one of the core issues that will have to be resolved to transpose the Framework Directive into each Member State's legislation. Peter Eder, in charge of elaborating end-of-waste criteria in the European Commission, explains that it is a "seemingly simple" notion: indeed, "a waste becomes a new material after a number of recycling phases." The difficulty is to "determine at which stage of this process the change occurs." This is the issue that is currently being debated.



Historically, "when the former Waste Framework Directive was elaborated in the 70s, we had been living in a waste society, where wastes were mostly eliminated, disposed of in landfill sites or incinerated. We live now in a recycling society, as shown by the weight of this economic sector".

Quality, a crucial aspect

The new Waste Framework Directive (WFD) reflects this evolution: "The Article 6 is dedicated to the end-of-waste status, the criteria of which are defined within a comitology process (see box). This article stipulates, in particular, that products derived from waste must have a specific use, comply with standards and have market outlets. On top of all, it must entail no negative environmental or sanitary impact." According to Peter Eder, "product quality is thus vital. So, requirements need to be defined for the waste treatment and material input process in order to set aside materials that could affect the product quality that is sought. As a concrete example, in the case of paper recycling, it should not be possible to recycle into a product if it came into contact with food or if it was used in a healthcare environment."

Criteria for better harmonisation

It is obvious to Peter Eder that the work of defining end-of-waste criteria "is going to allow a degree of harmonisation and better legal guarantees at the scale of Europe." Today, as he says, "the law may be interpreted in a different manner from one state to the other, or worse, from one region to the other." He thinks that such end-of-waste criteria will present many advantages: reduction of red tape, quality guarantees, better environment protection, etc., and, on top of everything, greater European harmonisation, which everyone is hoping for.

Isabelle Martin, who is in charge of regulatory matters at the SITA, is sceptical about the possibility given to Member States to declare certain "end of waste" streams, and is concerned about the risk of creating "disturbing competition distortions." She calls for "greater harmonisation."

Clarification is needed

The Article 6.4 of the WFD Isabelle Martin has been referring to, thus enabling Member States to contemplate the possibility to exit the waste status for some streams if nothing is done at European level, "needs to be clarified", says Thomas Bonhoure, a policy officer at the Ministry of Ecology's waste planning and management bureau.

In terms of harmonisation, Peter Eder reasserted that it was "an essential aspect of our work in the European Commission. Which types of waste and which channels are concerned, where is the need for harmonisation? To what extent the various solutions defined by the various Member States are likely to entail market distortions and to create difficulties or confusion? These are the questions we need to answer. This is all the more relevant since significant amounts of materials are negotiated between Member States. Conversely, it is less urgent to identify a solution at European level for materials used in

a more specific manner or bearing low value and price. In this case, waste management at local level should be preferred".

In the perspective of the transposition of the directive into the 27 Member States' legislation by December 12th, 2010, Thomas Bonhoure also calls for a clarification of the notion of "by-product". "*This should not be regarded as a grey zone that would not be covered by the REACH or waste regulation.*" Carl Enckell points out that "*a by-product will never be a waste. It's a residue of a process that does not belong to the waste category.*" Be as it may, "*how should the Waste Framework Directive and REACH be articulated?*", asks Thomas Bonhoure.

Is waste a notion by default?

To the President of the Joint Union for the treatment of waste in the Region of Pau, Marc Jubault-Bregler, the difficulties faced by its trade union in terms of cross-border cooperation on waste with Spain are due to "*discrepancies in the laws of both states.*" He says that "*while, in this transitory period, some elected officials admit they're lost*", the upcoming transposition of the Framework Directive "*is necessarily going to help us.*" He also thinks that it is going to ease relations with local communities, which will more easily understand "*the benefits of better sorting, as raw materials can be derived from waste.*" And yet, says Marc Jubault-Bregler, waste "*will be defined by default, based on the definition of corresponding products.*"

Carl Enckell, an ADAMAS company's lawyer, shares this approach: "*It's precisely because The European Union contributed to define products as waste that we are now having a hard time to figure out how we're going to exit this status. The aim of EU legislation is indeed to achieve a high level of environment protection, by applying the precautionary principle. Many decisions have lead judges to define things we get rid of as waste. And yet, this definition by default was enacted in the directive of November 19th, 2008. It enabled the Court of Justice of the European Communities to assert that wastewater spillovers were wastes. Likewise, the EU judge recognised that the mixture of heavy fuel with sand and sediments of Loire-Atlantique, Vendée and Bretagne beaches in the oil spill that hit them 10 years earlier were waste. French judges hadn't gone through this level of reflection... So the question is how long it'll take to transpose the text... Now, whilst the Commission is wondering how to exit the waste status, I notice that it took years to define waste, until the precautionary principle was eventually applied.*" According to Carl Enckell, "*in order to exit the waste status, they're going to fold back the umbrella!*"

Industrialists' point of view

Do industrialists also fear that there might be a long transition period between the introduction of the WFD, its transposition into French legislation and the drafting of end-of-waste status criteria? Isabelle Martin points out that "*the waste regime will remain until end-of-waste status criteria are published. As Karolina Fras and Peter Eder reminded us, the 1975 directive had not contemplated this end-of-waste status, which didn't prevent industrialists' practices from evolving.*" However, industrialists



Comitology: Five types of waste under review

Initial end-of-waste status criteria are currently being defined. They have to do with five types of waste – iron, aluminium, copper, paper and glass derived waste. They are actually being defined based on two processes conducted in a virtually parallel manner, as Peter Eder puts it.

'The first process, the comitology process, consists in the European Commission doing a proposal and debating with Member States, which then vote for or against it. The European Parliament and Council can also review the proposal of the Commission, which takes the final decision of adopting or rejecting the proposed criteria.'

'This political process goes hand in hand with a process based on merely technical aspects. These aspects are reviewed by expert from all Europe in working groups lead by the European Commission's Joint Research Centre. Following this process, the Joint Research Centre drafts a report that it hands over to the DG Environment, as a starting point of the official decision making process.' What are we up to now? *'A draft technical report on iron and aluminium waste will be presented soon. The review of paper's technical aspects has started and an initial expert workshop was scheduled in November. The work on copper and glass derived waste should then start rapidly. The first decisions are expected by 2010, maybe in the first semester, but it will all depend on the pace of the comitology process.'*

are watching ongoing developments carefully, in particular as far as major waste streams are concerned, for which they hope red tape is going to be reduced. But there will be greater vigilance about “*more specific streams, especially as applicants for waste reclassification abound. But the virtue of waste is that they can be traced. And as we've seen, legal accountability can be invoked to make up for damages on the Environment caused by waste. In my opinion, it's more complicated when goods are involved.*”

Towards more stringent controls

The SECHE Environment Group's Green Accountability Manager, Thierry Meunier, considers that “*the definition of levels of precaution as well as of critical and technical levels to exit the end-of-waste status is going to strengthen the need for controls. We expect, in my profession, to come under even more stringent requirements, without necessarily enjoying better legal guarantees.*” Thierry Meunier believes that the least significant streams will be put aside, although “*higher recovery rates would be needed in some small waste treatment channels. The trouble is the ultimate review process that might be required*”, and which will make them unprofitable. In the face of such concerns, Peter Eder says that “*the introduction of end-of-waste status criteria would go against legislators' plans if such criteria were to lead to more red tape and more stringent controls and, eventually, to prevent finding alternatives to recycling.*”

A necessary compromise

Obviously, as pointed out by Peter Eder and reminded by the Article 6 of the FWD, “*the introduction of such end-of-waste criteria should not go against environment and human health protection. The challenge is now about defining the right compromise. When we define, for example, the limit value of a pollutant in a product, we should also think about how it's going to be measured, without burdening the process. In my opinion, the introduction of a quality insurance procedure likely to guarantee product quality is a very crucial aspect.*” Peter Eder shares Thierry Meunier's opinion on the complexity of this process: “*Material categories were extensively debated with experts in working groups. What's the right compromise? There's indeed no simple answer. The difficulty of our work essentially lies in the necessity to provide the best possible solutions.*”

Thomas Bonhore considers that the Ministry of Ecology, in defining end-of-waste criteria, will have to determine risks and products' measurable qualities, but also that it will have to look at manufacturing processes. “*Controls don't necessarily consist in putting an inspector behind every product, he adds, but also in clarifying how the various inspection and monitoring bodies may intervene along with the DRIRE and the DGCCRF. Controls may also be strengthened by multiplying and coordinating the various approaches of this notion of waste status.*”

Will there be a competition between public and private sectors?

In his capacity of elected official, Marc Jubault-Bregler notices that waste treatment trade unions, from now on, will also be “*raw material producers*”. In this regard, “*the controls that we're to carry out will necessarily bear a cost that we'll have to explain to our*

Control limitations: The example of excavated soils

Controls may hamper product recovery or reprocessing projects, Carl Enckell says. As an illustration, the lawyer talks lengthily about the problematic case of weakly polluted non-inert soils and about the broadening of the Petit Rhône canal in Sète by Voies Navigables de France (VNF).

“*To enable barges for the transportation of goods to sail through and to contribute to the fulfilment of targets set by the Environment Grenelle Conference in terms of increasing river-borne traffic, VNF has been digging the canal width-wise and depth-wise. It's also necessary to scrap materials that, as such, are not submitted to any regulation. One million m³ of these materials can be obtained in this manner. Analyses carried out as a precaution have revealed salinity rates that are slightly superior to the inertia threshold. And yet, the regulation stipulates that non-inert materials are non-dangerous materials, and thus, that they should be processed through a specific channel that is hard to set up for such volumes. In fact, recovery solutions through embankment or reclamation based channels might be available. Technical analyses suggest that Camargue soils are wastes! This is an absurd situation. We're in a stalemate!*”

Carl Enckell says that “*this case illustrates how urgent it is to settle the issue of end-of-waste status and to define the conditions in which it can be implemented. I believe that we won't be able to wait until the directive gets transposed, one treatment channel after the other, until we get to weakly polluted inert soils. It's all the more true since EU legislators tell us, in its directive of November 19th, 2008, that contrarily to a previous decision, polluted non-excavated soils are no wastes. As a matter of fact, a 2004 decision had asserted the contrary, whilst in France, these substances fall under classified installations related legislation. In short, it all creates enormous challenges.*”

Carl Enckell comments: “*It clearly shows the ongoing historic move towards over-defining waste and fulfilling the goal of protecting the environment and applying the pays-as-you-pollute principle. The question is how to exit waste status and achieve product status. In this case, REACH is the applying regulation, based on two principles, on the one hand, the principle of the reversal of burden of proof, according to which the one who releases a product on the market must prove its innocuousness and, on the other hand, the substitution principle. In this case, every time a potentially less dangerous substance will have been identified, it will have to be replaced by the previous one.*” Eventually, in terms of polluted soils, “*French legislators are ahead of Europe, as they invented the concept of future usage. The level of pollution control depends on future usage (industrial, habitat-related, tertiary usages). To exit the waste status, the solution could possibly be to reach a requirement level in line with the product's future usage.*”

fellow citizens, which is politically complicated." In any way, the fact that these trade unions can now be involved in the production of waste derived products is of some concern to professionals such as the SITREVA company's representative, Tilia Kjellberg: "*Do we need to set up financial systems in order not to distort competition? How is this matter going to be settled?*"

In this matter, in other words the initiative capacity of a public person on a private market, Carl Enckell foresees some answers, insofar as, thanks to provisions introduced by the Grenelle Environment Conference, local communities may, from now on, sell the electricity they produce. And so, "*one can imagine a more or less identical system for public communities that would produce products derived from household and related waste. Either products are reutilised by local communities and it doesn't raise any problem, or they are released on the market. The system is still to be invented, but the legal framework exists.*" As for Marc Jubault-Bregler, he believes that such changes will entail "*a reflection on competences of waste treatment trade unions.*"

Should a single status be defined for waste in Europe? Or should there be three, as Pascale Kromarek eventually wonders? The debate remains open. Carl Enckell tries to provide ultimate reflection elements at the end of this workshop: "*The answer depends on how the matter's understood. Is a single status for waste in Europe desirable or ineluctable? My opinion is that it's desirable. The WFD doesn't define the notion of end-of-waste status but provides criteria for Member States to define it. I consider that 3rd category waste mentioned by Mrs Kromarek, i.e. waste of which one doesn't know what to do, still has to be classified as waste as there's no market for it. Henceforth, one may wonder how useful some recovery processes are*", but it's another debate... "In any case, discussions on this extremely technical issue will go on for long. In that sense, there'll be plenty of work for lawyers indeed!"

Pascale Kromarek's opinion: Plenty of work for lawyers!

An environment lecturer in the Paris-I University and a legal counsel for Total, Pascale Kromarek wonders whether the WFD really clarifies the notions of waste, non-waste, product, etc. The 1975-1997 Waste Framework Directive was interpreted in many different ways, but one could more or less tell what a waste or a product was. A waste remained a waste until its elimination or recovery had been completed. This is what all Court of Justice's rulings meant. At times, it would recognise the product or material under review as a waste. In other instances, it would recognise it as a product after recovery. This was in line with the then WFD's definitions.

The 2008 WFD gives a virtually identical definition: recovery and recycling must tend towards some material or product or whatever function close to the original function of what the waste was before becoming a waste or that can be utilised for other purposes, in other words to some potential usage. We have never been very comfortable with these notions in France, contrarily to Germany, where the law allows reintroducing recovered waste into the economic circuit. As Mrs Fras reminded, the waste end-of-life notion already existed but it wasn't defined.

Three categories are actually defined by the WFD: 1, waste before any recovery operation; 2, non-waste, which becomes a product again after being recovered or recycled if it fulfils certain criteria, and provided that it fit to the various categories of wastes/products/materials/etc., for which these criteria will have been established; 3, useless recovered waste that may be reintroduced into an economic circuit but that cannot be classified as a product as it doesn't fulfil certain criteria. What is done about it? There's a beginning of an answer in the abovementioned sub-section 4 of Article 6: each State may consider, on a case-by-case basis, that what has been recovered is no longer a waste, with or without criteria. It's each state's responsibility to define it."

Pascale Kromarek concludes, "*if these three categories are indeed officialised, I think an extraordinary field of work will open up for lawyers and technical experts!*"

Workshop 2

A waste plan: and then what?



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abstract

Implementing a “waste plan” is no easy task. The planner has no lever actions to set up the plan and, during the plan life, to control the application and assess its environmental efficiency and impact. The roles are shared between different players – regulatory powers, communities, contracting authorities, professionals, associations... - making coordination essential. The French experience in this matter deserves to be examined (how to organize associative teamwork, when should negotiations come into play, what lever actions and follow-ups should be focused on...) but also compared to international methods.

Good intentions in the face of reality

The drafting of a waste plan is not an easy task... even for a Green elected official, as experienced by the president of the Joint union for household waste recovery of the Charente Region (CALITOM), Jean Reverault.

"I launched the first two departmental plans with the vice-president of the General Council in charge of the environment on our territory. As for the third plan, we were willing to carry it out within a broad consultation process. But the field is a totally different reality and treatment equipments needed to be put in place. To that aim we went and met local communities to explain our choice of introducing mechanico-biological sorting.

We often first faced rejection and lack of understanding from neighbouring communities opposed to the installation of a landfill, but also from taxpayers, who did not want to pay the bill. It shows how difficult it can be to carry this kind of project through, even with the best intentions. To put the odds in one's favour, one must correctly inform taxpayers and clarify things at early stages of projects."

Improvements are still needed

After the Grenelle Environment Conference 1 and the upcoming Grenelle Conference 2, one may say that the principle of waste disposal plans will have been well integrated and accepted. Having increasingly focused on consultation with the public, they have proved their usefulness and efficiency. But the management of these plans raises many problems, in particular in terms of the various players' role: the State, local governments, project owners, professionals or associations.

Since the 1975 European directive as amended in 1991, France introduced two types of waste disposal plans: a departmental plan for household and associated waste and a regional plan for hazardous waste. The aim was to introduce suitable and shared schemes to cope with the increase in waste volumes.

A difficult start

Everybody was first unanimously against waste plans, especially first generation plans. They were blamed, above all, for neglecting prevention. Environment protection associations waged strong opposition against them: some, like France Nature Environment (FNE), even brought actions against administrative tribunals for their cancellation. *"Unfortunately, these decisions were rarely taken for good reasons,"* the FNE's vice-president Bruno Genty says regretfully. *"What we wanted before all was to take advantage thereof to arouse a debate and raise people's awareness of the importance of prevention. To avoid a long judicial proceeding, administrative judges would systematically rule in our favour on grounds of procedural irregularity, which created no legal precedent though!"*

Consultation, a base for planning

Since then efforts were made to ease relationships. The 2003 law provides for public consultation in drafting waste plans. Elected officials realised that



it was useless to try to impose their decisions. To be in line with reality, any plan must be based on and reflect consultations.

Jean-Pierre Le Scornet, vice-chairman of the Regional Council of Pays de la Loire, is convinced thereof. *"A regional hazardous waste disposal (PREDD) may serve as a tool applicable in the field only if it's based on a consensus between stakeholders. As elected representatives, we are 'condemned', but in a very positive sense, to ensure as inclusive a consultation process as possible. In the Pays de la Loire Region, we started such a process in 2007. It has just been completed. Conclusions didn't come out of the blue or of an obscure office of the Regional Council. They're instead the result of an in-depth reflection with all players from the industry, the associations, local governments, state agencies and the ADEME on developing shared tools."*

Show flexibility

Ludovic Leplat, business development manager in GEODEVE, a branch of the Sita France Group, specialised in consultancy and management of classified facility projects for environment protection, shares the same analysis. He notably participated in the review of the plan for the disposal of household and associated waste (PEDMA) of the Nord department.

"As professionals, our purpose is to share our expertise. We try to bring our stone to the improvement of our partners' knowledge, in particular through our returns on experience on the operation of treatment infrastructures. A waste plan should not be a rigid framework but an evolving tool. It shall keep a certain room of manoeuvre, so that durability is ensured and technological and regulatory evolutions taken into account. We also always try to propose a variety of schemes out of which local governments can make their own choice."

Not close stable door after horse has bolted

The General Council of Indre et Loire is in the middle of a debate on the review of its PEDMA. The previous plan, which was drafted by state agencies in 2004, was hardly applied. The announcement of the construction of an incinerator in the heart of the Tours Agglomeration was one of the main hindrances. The review promises to be complicated, with new parameters to take into account: the evolution of national and European regulations, the new Grenelle requirements, the increase in waste volumes and obsolete treatment infrastructures. A prior consultation process with all players was thus initiated.

The postponement by the Indre et Loire department's elected representatives of the project for the construction of a new incinerator on their territory in Chinon shows the importance of this approach. *"We didn't want to present neighbouring communities with a fait accompli,"* says Alain Kerbriand-Postic, vice-president of the General Council of Indre et Loire. *"A public debate would then have been useless. We were keen to initiate such a debate and we don't regret it. Of course, as elected representatives, we take the risk of being criticised. It's the only way to carry things through. At the end of the day, we were glad that we took time to listen to people. I don't want to hide that we were a little worried about how associations would react. Debates are sometimes harsh. But everybody played the game, people really listening to one another. We drafted a summary of discussions that enabled us to identify priorities. Elected representatives will be able to rely on this shared basis to review the plan."* The consultation process will continue within the framework of a steering committee. The process is to go on for at least another 18 months.

Elected representatives take commitments

The situation is very similar in the Sarthe department, where the first PEDMA, which was approved in 1996, has never been applied. The second one was even cancelled in 2006 by the administrative court due to a too big concentration of waste facility construction projects in the same geographic area. The construction of three new storage centres in addition to the existing one is planned within a radius of 10 km. The Sarthe General Council has already decided to take over this project. *"The Sarthe department's president even committed personally to this project,"* says Vincent Veron, the director of the Inter-Municipality Implementation and Management Joint Union for Household Waste Disposal (SMIRGEOM). *"We initiated another more thorough consultation, which enabled us to go even further, especially by integrating the Grenelle waste recovery objectives. On the prevention chapter, we did even better by setting a 10% reduction objective over the period of the PEDMA."* This process has just been brought to completion with the approval of the new plan in October 2009.

Elected officials may try to divert the process

Bruno Genty of FNE calls the genuineness of the consultation into doubt. He cautions in particular that elected representatives might divert the process to impose

a less constraining plan. *"I sometimes have the feeling that we don't really understand each other. The purpose of any consultation process should be to reach an agreement on the project to implement. Yet, in most cases, we have the impression that projects have already been defined. A few scenarios are proposed, but in the end the need for new treatment capacities is always put forward. To make associations happy, elected representatives add a prevention chapter that they present as a priority. But their main concern is actually to manage what's "on the pipeline"!*

Disappointed expectations

And yet environment protection associations had very favourably greeted the decision to transfer the competency of the drafting and review of plans to department and regional authorities. After the first plans, which were qualified as "technocratic", it was highly expected that a project shared with players in the field would be worked out. Associations were soon to get very disillusioned. *"The role of regions and of departments is not to draft a nice document full of promises – which is very easy to do with the help of a consultant – but to facilitate the work of other local authorities by sharing a number of tools,"* continues Bruno Genty of the FNE. *"They must primarily encourage good practices and support promising initiatives. In any debate over redistributing administrative competencies, they have a real political opportunity to seize".*

Insufficient means

Consultation and planning, however, demand heavy financial and human means. *"Yet, competencies have been transferred but financial means haven't,"* reacts Jean-Pierre Le Scornet, vice-chairman of the Regional Council of Pays de la Loire. *"In the current context of local tax policy reform, the situation – in Regions anyway – isn't set to improve."*

Multiple administrative layers

This raises the problem of the articulation of territorial competencies. The current distribution

Jan Nosek,
representative of
the Ministry of the
Environment of the
Czech Republic

A very recent concern

"In our country, the environmental concern is still very recent. The first waste plan was drafted in 2001. It was promulgated in 2003 and will remain in force until 2012. Even if we're among European countries with the best plastic waste sorting track record, we still have progress to make. We are notably confronted to the increase in volumes of landfilled biological waste. We're also lagging far behind for our environmental education. The forty years of communist rule have done much damage. There's political will to advance mentalities, but it's not strong enough. And most importantly, businesses and citizens aren't ready to make the necessary efforts. The first are primarily concerned by their economic development and the latter are keen to preserve their purchasing power."

of roles between the many different administrative layers – the State, regions, departments and other local authorities – is a hindrance to the efficiency of planning schemes. The various management plans are drafted at different administrative levels. Departments are in charge of managing household and associated waste whereas hazardous waste falls within the competence of regions, with many grey zones between the two.

"What's more, while regions are responsible for drafting and facilitating the PREDD, monitoring and follow-up are carried out by state agencies, as part of their regulation enforcement role," adds Jean-Pierre Le Scornet. "We must therefore urgently initiate a reflection to clarify responsibilities."

Better involve the SMEs

There is much at stake. Without sufficient territorial coverage, many are tempted to dump their waste in the nature. The two most problematic waste categories are hazardous waste and elimination inert waste. The SMEs – and more particularly craft workers – are a priority target. *"Besides, craft workers aren't always aware of the dangerousness of their waste," adds Philippe Mucchielli, head of the national pole for craft industry and the environment of the National Centre of Innovation for Sustainable Development and the Environment for Small Businesses (CNIDEP). "The management of bulky waste is their main concern. On the contrary, the residues of paint or solvents, albeit very harmful, can be easily dumped into a sink or garbage container."*

This is why the CNIDEP, which works for the network of local chambers, local governments and professional organisations, decided to act before waste disposal plans have been carried through. *"For 15 years, our priority has been to increase awareness of good practices," Philippe Mucchielli continues. "We figured out tools to better accompany craft workers, because they aren't always trained, nor are they equipped to manage this type of waste."*

EGIDA: for better assessment of waste quantities

In 2007, a national inquiry about waste stocks of 1,000 cottage SMEs was conducted by the CNIDEP with the help of 9 chambers of trades. This approach allowed defining average ratios of annual production per employee and per type of waste for the 22 biggest craft trades. A computer tool, EGIDA (Estimation of Craft Trade Waste Stocks) was then developed to facilitate the use of these data. By entering the number of employees of a trade for a given territory, EGIDA makes it possible to assess the amounts of waste per family (inert, ordinary or hazardous waste) and per type of waste. This tool was delivered to regions and departments to help them in their waste management policy.

Show pragmatism...

To fill this gap, some local governments decided to get involved, with the help of the CNIDEP. It is notably the case of the Community of the Agglomeration of the Country of Voiron, in the Isère department. *"Instead of putting off the resolution of the problem by leaving craft workers to cope with the management of their waste, they decided – although it's not part of their competencies – to institute a hazardous waste collection service,"* Philippe Mucchielli declares enthusiastically. *"The local government trained teams and invested in suitable vehicles. They collect the waste of professionals – painters, garage people, printers... – who request so."*

... and modesty

Although he regards this type of initiative as very positive, Bruno Gentil of France Nature Environment warns against too much voluntarism. He advises elected officials to be modest in their decisions. *"The price of waste management also results from their choice. Yet, some of them, showing too great enthusiasm in the face of the very good results of their sorting policies, sometimes lose their sense of reality, mistaking quantity and quality of public service."* He mentions, as an example, the adoption of the door-to-door green waste collection scheme. *"Not to mention mere current trends – after the plasma torch, the new miracle solution is the mechanico-biological pre-treatment system. Everything has a cost!"*

Costs lacking transparency

Beyond the mismanagement of public monies, elected representatives are primarily blamed for a lack of transparency. To Vincent Veron, the director of the SMIRGEOM, it is essential to explain to citizens what they actually pay for, since many erroneous ideas prevail. *"For example, on our territory of the East of the Sarthe department, many taxpayers find the average cost of waste management per inhabitant too high. And yet at 63 Euros per capita, it's actually under the national average. A very big majority of them also think that they pay for the collection of domestic refuse only. It actually represents only 30% of the service cost charged to each inhabitant. To that must be added the funding of waste treatment, separate collection schemes, household waste collection centres... There's definitely a huge communication gap."*

Yet only by ensuring transparency will we increase awareness and make future cost evolutions acceptable. There's quite much at stake since in 10 years the cost per capita increased by 80%. This upward trend is set to continue, since we're currently in the middle of an infrastructure upgrading process requiring big investments."

Germany, an example to follow

In Germany, this willingness to encourage transparency has been applied for several years. As a result, the principle according to which waste producers pay for the waste they produce is now very well accepted. Big cities can autonomously set the amount of their waste taxes. Their amount is calculated separately, apart from the municipal budget. Households and businesses bear all costs related to the management of their waste.

The carrot and the stick

Not all local governments waited until the decision of the Grenelle Conference to experience incentive pricing. So did in particular the Urban Community of Greater Nancy in 2000. The CNIDEP, among others, participated in this scheme. "Professionals used to enjoy uncontrolled access to waste sorting units," says Philippe Mucchielli, head of the national pole for craft industry and the environment of the CNIDEP. "They actually would use the service without charge. We decided to set up a dedicated welcome service with guidance on sorting conditions. To facilitate acceptability, we didn't immediately apply the actual cost. Prices increased gradually over 3 years. This approach worked very well. 35% of businesses played the game right away. This proportion was up to 60% after 3 years."

According to Philippe Mucchielli, the fee constraint is an efficient mobilising factor. He mentions the example of a federation of municipalities that optimised its cemetery garbage management to reduce its refuse removal bill and of a university that now recovers its paper waste...

"They now understand that by optimising their sorting practices and by reducing their waste production, they could reduce the size of their garbage and hence the amount of their tax," comments Dieter Worner, head of an environment protection agency of the city of Fribourg. "A family can choose between a 60-litre garbage and a 120-litre garbage, the amount of the tax applied varying accordingly. It amounts for example to 200 Euros a year for a family of 4 that uses a 60-litre garbage.

We were able to introduce these policies because the inhabitants of Fribourg have a very developed green consciousness. All citizens are not ready to accept such a system. It's advisable to act gradually by informing and raising people's awareness and educating children in kindergartens and nursery schools. Businesses are also encouraged through tax reductions. It took us more than fifteen years to achieve this outcome."

Soon an incentive pricing scheme in France?
In France, the introduction of an incentive pricing scheme is slowly making its way. The Grenelle commitment 243 provides for compulsory incentive pricing of public waste service in the form of either a fee for the removal of household waste (REOM) or of a tax (TEOM). It would comprise a fixed part that would reflect the cost of collection equipments, and a variable part corresponding to users' actual consumption. The latter part will be determined according to the volume of waste. Like in Germany, such incentive pricing would allow applying the Polluter Pays Principle to service users to encourage virtuous behaviours. This commitment still needs to be transposed into national law to be enforced. The definition of the variable part's minimum compulsory level still seems to be a problem.

The incentive fee is not a miracle solution

To Bruno Genty, the last thing to do is consider incentive pricing as a miracle solution. It is just another way to make people responsible. *"It shouldn't be harshly imposed, as seems to be the case. On the*

contrary, people must be given time to get used to that idea and to gradually get ready." The critic of Jean Revereault, the Joint union for household waste recovery of the Charente department, is even more vehement. *"Incentive fees have no effect but incite people to serve their personal interests. Everyone is going to look for a way to avoid paying. We should instead promote a more constructive approach by encouraging good practices and by levying a tax only on those who don't respect the rules. I think that it's the best way to put an end to clandestine practices like wild disposal of waste."*

Invent the society of tomorrow

All these debates highlight the difficulty of planning. The director of the SMIRGEOM Vincent Veron considers that one of the reasons is that the purpose has changed: it is no longer to develop technical treatment solutions to cope with the increase in waste volumes but, instead, to limit the production of waste which he thinks is more complicated to achieve. He even refers to a genuine cultural revolution.

"Much consultation work is needed, which has not necessarily been a habit of local authorities in waste management. The challenge is to succeed in inventing new technological tools and democratic processes. We can no longer content ourselves with a short-term vision of this issue. Reducing waste production will require major changes in our individual and collective behaviours as well as in our production modes and consumption habits. We are building the society of tomorrow."

Workshop 3

Waste management faced with the challenge of the climate and energy transition



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abstract

The debates in progress regarding climate change and the research for a new agreement in Copenhagen at the end of 2009 – following-up on Kyoto – such as the adoption (at the end of 2008) of the European energy/climate package, obviously impact the waste sector. It is becoming urgent to examine the available know-how in this sector regarding the efficiency of treatment methods and decrease of greenhouse gas emissions and also the best available techniques... – but also to assess the potential which these wastes could represent as substitute energies. A summary of the different practices in European countries will throw light on the exchanges.

Incineration and fermentable waste: potentials and illusions

The Grenelle Environment Conference had taken the initiative to introduce an integrated approach combining waste, climate and energy issues, and, naturally, the climatic dimension was added in 2010 to the debates of the *Assises des Déchets*. This first workshop *de facto* started addressing this matter, but the debate remains open. Based on the EU Energy-Climate Package “3 times 20” commitments and on the – even more voluntarist – prescriptions of the Grenelle laws, the exclusive traditional “waste” approach has been enriched with the “energy” approach.

Waste and greenhouse gases

In France, greenhouse gas emissions from the waste sector represent 3% of total emissions, i.e. about 15 million CO₂ Equivalent Tons, all gases included. For comparison purposes, the biggest greenhouse gas emitting industry is the transport industry (26%), the waste sector represents about the same weight of emissions as French international aviation and a tenth of the emissions of residential and tertiary industries...

In France, waste treatment greenhouse gas emissions are as follows:

- 45% are derived from incineration (of which 73% are related to Household Waste Incineration Units with energy reclamation)
- 37% are related to landfilling
- 15% are related to waste water
- 3% are related to composting and methane production

Like compromises taken in the Grenelle Conference, it is thus now admitted that incineration, like storage, should enjoy the same recognition as other waste treatment methods. The need for moderation or even restricted action, on grounds of an unquestionable climatic impact, is advocated by all – but everybody has also been reflecting on recent technological innovations and the new economic circumstances.

The quick emergence of the market of solid fuel residues (SFRs) in Germany thus teaches us many lessons about the impact of regulations banning landfilling, about new investment – and trade! – conditions that are imposed to industrialists and to local governments. Germans have now learnt these lessons. Tomorrow, they will be taught throughout Europe...

As a matter of fact, not only must we be reasonable and understand the necessity of incineration, albeit supervised, but we also need to use our imagination and explore the thousand treasures of the famous residual part of our garbage, i.e. fermentable waste in particular... The debate goes on.

The Grenelle ambitions: the 20 million

TOE target

At the beginning of the workshop, Frédérique Millard of the French Ministry of Ecology, Energy,

Sustainable Development and Sea (MEEDDM) undertook to summarise the ambitions of the Grenelle Conference in terms of controlling greenhouse gas emissions derived from waste. She recalled Europe's and France's international commitments – the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) – and the French government's willingness to act in an exemplary way at European level. Europe has just introduced the “Energy-Climate Package”, in which Member States committed to the “3 times 20” objective to reduce greenhouse gas emissions by 20% by 2020, to improve energy efficiency by 20% and to reach 20% renewable energies in the UE energy consumption.

“The Grenelle Conference first asserted the importance of diminishing the production of waste at source, Frédérique Millard reminds the audience. *The priority is thus to reduce waste production. The Ministry's support to energy recovery from waste is two-pronged: promote the reuse of waste as source energy production and the use of waste as renewable energy. Thus, the Grenelle operational committee (Comop) No. 10 translated the Energy-Climate Package objective to reach 20% of renewable energy into an “energy mix” (actually set at 23% for France): by 2020, we'll have to reach more than 20 millions of tons of oil equivalent of renewable energy, half of which will be from heat.”*

Incineration, a key issue

The General Delegate of Amorce, Nicolas Garnier, identified the key issue of the debate: what is the future of waste incineration, with or without energy recovery, in France? *“Let's put it clearly: after the serious crisis of the 1990s, which provoked quite strong rejection attitudes, and whereas tools keep operating effectively in the field, we arrived at the Grenelle Conference with this question about the future of incineration in mind. In this regard, the final conclusion of the Grenelle waste and energy groups and of the ‘Comop’ 10, in charge of renewable energy issues, sounded very interesting.”*

Waste related approach

As far as waste is concerned, participants more or less agree on needed commitments, Nicolas Garnier says. In France, there has not been enough progress in the fields of prevention, recycling and organic recovery. This implies setting three priorities (prevention, recycling and organic recovery) and two objectives: the reduction by 7% of the production of household and associated waste per capita over the next five years; an increase in household waste recycling rate to 35% by 2012 and to 45% by 2015 for. *“Some consider these objectives as not enough ambitious, others as too ambitious. It means that we're close to the right compromise...”*

The debate is not over though. *“What do we do with the remainder? The various players agree on the need to limit it, by developing reduction at the source and recycling policies.”* It translated into objectives to reduce stored and incinerated waste flows by 15% by 2012 and to limit the potential of any new installation to 60% of the stock of concerned administrative territory.

“These figures and this approach can be perceived in two ways. It can be a way of saying: ‘We want to do less.’ But it's also a way of saying – and here I'm looking at environment

protection association activists right into their eyes: 'We must assume our incineration facilities!' Chantal Jouanno advised the French National Waste Council of a fact that we're not enough aware of and that deserves our attention: a survey has established that if the Grenelle commitments were to be applied by local authorities, one third of French departments will have the capacity to treat residual waste, one third will have the capacity to do so if ongoing projects are actually completed, and one third won't have this capacity. It's a key issue. Residual waste treatment facilities will have to be created to fulfil the Grenelle objectives set for 2015." The other debate in relation therewith is that on the sizing of these facilities.

The energy approach

The other chapter of the debate on waste in the Grenelle Conference was energy. "Jean-Louis Borloo called for an increase of the portion of renewable energy in the French energy mix to 23%, i.e. 3% more than in the European package! Wondering about how to answer that request, negotiators realised that a significant waste stock with a significant room for manoeuvre was available," states the General Delegate of Amorce.

Today in France, already more heat is being produced from waste than from combined geothermal energy, biogas, wind and sun power. Nicolas Garnier warns that one shouldn't get mistaken: "*I'm not saying that waste is a renewable source!*" Frédérique Millard recalls the methodology of the Kyoto Protocole for the quantification of waste: "*The protocol provides that a fraction of the waste disposed of in household waste incineration plants (HWIP) is considered as biodegradable, a proportion that stands at 50% at international level, as compared to 57% in France in 2008.*"



Promising perspectives of methane production

Although biogas today only represents 1.5% of renewable energies in France, its potential was assessed as remarkably high by specialists, among which Olivier Théobald, of the ADEME, especially if methane production developed at a good pace. "This process is at the interface of waste production and energy production. That's why the ADEME always had a hard time classifying methane production. It was eventually classified as waste, based on the fact that it's primarily used to treat waste, and that subsequently, as the case may be, it could produce recoverable energy." Besides, the environmental benefits of methane production are not negligible.

The primary benefit of methane production is to allow for waste treatment on local territories, in rightly sized treatment units or, in any way, on an adequate scale of waste stock grouping. "Therefore, methane production must be based on a territorial approach and a strategy consisting in regrouping and transferring waste and in creating synergies between different methods of treatment of waste not necessarily generated by the same source (domestic, industrial, agro-industrial, agricultural waste...). Waste transport could consequently be limited," depicts Olivier Théobald. Methane production allows for the treatment of very specific waste, in particular very wet waste, typically greasy waste, one doesn't always know what to do of..."

The second benefit of methane production is to advance waste land treatment methods. "We're blamed for not doing enough organic recovery. Methane production, by partly digesting organic material and by transforming nitrogen and phosphorus in very mineralised forms, allows obtaining digestates of a grade higher than in a rough land treatment." This might imply changing the process, separating phases to sort out solid or liquid materials or phosphorus, potash or nitrogen. But it could lead to genuine soil improvement strategies and to the replacement of current mineral fertilisers, and hence energy saving, by reducing the large amounts needed to produce such mineral fertilisers.

The third benefit of methane production is that generated biogas may be energetically recovered. Energy can take three forms, electricity, heat or biogas preserved in the form of purified or concentrated biogas and transformed into bio-methane to be used as fuel or injected into the natural gas distribution network. "Biogas can contribute to the increase in renewable electricity and heat production, Olivier Théobald sums up. Thus the injection of purified biogas into the gas distribution network opens interesting perspectives for the diversification of our energy mix."

Waste thus does not represent a source of renewable energy. "But, when such waste exists, the best way to use it must be figured out. It's not black or white, it's more subtle than that. We have room for manoeuvre. On the one hand, more energy can be derived from the waste that we avail of today. And, on the other hand, we could produce more energy even if residual waste quantities were to decline – which I hope, which we all hope, as part of the Grenelle commitments," states Nicolas Garnier.

Energy, heat and electricity

In France, the production of energy from waste is considered as not optimal. Why? Because the production of electricity – at a 15% yield – is preferred to the production of heat, at a theoretical yield of up to 100%, versus 50% in practice. "France has no culture of renewable heat. That's why this notion in the Grenelle law is important," as Nicolas Garnier puts it. We have been very much focussing on renewable electricity, hence neglecting renewable heat from wood, deep geothermal energy, solar thermal power, biogas and waste... Some difficulties remain: heat transportation is not cost-effective, thus production facilities need to be built near energy consumption areas, which implies overcoming "NIMBY" reflexes. "The challenge is to get acceptance at local level for the establishment of adequately sized energy production units – not too big to avoid any 'waste suction' effect – within the right perimeter, near consumption areas..., Nicolas Garnier concludes. *We now avail of a tool for that purpose in France, the ADEME's Heat Fund."*

Solid fuel residues: a market to follow up...

In this debate on waste and climate, a phenomenon happening in Germany was the subject of a real shared reflection. Indeed, the market of solid fuel residues is currently experiencing an extremely fast development, as observed in the field by François Grosse of the Veolia Group.

SFRs are fuels from domestic refuse or ordinary industrial waste. Germany is the only country in Europe – and probably in the world – with a solid fuel residues market, which skyrocketed since 2005, after the TASi, the German regulation, banned storage centres.

SFRs are very varied. They typically fall into two categories: high heating value SFRs (20,000 to 23,000 megajoules per kilo, like in brown coal for instance) and average heating value SFRs (at about 15,000 megajoules). In Germany, three categories of users are interested by them: the cement industry, probably the biggest historical consumer (a million tons of SFRs a year); coal-fired power plants that use them as a substitute for part of their coal or of their brown coal for the Eastern part of Germany (a million tons); lastly, energy production facilities on major industrial sites, whose number soared: they now represent about 2 million tons a year of solid fuel residues – an increase to about 5 million tons of additional solid fuel residues in the next 3-4 years is expected with the many planned projects and building sites.

"After starting from almost zero in 2005, we now stand at 4 million tons of solid fuel residues and are expected to reach 8 to 9 million tons in the next 3-4 years. I'd like to mention in this regard that German landfill sites will soon be in a situation of over-capacity, while this solid fuel

residues market is also developing beyond the German border...", explains François Grosse. On the economic side, after an initial increase, the price per ton of solid fuel residues stabilised at about 60-70 Euros.

Solid fuel residues: a promising... and controversial market?

Why this craze for SFRs? Say François Grosse: "*The hundreds of millions of Euros of investments in such facilities say it all about how powerful the 'drivers' of these industrial decisions.*"

German industrialists' motivation in promoting the quick emergence of these projects was three-fold: firstly, they were driven by opportunities, i.e. extremely interesting prices for those who opted right away for production projects or for those – from the cement industry, from factories or from power plants – who were to very quickly replace coal or brown coal by solid fuel residues.

French industrialists invent a guidance tool

Partners within the EpE (Businesses for the Environment) association of which they are historic members, the Sécu Environment, Veolia Environment and Suez Environment groups (and the latter's Sita subsidiary) decided to jointly devise a tool for the measurement of greenhouse gas emissions related to waste treatment facilities.

"The aim of this protocol is to provide guidance for local governments and businesses in quantifying, reporting and checking their greenhouse gas emissions, for the purpose of drawing up an inventory of these emissions. EpE's policy officer Séverin Fischer explains. This tool allows for a yearly reporting on greenhouse gas emissions related to a facility, it's not the result of an analysis of the life cycle that would make it possible to compare incineration or the storage to another treatment mode... It actually allows working on the various facilities successively, by means of a harmonised method which is likely to form a consensus among economic and institutional players. The first version of this tool, in 2006, has since been widely circulated; it's intended to be shared and enriched by all..." The tool is accessible without charge on the EpE and FNADe websites.

The tool developed by EpE presents itself as a simple spreadsheet with ergonomic tabs and covers the various links of the treatment chain: collection and transport, mechanical pre-treatment, sorting and recycling, physico-chemical treatment, biological treatment, storage, incineration, waste water treatment. It was designed as a quite comprehensive tool, it addresses the three greenhouse gases, i.e. methane, carbon dioxide and nitrous oxide, as well as facility related direct emissions, indirect emissions and avoided emissions. *"A European and certainly even worldwide breakthrough, this tool is increasingly recognised by many key international players, among which, in England for instance, the Environmental Services Association (ESA) members..."*

The second driver was of a strategic nature: the anticipation for investing hundreds of millions of Euros must not only be on the return of the next three years but on an upward trend of all prices of fossil fuels, as a major driver. The other fundamental driver relates to benefits to be drawn from CO₂ quotas in force: factories dedicated to SFRs are considered as doing waste recovery and, as such, are not submitted to quotas; in the case of co-combustion, the SFRs are accounted for but based on emission rates that generally stand at half that of coal.

"This rationale is altogether unacceptable!, Bernard Longpré, vice-president of the Brive Agglomeration, energetically protests. The SFR market draws its success from economic opportunities – fine! But isn't the actual environmental track record – I'm talking about NOX, CO₂... – a scandal?"

The benefits of this channel are also disputed by Véronique Arnould, the manager of an inter-municipality structure of the Namur province in Belgium: "We had the opportunity to examine the SFR principle. We gave up: the price for preparing materials is so high that treatment costs stand at about 150 Euros per ton, as compared to 80 to 100 Euros for incineration in units of sufficient size and efficiency."

"I'm just telling about what's happening in Germany, I'm not being apologetic, François Grosse answers firmly. I just wanted to underline that the German industry's motivations are present in the entire European industry. The uncoupling of fossil fuel price evolution and the economy of the future auctioning of quotas are a matter of concern for all European industrialists. The drivers for this evolution are thus the same in France, in England, in Poland, in Denmark..."

Who is capable of a real holistic vision?

The benefit of François Grosse's words, especially the underlying analysis of climate and waste issues, was that they aroused a debate. *"I'd like to suggest the following: I think that phenomena like soaring SFRs in Germany show that a transition of the so-called sustainable development model from an 'ethics' and 'awareness raising' oriented phase to a more practical phase in which more concrete issues are addressed is currently happening,"* the industrialist notes.

Pénélope Vincent-Sweet, of France Nature Environment, does not share this analysis at all. She stresses on three main lines to assess the challenges of waste-related climatic urgency: a necessary holistic vision, the measurement of the impact of management choices, the illusions of incineration, among which that of organic waste.

"There must be a holistic vision. We shouldn't worry only about greenhouse gases. To protect our planet, we also need to preserve biodiversity and natural resources. A second crucial element is prevention. The best waste treatment technology will be less efficient than the non-production of waste. We'll keep saying it, because we must look beyond: the way of managing waste, of getting used to managing waste, impacts production, and figures, sometimes have a hypnotic effect! As an example, according to some surveys, prevention has of course a better carbon footprint than recycling... except for the wall-to-

wall carpet! It seems that producing and to recycling wall-to-wall carpet is more interesting to not manufacturing any... Another example is the outstanding track record of methane generation from dump sites, albeit still far from yields disclosed by some administrative bodies!"

Technology, a false good idea

Pénélope Vincent-Sweet goes on with her analysis by expressing her indignation about what she calls "false good ideas." She says: *"The idea that 50% of energy from waste incineration is renewable energy is absolutely erroneous. This assertion is based on the fact that 50% of waste is biowaste. But although biowaste represents half of garbage contents, it doesn't produce half the energy. The bulk of biowaste is too wet. All household waste incinerators know it well. Likewise, we know that recovery is imperfect. Even that of plastic materials was questioned by some surveys. Not to mention the fact, to go back to organic waste, that it's not the right priority. What's most important? Identifying as efficient an organic material incineration method as possible or its return to the ground, with multiple beneficial effects, by means of carbon sequestration or fertiliser inputs? This is why an association like France Nature Environment doesn't content itself with questioning every aspect of any technological choice, but advocates separate and qualitative collection..."* This analysis gets the strong support of Bernard Longpré, elected official and vice-president of the Brive Agglomeration, who refuses that his choices should be guided by technological requirements and prefers those of prevention and sorting...

There is still the solution of biowaste!

Although not all issues have been addressed yet, the debate has started between the different players, whose opinions are sometimes very different. The participants to the roundtable did not fall into the trap of a prevention versus incineration or a storage versus incineration confrontation... All participants did agree on the necessity to give priority to prevention, in which field much progress is needed, like in the field of recycling.

"We need to focus on residual waste, whatever the percentage – some would advocate 50%, others 30%. We all agree that determining whether it should be disposed on in a storage centre or in an incineration unit isn't enough, says Nicolas Garnier of Amorce. What we need to discuss is indeed the final receptacle, which should be as limited as possible, but in the right conditions. Opposing incineration to prevention is useless..."

As a matter of fact, the real issue is to figure out how to manage the residual part, by articulating the three or four solutions that are now well mastered: incineration-storage direct approaches (less and less satisfying though), mechano-biological treatments, fuel production, etc. And most importantly, efforts need to be made to divert even more waste from this "residual garbage". This in line with reflections and experiences on the collection of the Fermentable Fraction of Household Waste (FFHW) and on incentive mechanisms...

Workshop 4

Innovation – towards a dispassionate debate



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abstract

The argument of novel ideas or innovative solutions, implemented on other territories, is often used in debates sparked off by treatment plant installation projects. Within these often heated environments, the debate nearly always leads to "quarrels" which are rather difficult to solve from a technical standpoint, between the experience requested by some and the innovative research pushed forward by others. Must we ask ourselves which voice is more important? Would it not be wiser to make a list of the "best available technologies" and to class them according to the relevance of targeted criteria (population concerned, tonnages, territorial risks, potential specificities, etc.)?

Relevance as a core notion

Many innovations are being implemented or will be implemented in the next few years to overcome the major challenges of waste management. Although they should generally be encouraged, their implementation and assessment pose a number of questions, especially in terms of environmental impact, public health and social acceptability. It is all the more true since innovations are not just of technical or industrial nature.

One phase after the other

An industrial innovation does not happen in a blink of an eye. On the contrary, it has to follow a process and schedule. "Innovation, in our business sectors, requires that risks be perceived by both customers and industrialists", SITA's chief technical officer Cyril Fraissinet insists. "We know, therefore, that no pilot operation will deliver the expected outcomes in the first months. This is why we need to correctly anticipate the level of investment that each stage is going to require and to not lose sight of the fact that technological validation processes take time." Lead times are actually quite long, 3 to 4 years from the phase of laboratory research to the pilot industrial phase and then the first application. "This last phase, which is often forgotten, is very important in that it's managed differently than in a regular unit. Before we reach the phase of a 'mature' unit, we have an obligation to ask for operating guarantees and obligations."

Experience in the field shows how passionate reactions to innovations can be. *"As a local and regional elected official and as an association member, I indeed often had to deal with 'NIMBY' reactions to waste treatment facility projects of the people in favour of landfills and those in favour of incinerators"*, says the Pays de la Loire regional counsellor Jean-Christophe Gavallet. *"We need to figure out what practices are the best, for which territories, what the opportunities are and, above all, to carry out adequate assessment"*.

The example of Saint-Nazaire

The experience of the Community of the Agglomeration of the Saint-Nazaire and Estuary Region (CARENE) shows how complex a situation may become. The local government's vice-president Bernard Garnier said: *"In the perspective of the closing of the Cuneix authorised landfill scheduled for 2006, we initiated a debate in 2001. There was a harsh exchange of arguments between people supporting incineration and those supporting landfilling."* Other players intervened on both sides: farmers and the inhabitants of Donges (the city where the construction of the facility was planned), environmentalists, the Nantes Saint-Nazaire Autonomous Harbour – and even *"the state, to keep the score"*. After a three-year debate, the Community Council eventually decided to set up a biologic stabilisation channel, which implied to find a "hole" to bury ultimate waste once rid of their biologic fraction.



"Unfortunately, we didn't succeed, although several sites had been contemplated": the first one, west of Donges, was dropped as a result of the application of the Coastline Law, and the second one, north of the coal terminal, because civil aviation feared that it would attract birds in the vicinity of the aerodrome. The third solution, east of Donges, was not explored because of the harbour extension project on which discussions had long been focussing.

"The CARENE president found it too complicated and eventually threw in the towel. As the General Council was launching its waste elimination departmental plan in 2008, we entrusted them with our fate. A research firm is to deliver its conclusions in March 2010. We are expecting as broad a set of propositions as possible, thanks to new technologies – and hope that a new debate won't start for another 6 years!"

Concrete evolutions

According to Marc Cheverry, the head of the ADEME's GEODE department, more and more territories are facing this situation. *"This poses the question of innovation acceptability, suggesting – wrongfully! – that it can make miracle happen when typical and well mastered techniques and processes are rejected. But there are other innovation drivers."* Concrete evolutions have thus occurred in the fields of collection (tyres...), alternative transports, pre-treatment and sorting (optic sorting, mechanised dismantling), treatment (biology, thermolysis, pyrolysis, gasification with or without plasma torch), storage (bioreactors)...

"That's a lot, as all such innovations don't entail the same level of risks – and there is no innovation without any risk!" Combustion techniques, for example (pyrolysis, gasification, plasma torch) allow limiting gas emissions and are now used for extremely characterised waste (tyres...). But they are at the stage of laboratory research only. *"Their development will then have to be supported, their performances characterised and the related technical and economical conclusions validated".* Although gasification's effectiveness has been established, in Japan, for domestic and industrial waste, it is difficult to implement it in France, where its cost is 30% higher than typical incineration solutions and where engineers instead of cleaners are required to operate facilities!

Moreover, it is difficult to apply techniques whose effectiveness has been established with homogeneous waste (tyres, wood, meat meal...) to more complex waste with poor characterisation: mixed industrial waste or domestic waste whose quality and quantity vary throughout the year. *"Beyond innovation, it's therefore necessary to think about the need to create preparation and pre-treatment facilities upstream and to integrate their economical cost into calculations."*



Innovation, at last, may just be about optimising current processes. In the field of recycling, the improvement of sorting techniques and facilities may therefore allow reaching the same levels in France as in Germany and in the Netherlands. But optical sorting, for example, requires €500,000 to €700,000 investments that can only be compensated by recovery surplus and market outlets at the end of the chain – and waste with better characterization upstream. *"It's to be noted, in this regard, that the ADEME has been supporting the development of processes or innovations, at all levels: counsel, expertise, research, technical specifications, preliminary studies, industrial implementation."*

A holistic approach is needed

The SITA's chief technical officer Cyril Fraissinet perfectly agrees with this analysis. *"In the industrial world, innovation is an obligation. We indeed have to identify both 'niche' solutions and overall waste treatment solutions for our clients."* In the first instance, innovations rolled out into the market are thus supposed to allow resolving problems related to specific waste typologies, whilst one of the main characteristics of waste very certainly is its heterogeneity. *"Everything to reclaim waste at as early a stage as possible to confer it a recovery capacity is therefore likely to help develop a 'circular' economy, with real development perspectives – and to confer innovation its relevance."*

For example, oxidation allows transforming plastic into fuel. *"But when will we be able to use this process that requires integrating an all-encompassing economic chain, with a capacity to sort out plastic early enough and a fuel price compatible with the manufacturing cost? In other words, the innovation lacks the necessary structure!"* A holistic approach is thus required. *"Joint efforts are necessary to encourage discoveries and start-ups – whilst keeping in mind the need to preserve the channel's economic balance, from product collection to product recovery."*

The same goes for the overall treatment of waste, household waste in particular, which requires planning and prospecting. Landfilling, incineration, methane production, composting... *"Every ten years or so, a new element comes forth. We need to be careful about not yielding to mere current trends. We should rather project ourselves into the future based on local economic realities"*, by making quality compost where agriculture needs it, creating energy where industrial consumption is significant and where distribution networks are available. *"In this perspective, the Grenelle Conference obliges all players – industrial players, elected officials, organisations – to identify common solutions to acceptability issues. Indeed, no unit is capable of ensuring a 100% treatment and of producing recoverable material only and none will certainly ever be."*

The choice of Germany

And yet, Germany seems to be a few lengths ahead. A scientific advisor to the Ministry of the Environment, Markus Gleis says that *"Current debates in France took place in Germany ten years ago. The German government put an end to the debate on*

landfilling, incineration and the various waste treatment technologies in June 2005 by placing a ban on landfilling of all material waste likely to constitute a source of methane emission. It's one of the most emblematic measures we've ever taken against greenhouse gas pollution."

Greenhouse gas emissions have been reduced by 10% thanks to previously initiated innovations that this measure encouraged. Thanks to the development of technologies, Germany thus now avails of a 20-million ton incineration capacity per year (with over 70 incinerators) and of a high-performing recycling system, the overall objective being to reject landfilling, albeit the easiest and cheapest solution. *"To my opinion, innovation is about combining technical and organisational considerations for an environment friendly waste management."*

Other example: over the last 20 years, Germany spent 1 000 million Euros in research projects on pyrolysis and gasification. And yet, only one pyrolysis factory was built in Bavaria. *"It's a widespread treatment method in Japan. We'd need to double either the cost or the number of operating hours to be able to contemplate setting up such a system in our country. Therefore, we shouldn't expect miracles, but rather stake on the techniques that are currently being proposed on the market to reduce greenhouse gas emissions, and build up a recycling sector for optimum waste usage."*

Substitution fuel for cement

Germany also anticipated in the cement sector with high-temperature furnaces operated by waste as substitution fuels. Their use rate has risen by 5.7 % per year to 54% in 2008, whereas it has been stagnating at 30% in France, although this country occupied the first rank in Europe 10 years ago! *"The utilisation of 'Refuse Derived Fuels (RDFs)' really started in the 90s. We used to utilise pre-treated and pre-transformed industrial waste such as tyres or oils for example"*, says Volker Hoenig, department head at Verein Deutscher Zementwerke e.V.

Today, RDFs represent over a million and a half tons out of the 3 million tons utilised every year to produce 30 million tons of cement. *"The same amounts of fossil fuels, essentially carbon, are saved in this manner, and 50 million gigajoules of energy are produced!"* In the meantime, new waste has even been integrated into this scheme: food for animals and dried sewage sludge – the German legislation even encourages their utilisation as a fuel rather than for agricultural purposes.

Volker Hoenig explains such progress on four grounds: material availability, research & development and information to the public. *"And hence the ban on the landfilling of waste that can be utilised as fuel lead to an increase in the volume of raw materials. As a result, incineration and co-incineration also had to be increased".* This created a real opportunity for the cement industry, which also gained in quality thanks to the new fuels' calorific characteristics. From a regulatory point of view, cement plants also had to comply with the same emission levels as well as with conformance and quality requirements.

At the same time, specific technologies (gasification units, pre-combustion chambers) were devised, in parallel with research on emission, on furnace operation and on the quality of the products derived from this process. Information was directed towards both communities living in the vicinity of cement plants as well as towards policy and decision makers, etc. *"It's a crucial challenge. Indeed, public acceptance will not be possible as long as fears will subsist in terms of possible toxic substance emissions. In this regard, the German cement industry has been publishing, for about fifteen years, a yearly document containing comprehensive co-incineration data and demonstrating this activity's green compatibility."*

Necessary planning

Stéphane Ardit, a policy officer at the European Environment Bureau, reacts to these audience's stories, wondering how to assess the relevance of any innovation. *"The first requirement, in my opinion, is that it aims at making waste management more sustainable, by limiting transport or promoting co-incineration to avoid extracting increasingly scarce fossil or natural resources."* Besides, innovations are not necessarily technical – they sometimes lie in new social propositions made by consumers or new organisational schemes presented by various players...

"But on top of all, they should be articulated to territories' specificities!" Hence, with innovations like methane production, the heart of the process, i.e. biogas recovery, might not be at stake, but indeed rather the pre or post-treatment. *"The whole thing must correspond to what the territory is capable of producing and receiving for treatment."* Social acceptability is another important notion. *"Innovation should be acceptable to local communities for elected officials not to be confronted to 'nimby' (not in my backyard) and rejection attitudes."* The last notion is that of the "interfaceability" of treatment channels. Why, for example, should biodegradable packages be developed if no treatment means are available at the end of the chain?

"I insist on this model because I regard it as very simple. Territorial analysis tools and departmental plans are available. The ADEME has developed social and population

A holistic vision

To Winfrid Rauch, the corporate manager of Matthiessen Engineering in Besançon, several key words were missing in the debate, i.e. "technical specifications", "parameters" (namely environmental parameters), "resource usage" and... "possession cost", of a machine in particular. The SITA's chief technical officer Cyril Fraissinet developed the last following point. *"The possession cost implies a comprehensive approach of the tool life cycle, beyond the initial investment. Such vision also needs to be applied to a treatment channel, or even all interrelated channels, notably at departmental level!"* Hence, anticipating the evolution of a unit requires its sizing and planning regulatory, technical and economical changes that might disrupt the waste treatment scheme.

analysis tools in methodology guides. As far as interfaceability is concerned, it's the key answer to the problem at local level, as decision making is conditioned by industrial lobbying and economic feasibility. For these three challenges to be answered at best, planning is the first requirement. Only by devoting some time to surveys can we get people to react to innovations not with passion but based on a reflection on real challenges."

This is demonstrated by the fact that the least "passionate" advisory commissions' members are often the trade unions' technicians who have met industrialists and discussed with their colleagues – contrarily to professionals who were informed in the last minute and who fear their activity could be jeopardised. "*Consultation is timesaving as it creates adequate conditions for innovations in ensuring their adequate scoping and their adaptation to the concerned territory.*" Bernard Garnier confirms this and admits that with the CARENE community, "*consultation was not well organised or was insufficient*".

A matter of organisation

Lourdes Carreira, a counsellor to the Ministry of the Environment of Portugal, concludes from these exchanges that waste-related problems are the same everywhere. "*For 10 years, waste management has been a priority of our environment policy. We'll keep moving forward by combining several tools, i.e. legislation, as a framework, planning through strategic and prevention programmes, communication and awareness-raising to change consumer and producer models, treatment structures, new technologies and, at last, new policies*..." Such policies include organised trade of waste that may serve as raw materials for other processes or eco-design, "*not to mention the EU legislation, which can also be a source of innovation insofar as the Waste Framework Directive calls for plans and strategic programmes.*"

Marc Cheverry says that "*most innovations are organisational innovations with technical improvements like prevention programmes.*" The Grenelle Conference, for example, encourages consultation between compost or organic material producers and users – the agricultural world and possibly local governments – as well as with associations that are often reluctant to land treatment because of its harmful character. "*But innovations sometimes have to do with measurements, traceability, quality follow-up – i.e. measures to face concerns aroused by certain processes and techniques. In this case, innovation contributes to acceptance and comprehension.*"

Again, one should not lose sight of the potential risks of any innovation, be it technical or organisational. "*Measuring these risks is a way to advance the abovementioned integrated approach*", Marc Cheverry adds. To that aim, the most important thing is to describe the territorial context of waste management, as the organisational model set up in a given country is not necessarily transposable to another country due to historic, regulatory and economic factors... "*At last, the reflection should anticipate the legal implications and the distribution of risks between innovation initiators, project managers, contractors and other stakeholders. Any 20 to 30-year investment in a waste treatment plant must imperatively anticipate evolutions.*"



After two hours of discussions, Bernard Garnier finally tries to put the CARENE situation into perspective. "*Even if the whole range of new technologies is proposed to us in a few months, I fear that we get back to the same questions and passionate debates. And yet the questions we should ask ourselves are: What do we want? Do we really want to initiate a prevention policy? Reduce waste production? Produce energy? In what form? Based on what technology? Do we want to create recycling channels? In the end, there are only political answers to these problems of society. What we need is, in the order, clear objectives, understood and shared by all, and thus a perfectly organised consultation process, and then only specialists' scientific and technical inputs!*"



Thursday

22nd October 2009

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Workshop 5

Construction and Public works: a business to mobilize



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Mrs Mélanie PERROT, chairwoman,
INDREXTE

Mr Max VON DEVIVERE, director
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abstract

The recovery of public work waste presents three major advantages: it limits the amount of dumping (class 3), it reduces the consumption of noble materials, and, last but not least, the technical modifications by promoting crushed materials and therefore reducing alluvial materials. This virtuous cycle should be backed by an industry solely dedicated to this issue. The model deconstruction operations carried out in recent years show the obvious progress accomplished with a forward way of thinking to industrialize recycling and waste, but also to tentatively dissipate the ever-present queries and doubts by pushing for more personnel informational trainings.

Recovered spoil heaps

The INDREXT company based in Bourgogne has conducted an exemplary initiative. This start-up company managed by Mélanie Perrot distinguished itself by reusing excess materials resulting from Comblanchien stone tailoring. Stored as spoil heaps, this "waste" is transformed into porous aggregates for reuse, in the same way as alluvial materials, on SNCF (French National Railways) building sites. *"This environment friendly utilisation was accepted and supported by the administration"*, the CEO said. As for customers, was it difficult to convince them to use materials resulting from such recovery? Mélanie Perrot shows mitigated enthusiasm. *"There was good acceptance, as long as the delivered product was in compliance with technical specifications. However, the price, in line with alluvial products, was a determining factor."* Still, *"we need to change some habits of our customers, notably masons, and to make them understand that it is possible to make concrete with limestone."* This innovation enabled INDREXT to eliminate one of the four soil heaps concerned by the process.

Hindrances remain in spite of efforts
Building sites and civil engineering works produce 30 million wastes and more than 280 million in France every year. A portion of them is rather well recycled and recovered. Since 2006, regulations have evolved in this direction, enabling the creation of inert waste storage facilities based on a simplified opening procedure. In practice, this business sector, although it is mobilised, faces challenges that hamper the development of recycling.

Civil engineering and construction, two different approaches

The building and civil engineering sectors must each manage the waste they produce. Wastes of both sectors are not of the same kind and each sector has been trying to provide its own answers. Germain Charier is the manager of SA Charier (1,600 employees), a company based in Loire-Atlantique and specialised in aggregate production, the development of road infrastructures and the management of waste derived from this business. He reminds, as a member of the Trade Union of the French Road Industry's executive board, that *"this sector currently produces 40 million tons of asphalt mixes. This type of works generates 5 to 6 million tons of wastes (milled asphalt material and asphalt crusts) of which 20% have been recycled to date. The target set by the profession for 2012 is a 60 % recycling rate."*

Eurovia's business development manager Max Devivere does not refer to waste but rather to recycling and recovery as, he says, *"aggregates are 100% recyclable products"*. Mr. Devivere goes on: *"In Germany, for example, a recovered material classified as an asphalt mix is usually no longer considered as a waste"*, without any negative impact on the quality. *"The same quality may be obtained with recycled materials and virgin materials"*.

In the building sector, waste management related problems are not the same. Waste resulting from building sites represents about 30 million tons per

year. As a whole, 20% only are recovered but rates vary according to the kind of material concerned (rubble waste, scrap, wood...). And yet, the sector is mobilised and efforts are being made, as told by Jérôme Amar, the head of the BTP Véolia Propreté's Ile-de-France agency: *"We intervene in the collection of product waste from building sites and in the setting up of treatment channels for its recovery. For 10 years, we have been conducting a genuine policy to support this scheme in collaboration with the market's major players. With them, we are committed to achieving HEQ targets, i.e. in particular the recycling of 70 to 90% of their wastes."* Although Jérôme Amar recognises that things are changing, notably with green building sites, he also admits that *"on a building site, waste management isn't necessarily the various players' absolute priority. To overstate the case, I'd say that the primary objective is to complete building works in time. That's why we have been focusing on raising the awareness of each construction project's stakeholder about the importance of sorting waste..."*

Construction craft workers

Major building companies are now well aware of the necessity to recycle and recover their waste. But how about craft workers and SMEs? The National Innovation Centre for Sustainable Development and Environment in Small Enterprises (CNIDEP) has been conducting an important work to raise their awareness, as reminded by the CNIDEP's director Philippe Mucchielli. In this perspective, he relies on the Chambers of Trade network, construction's professional organisations (CAPEB, FFB) and local governments. The aim of providing craft workers with concrete solutions to eliminate their waste is supported by several kinds of actions: in the first place, it is important to convince project managers of the necessity to set waste sorting requirements. All debate participants agree on this necessity. In this spirit, the CNIDEP, for example, *"developed awareness raising tools along with the ADEME, in 2000 and 2009, to promote clean building sites."* He also advocates *"developing the deconstruction and dismantling of some complex materials that can be recycled but are currently not."* Philippe Mucchielli indeed reminds that *"one should be aware that 97% of the construction market's activity has to do with renovation. However, renovation work often generates complex waste. Due to new energetic performance standards, for example, more and more window will have to be changed. And windows actually contain several materials. Their recycling requires manpower, the setting up of recovery channels and a sufficient network of collection points, failing which everything ends up in collection centre unsorted waste containers, i.e., eventually, in authorised landfill sites or, at worst, in illegal waste dumps..."*

Anticipating to minimise waste production

As Jean-Patrick Masson, acting mayor and vice-president of the 250,000-inhabitant agglomeration of Dijon points out, planning deconstruction at the very emergence of a construction project is key to minimising the amounts of construction waste. *"We take the option of using eco-materials every time we build new housings. This is a way of anticipating recycling in 40 or 50 years. A concrete example is the construction of*

600 housings in the Junot neighbourhood to replace former barracks that we deconstructed to use the inert materials that resulted of them." Jean-Patrick Masson recognises that "this practice was facilitated by the fact that deconstruction materials are simple materials, like stone, and, therefore, that they can be more easily reused." Conversely, the elected official points out that the material reuse rate was much lower in an urban development operation implemented in a neighbourhood where housings were built back in the 60s. Even so, "from the very reconstruction phase, we anticipated the future deconstruction, by utilising sufficiently homogeneous materials that can be more easily recycled."

Whatever the case may be, this kind of approach entails "direct excess costs for the local government of about 10-15% and up to 30%." However, Jean-Patrick Masson considers that it is necessary to think in the longer term and, above all, in a holistic manner, and to anticipate indirect costs entailed by the probable saturation of the authorised landfill sites "requiring new land planning investments that are not neutral."

Hindrances to overcome

Albeit real, construction professionals' involvement in the improvement of waste management is impeded by various factors, such as, in the first place, psychological factors, as explained by Jean-Patrick Masson: "Some contractors as well as some professionals are reluctant to use recycled materials and prefer to use noble materials that, they think – wrongfully –, will deliver a better quality." A concrete illustration thereof is given by the future Dijon tramway building site: "We are having the hardest time in obtaining the use of recycled inert materials. To overcome such reluctance, we had to mobilise an agglomeration's piece of land and to sign procurement contracts for crushing and reuse. Due to the presence of quarry workers in the region and to the fact that I cannot impose recycling (an assertion denied by Max Von Devivere), I'm obliged to indirectly intervene on the price by mobilising the agglomeration's means."

Jérôme Amar considers that hindrances, in the construction-deconstruction sector, are due, in the first place, to the presence of multiple players and to their lack of knowledge in terms of waste management. "This is why we participate, on some building sites, to the 'Environment Quarter-Hour', during which we explain sorting good practices." Another constraint is the cost: "If sorting is not done correctly, construction budgets are exceeded. Hence, it's important to be transparent on prices, with monthly costs either per m³ or per collected and processed ton. In the end, efficient sorting out is obtained, as a result of this practice, at a lower cost than with a regular waste collection containers."

In the field of civil engineering, Germain Charier considers that raw material price fluctuations are the main recycling impedance factor (e.g. petroleum out of which bituminous products are made). He thinks that another hindering factor is the fact that "waste elimination departmental plans aren't necessarily in line with construction waste related plans. However, the future of our businesses will be about producing materials with several life cycles."



Regulation: hindrance or stimulus?

Is regulation a hindrance or, on the contrary, can it encourage adequate construction waste management? Basically, to Max Von Devivere, both answers are right... "It can be a stimulus like in England where the use of recycled materials is encouraged by imposing an extra 2 or 3 Euro charge per ton to businesses that prefer to use virgin materials." Conversely, it can also be hindering – as is notably the case of land rights. Claude Prigent is CEO of YPREMA, a company specialised in deconstruction material recycling, incinerator ashes, inert waste, etc. He explains that "the company has been operating for about twenty years thanks to platforms where professionals dispose of their materials." He considers that "the location of this equipment near surrounding cities ensures the success of this scheme. Yet, it has become very hard to find lands" especially because of local communities' concerns and their "NIMBY" attitude. Hence, to Claude Prigent, it is urgent "for local governments to integrate spaces for recycling sites in their urban planning documents."

Landfilling: who pays the bill?

Where can professionals dispose of their sorted waste for its recovery through various treatment channels? Jérôme Amar says that "our dream, as industrialists, is that local governments set up separate collection centres dedicated to craft workers". As a local elected representative, Jean-Patrick Masson reminds that "local authorities have the legal obligation to manage household and related waste, the cost of which is covered by taxes and other fees. In a professional relationship between a company and a customer, it's not up to local authorities to take care of such waste..."

Original experiences are being conducted. In his quality of BTP Véolia Propreté Ile de France Region's branch manager, Jérôme Amar says that, in his region, “*agreements were concluded with the Saint-Gobain Group for the operation, through the Group's agency, of separate collection centres dedicated to craft workers. They can dispose of their sorted waste there against payment and the cost is charged to the construction project's customer.*”

Pénélope Vincent-Sweet of France Nature Environment asks whether waste landfilling and recycling price lists are available. Philippe Mucchielli gives her the following answer: “*Craft workers pay for this service the cost of which they charge to their customers. In the CNIDEP, we train craft workers to charge these costs on an actual cost basis. Any margin is strictly prohibited.*” Jean-Patrick Masson doesn't agree with that. Be that as it may, several guest speakers mentioned cases where professionals tried to cheat by charging waste disposal without carrying it out or by overestimating this cost...

As far as waste disposal facilities (municipal separate collection centres, dedicated waste sorting units or returns to the provider) are concerned, Philippe Mucchielli considers that a combination of these various solutions and, most importantly, a sufficient network are required for professionals to continue their sorting efforts without being penalised by too long transport times or distances and thus by too high transport costs.

Practices that need to be harmonised

Audrey Muzzolini of the Barisien Group is in charge of waste collection and transport: “*We opened a waste sorting unit specialised in HSW (household special waste) with the help of the Water Agency. In spite of our efforts to inform people, it took craft workers some time before they came.*” Audrey Muzzolini regrets the lack of harmonisation between practices of the various waste sorting unit operators (public and private actors...). She says that accompanying craft workers is “*an everyday struggle.*” This is confirmed by Philippe Mucchielli: “*We're waging this struggle too. But we have to keep educating them, as these are new practices for them. It takes time for the majority to adopt them.*”

Jean-Patrick Masson explains that the Dijon agglomeration introduced “*a rigorous control of the access to waste sorting units for private individuals to avoid unscrupulous professionals leaving their waste to their customers. For the same purpose, the nature of door-to-door collected bulky waste is also controlled. Such controls are also a manner to preserve the interests of professional waste sorting units managed by private service providers.*”

Jérôme Amar finds these words reassuring, although this industrialist from the waste treatment sector basically considers that “*our main competitors are municipal separate collection centres, which accept craft workers' waste at no charge.*”

The project of a guide on “material-waste”

The draft guide for the regulation of some “material-waste” – incinerator ashes, coal fly ashes, blast furnace slags, etc. –, that was presented in May, should be published soon. It will contain a whole range of measures and analyses for the reuse of such materials in road techniques. How does the profession prepare for this new deal, wonders François Théry, an EDF researcher? It is actually too early to answer this, says the head of the Ministry of the Environment's Waste Bureau, Olivier David. “*This initial guide to be edited soon should be followed by other guides currently being prepared.*” Patience is thus required. Olivier David goes on. “*This document follows an extensive consultation process with professionals, in particular the FNTP (French Civil Engineering National Federation).*” Claude Prigent, CEO of the Yprema recycling company, has a different opinion. “*The profession regrets that it wasn't involved more in the elaboration of these guides that, besides, will be difficult to implement.*” To support his assertion, he mentions in particular the example of incineration ashes that his company has been recycling since 1995 to use them as road structure foundations. “*These incineration ashes are complex products. Only one decision could be taken if they were grinded and if all their components were measured: send them to class-II landfill sites! I consider this approach as erroneous. We should rather measure their impact when they're utilised in road structures. For this purpose, a geomembrane is placed under the road surface and measures of the water are taken. After two months, in general, there isn't any more water, which moreover is reassuring for the structure's stability. It means, any way, that the foundation made of incineration ashes does not get washed out. And so, I consider that recycled incineration ashes are materials and no longer waste.*”

Even if some professionals are still reluctant, construction and civil engineering players are now generally aware that the waste they produce can be recycled and recovered. In recent years, this business sector has undeniably progressed on this path, although there is still some room for improvement. The regulation is undoubtedly a leverage to achieve the targets set by the European Union. The multiplication of recovery channels, the harmonisation of practices at both French and European levels as well as the mastering of costs seem necessary to remove the last hindrances.

Workshop 6

EPR: the challenge of the large number of treatment methods



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abstract

The extended producer responsibility (EPR) for waste is no longer a debate. The improvement policies for waste management based on this principle continue to grow backed by the European Commission, the French state, industrialists... However, this evolution constitutes many provisions: types of implementation, regulatory supervision, the fields covered, etc... As a result the players, professionals and associations are notably requesting a homogenisation of these provisions in the *Grenelle Environnement*. What are the perspectives? Regarding public service waste concerns, what are the consequences for the EPR "extensions" beyond purely household waste?

Two new EPR channels in 2010

Boosted by the Grenelle Environment Conference, the French state initiated a debate on extending EPR to other sectors. The creation of two new channels was scheduled for 2010: diffuse hazardous waste (DHW) and waste of activities of care with infectious risks (DASRI). The latter is the costlier at over 10 million Euros for 365 tons of DASRI!

With about fifteen different categories – gas cartridges, signal rockets, paints, solvents... – the DHW channel is one of the most complicated to set up. *"The hardest part was to correctly define the scope of producer enlarged responsibility"*, says Alain Geldron, head of the channels organisation and recycling department in the ADEME (French environment and energy management agency). *"Indeed, when a product is released on the market, we don't know whether it's going to be used by private individuals or by businesses. And yet, producers' obligations aren't the same in both cases."* The DHW channel is still in the process of being set up but Alain Geldron unveils a few aspects of its future operation. *"These many categories will necessarily lead, on the operational level, to the creation of several environment agencies. But for more coherence, we're going to try not to change waste collection flows."*

The need to harmonise practices

The extended producer responsibility (EPR) allowed for breakthroughs by encouraging recycling and, most importantly, by sending a strong signal in favour of eco-design to producers. Many waste treatment channels were created based on this principle. There are many different situations, which sometimes hampers the development of collection practices. The Grenelle Environment Conference was an opportunity to revive discussions on communication policies and schemes.

Household packages, batteries, end-of-life vehicles (ELV), tires, waste electric and electronic equipments (W3E)... since the 90s, many waste treatment channels based on the producer responsibility (EPR) principle were created through legislative or voluntary actions. This concept aims at mobilising producers on the issue of post-consumption. Waste management related accountability was transferred from local governments to producers. The latter are now encouraged to take end-of-life costs of their products into account at their very design. There are now about fifteen existing channels or channels being set up.

A very diverse waste environment

In spite of a long experience, every channel comes up against the problem of the specificities of the products that it manages and new schemes need to be invented. *"The problem is that we've got to deal with many different situations"*, Alain Geldron, head of the channels organisation and recycling department in the ADEME, comments. *"To start off with, the applying regulatory framework may be the European or the national framework or just a voluntary framework implying industrialists' self-organisation in the management of their products. Fields covered are also different from one product to the other: household waste, household and associated waste, waste from businesses only or from all origins. Besides, the number of environment agencies soared*



with more than twenty structures and virtually as many certification schemes." Over 300 different collection and sorting methods are implemented in the field!

More harmonization needed

There is an urgent need for more harmonisation and coordination between professional and association players. It is a strong demand of theirs and one of the Grenelle Environment Conference's commitments. The French state notably decided to review the legislative and regulatory framework to improve the efficiency of waste management policies by introducing the EPR scheme. A commission for the harmonisation and the coordination of separate collection and waste treatment channels was appointed to carry out this mission. The commission comprises all stakeholders: the State, local elected officials, associations, professionals and employee representatives.

Optimising industrialists' logistics

Laurent Fried, marketing director of Veolia Propreté, expects a lot from the decisions of the commission for harmonisation and mediation in waste channels, as he considers that the various players are not well enough prepared for such changes. *"With the emergence of these channels, there was a huge increase in waste flows. Yet 95% of these volumes are transported by road. This raises a real problem from an environmental point of view, all the more so as this tendency is going to grow stronger. With the creation of new waste categories, the number of trucks on the roads will keep increasing."*

Beyond the environmental impact, we must keep in mind that all these collection, sorting and transport operations have a cost that is supported by producers but also by consumers. It's therefore in everyone's interest to get mobilised to find more cost-effective and environment friendlier logistic solutions. We could take advantage of it to develop alternative modes of transportation: combined rail, river and sea-borne transportation...

In this regard, public authorities did not wait for such developments to move forward. The French state took advantage of the renewal of environment agencies' certifications to impose more stringent environmental performance requirements. A new indicator is notably going to be introduced to better take CO₂ discharges into account.

Reducing red tape for elected representatives

As players involved at the forefront of waste management, local governments daily have to cope with this variety of schemes. "They address it with available means," says Sylviane Oberlé, head of the environment and sustainable development department of the France Mayor Association (AMF). "Although they're capable of delivering a waste treatment public service, they're not at all prepared to cope with the multiplication of waste sub-categories. But they have no choice, especially since they're often the ones who have to treat waste nobody wants to take care of."

According to Sylviane Oberlé, one of their constraints is that they have to execute a different contract for every waste channel, i.e. sometimes about fifteen contracts altogether! This is why local elected officials are in need for simplification. The solution could be the creation of a unique point of contact. "They're aware that direct contact with operators is crucial in operation management," Sylviane Oberlé goes on. "Local authorities need to have guarantees before handing over waste to them. They're essentially asking for less red tape and simpler funding procedures. With an overall vision, we could avoid inconsistencies."

A few figures about EPR channels

In fifteen years, huge economic progress was achieved in upgrading waste treatment infrastructures in France. And so, between 1992 and 2007, volumes of collected waste were multiplied by seven! Altogether, environment agencies employ more than 400 people. When they are operational, EPR channels will allow processing a little more than 11 million tons of waste every year. Virtually 700 million Euros have already been funnelled into EPR channels. Investments should reach a billion Euros by 2015.

Red tape – a false problem

In Christian Brabant's opinion, Eco-Systems' General Manager, red tape is a false problem. For the W3E channel, for example, local governments only have a one-page form to fill up. "Obviously, a sorting scheme and technical specifications need to be defined. But once the system has become operational, environment agencies start providing local governments with an administrative support. Some municipalities are more interested in getting involved in the follow-up than others. In any case, the contractual relation is very simple. It's based on a contract and a standard price list that applies to all in the same manner. We're aware that some local governments still lack of the necessary staff to carry out this work. Maybe a simpler scheme should be devised for them."

A pragmatic approach should be preferred

Vincent Regnouf, director of the department for local communities at Eco-Emballages, is even more categorical. In his opinion, there is no reason for a debate, as the tendency is rather a multiplication of environment agencies. "We shouldn't lose time trying to reinvent a system that works. We achieved positive results by developing channels. We must continue on this path."

He proposes to settle this streamlining issue by adopting a pragmatic approach. "We should observe what's happening in the field to try identifying common features and differences between existing channels. In any case, the French state didn't wait to engage into a harmonisation effort, which it did within the framework of certification renewals. It's now up to field players to mobilise to create synergies and maybe even to encourage the setting up of a unique point of contact."

A unique organisation would be counter-productive

As a closing remark to this debate over the creation of a unique point of contact, Alain Geldron reveals the ADEME's official position. "THE ADEME isn't in favour of the setting up of a unique organisation. The purpose of the EPR scheme, besides collecting and treating waste, is to expose producers to waste and waste prevention related issues. A unique organisation will obviously not convey the message as efficiently as environment agencies specialised in the different products. This doesn't mean either that their number should be indefinitely multiplied. We're committed to providing the best answers to industrial challenges."

Too many environment agencies is also bad for collection

Be that as it may, the multiplication of environment agencies is not always conducive to improving collection performance. This is among others what WEEE Forum's director Thérèse Shryane observed during collection operations of her association in Europe. "In some countries, W3E treatment is taken care of by a unique contractor, whereas multi-operator systems are promoted in other countries. The presence of multiple operators is sometimes due to poor structuring of waste channels or to a flawed legislation. If so, the competition between operators isn't very constructive, as the various operators work against one another for their respective interests. Such an operation mode isn't likely to optimise waste collection."

Alain Geldron, the head of the channel organisation and recycling department of the ADEME, puts these arguments into perspective by explaining that waste management is subject to strong supervision. Price lists and terms of reference are the same for all operators, limiting competitive situations.

Acting for public good

The challenge is to reach a balance between too much and too little competitiveness, which is also conducive to innovating and mastering costs. “*We shouldn't focus too much on mastering costs either,*” warns Sylviane Oberlé, head of the environment and sustainable development department of the AMF. “*There's a risk of excluding stakeholders like small communities in the back of a valley with low waste quantities that are less interesting than large local communities with an adequate transportation network and efficient waste sorting practices.*”

Bernard Casnin, in charge of sustainable development in the Confédération Générale du Logement (National Housing Confederation), delivers the same analysis, arguing that any rationale based on market economy conditions is irrelevant. “*By definition, the purpose of environment agencies is to promote public good. Before all, competitiveness must be promoted as a factor of progress and of service quality improvement, not as means of lessening costs.*”

Improve communication

The great variety of waste channel players – the State, local authorities, environment agencies, operators, consumer and environment protection associations – makes the situation confusing to consumers, blurring communication and making initiatives counter-productive. This is a crucial issue as consumers are an essential link in the chain. “*If they didn't assume their responsibilities by sorting their waste, channels would simply collapse,*” Bernard Casnin says. “*We could devise schemes of a purely industrial dimension like in other European countries. The 1992 law provides otherwise, as it boldly stakes on mobilising all players of similar projects, with similar goals and expectations.*”

Two inquiries on signage and labelling efficiency

Strengthening communication is among priorities identified in the Grenelle Conference. The commitment 255 sets out conditions to harmonise signage and sorting instructions at national level in order to make information on labels understandable. In September 2008, the first action was to create a working group with all stakeholders. Initial feedback will be communicated soon. Two inquiries were initiated.

“*The first inquiry is into the efficiency of signage and sorting instructions,*” Alain Geldron of the ADEME says. “*We identified actions taken in this field by environment agencies, retailers, officials – including the ADEME – and, lastly, local authorities. This inquiry is to be completed soon. The second inquiry is about taking stock of existing labels while more particularly identifying technical, economic and legal constraints.*” Initial conclusions and recommendations are to be presented by early 2010 before a plan of action is drawn up.



A harmonisation attempt in the W3E channel

As part of the renewal of W3E channel environment agency certifications, terms of reference were updated for better practice harmonisation. The introduction of an adaptive price list for eco-design, of a 1% contribution scheme for research funding purposes or of new obligations in terms of clean-up of retrieved hazardous components.

“*The aim is to strengthen controls and the management of W3E by environment agencies,*” the General Manager of Eco-Systems Christian Brabant says enthusiastically. “*We now have the possibility to intervene at earlier stages of the treatment process. This will enable us to better control treatment equity and hazardous component retrieval and neutralization. Clean-up rates are notably currently being defined along with public authorities for these products.*”

On a European scale, the WEEE Forum association, which gathers about forty environment agencies – including Eco-Systems – introduced a new W3E collection and treatment standard, WEELABEX. “*There are significant needs,*” the WEEE Forum director Thérèse Shryane explains. “*We've noticed a great variety of classification and collection systems for these wastes in Europe. Some countries have only one environment agency, whereas other countries have many. There are 44 different structures in England and no coordination! We hope that the creation of this common standard will limit the duplication of tasks, strengthen the efficiency of environment protection actions and, lastly, foster best practices sharing and diffusion.*”

A common charter for the W3E channel

Industrialists also mobilised to try simplifying their rationale. It is in particular the case in the W3E channel with a debate on working out a unique and consistent message. *"As specialists, we use a language that isn't always understandable to consumers,"* Eco-Systems' General Manager Christian Brabant admits. *"We exchange with consumer and environment protection associations for the purpose of drafting a common communication charter."*

This shared approach has lead to several propositions: facilitating a high-profile national waste collection event, introducing contribution fees for the purpose of funding national communication actions, or setting up a joint Internet database (www.collectons.org.). This website could eventually become a public information portal for all channels.



From cacophony to a unique stance

Véolia Proprete's marketing director Laurent Fried is in favour of national coordination of communication policies. *"The commission for harmonisation and mediation in waste channels was tasked to define a policy. By letting each channel organise separately, we run the risk of provoking real cacophony!"*

Local governments are often blamed for their lack of coherence and for taking their own awareness raising initiatives without consulting other stakeholders. Contrarily to that, Sylviane Oberlé considers that the variety of messages shows that local governments have integrated waste treatment challenges. According to her, elected representatives showed a strong involvement and even played a leading role in the development of collection practices!

Although Alain Geldron is aware of how inconsistent the message can be, he fears getting into the opposite situation, i.e. a uniform stance, which would be just as counter-productive. *"We need all players in the field. However, we need to define a basic framework for consumers not to get lost."*

Ensure consumer involvement

Bernard Casnin of the CGL considers that information is a core aspect of the ongoing work with environment agencies. *"The novelty is that we now focus on local information. We still have a lot of progress to make in this field. For instance, eco-contribution to W3E management is still seen as an additional tax by consumers but also by salespeople! National communication remains a necessity, but it should be nurtured by local actions. Transparency efforts should be pursued to make the operation of channels more understandable. This is the only way to make consumers feel concerned and to raise the awareness and get the support of the greatest number of people."*

Workshop 7

Polluted soil: use and restoration



Session leader:

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Assistant:

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Facilitator:

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Mr Vincent SOL, lawyer, Winston
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abstract

Since the infamous “Van de Walle” decision, it is obvious that management policies of waste and polluted sites and grounds are closely related. To characterize ground pollution it is necessary to consider its usage. Therefore, the legal context of polluted sites and grounds must be reiterated with current case law rulings, in the same way as the articulation between polluted sites/grounds and waste or excavated soil.

In France today, there is constructive feedback regarding certain tools (database, memory institutions, obligatory information, back-up devices for operators, etc.). However there still remains the question of polluted ground management – not all necessarily agreed upon – requiring sustainable development (costs/advantages depending on waste reduction or energy consumed...).

Staking on common sense

The soils excavated from restoration sites and their use off site is a matter that always arouses many questions. There were many attempts to promulgate legislative texts and decrees to try to introduce a management policy that could at last be applied, but in vain! Between a European policy on building site soil protection still to be finalised and an established waste management policy, what is the room for manoeuvre today for stakeholders? The key is certainly in the past and future use of soils, in which field a new path was opened by the Netherlands.

The last time the *Assises des Déchets* addressed the issue of polluted sites and soils was in 2005, before the publication of new methodological tools. Jean-Luc Perrin, assistant manager in charge of chronic risks in the French Ministry of Ecology, Energy, Sustainable Development and Sea, seizes the opportunity to remind the audience of the three major principles on which the current policies in this field rely, namely: prevention of



future pollutions, review of risks according to the use of sites in operation, and maintenance of records in relation with past pollutions or pollution removal actions.

The legislative texts of February 8th, 2007, precisely identified two main typical situations for the application of the methodology they provide for: "the interpretation of the state of living environments" to determine whether the activity conducted on stabilised sites is compatible with the state of the environment, and the "management plan" to initiate adequate works for the purpose of future activities. *"There's an obvious dichotomy between an established situation, fixed uses and a known and measurable environmental state on the one hand and a situation where uses or the state of the environment may be changed by carrying out works on the other hand."*

Concretely, identifying a pollution situation requires several surveys (historic, documentary, vulnerability-related surveys...) so that a diagnostic can be drawn up and, eventually, a field visit. The aims thereof should be: the mastering of pollution sources (in particular by removing the concentrated ones), the mastering of impacts, of the building site management actions, a cost-benefit analysis – a fundamental aspect! –, so that works can be initiated... *"Then comes the issue of excavated soil management, which has not been sufficiently explored so far."*

On-site waste treatment

"It's important to achieve waste reduction in any restoration work", says Jean-Benoît Clermont, project manager for TOTAL. It will indeed benefit the project owner (diminution of soil treatment costs), local communities – *"since 100 tons of very polluted soils + 200 tons of virtually not polluted soils = 300 tons of waste, in the end, in dump sites!"* – and pollution removal companies, which must prove imaginative to develop engineering capacities.

Therefore, to clean-up a former factory with concrete and brick foundations contaminated by hydrocarbon, TOTAL preferred a solution combining sorting, wet screening and crushing to disposal in a class-1 landfill site or to thermal treatment. Out of the 8,375 tons of the waste involved, 5,849 tons of crushed concrete could be used as on-site fill material. *"The objective is indeed to take as little actual residual waste out of the site as possible. But although the reuse of little polluted materials on site is possible, its reuse off site is a real headache!"*

And yet, it will not be indefinitely possible to leave soils on the site, especially when dealing with small lands intended to be reused several times. *"Excavation works will be necessary. If we're not careful about it, the very soils for which a solution was found on the site will be sent to landfill sites, which will prevent us from using the land."*

Dutch legislation

This is the reason why the Netherlands have been focusing on preventive soil pollution management. *"If, in spite of everything, there's significant pollution, we of course have no choice but take pollution control actions, the last resort – to be avoided – being landfilling,"* states Nicolaas Molenaar, a technical advisor to the Dutch Ministry

of the Environment. But a law on slightly polluted soils came into force in July 2008 – it remains in force under the new Waste Framework Directive (WFD).

This regulation regards the review of soil quality as a prerequisite to any construction for the identification of any possible problem. It provides for a three-fold approach: prevention, management and restoration. “*This quality insurance therefore requires approval for excavated soils. The 435 Dutch municipalities are competent in this regard, since land planning and soil quality are often interrelated.*” In addition, 26 agencies in charge of polluted sediments are responsible for water quality.

Beyond general and reuse rules, the types of applications for which the reuse of contaminated or polluted soils can be contemplated must be identified, namely: construction of seawalls, roads and anti-noise walls, elevation of agricultural, residential or industrial lands... Their enforcement is based on two principles – the immobility and the adaptability principles. “*In other words, soils to be applied must be of a quality at least as high as that of soils that are going to receive them and said quality must be suitable, at a minimum, to the type of use contemplated.*” For instance, soils excavated from agricultural and industrial lands can only be reused for soils of the same nature, while the reuse of those destined for soils of a residential area can also be contemplated for an industrial area – but not the other way round.

Shared tools

To best manage this scheme, several practical tools were developed, such as the mapping of soils according to their quality and function (highly polluted soils requiring a specific treatment are excluded). “*A national survey made it possible to define local values, based on which soil analyses are carried out for the purpose of land planning or delivering building permits. Homogeneous areas can be identified in this way, using historic, geographic, chemical, physical and quality data.*”

As for the functions on which the mapping tool is based, they fall into three categories: agricultural/natural function, residential function, industrial and road and railway construction related function. It allows drafting a land development plan on the scale of a city as well as the possible applications for different areas according to their soils. All data are posted on the Internet so that all stakeholders can refer to them whenever they need. A soil application register was also created. “*It was set up to harmonise existing mechanisms, such as water treatment councils and the registers of about 400 Dutch municipalities, also accessible online. It made it possible to simplify soil management and the work of land planning agencies.*”

According to Nicolaas Molenaar, 3 or 4 years will be necessary until local policies that will derive from this scheme – that relies on 10 employees and a budget of 2 million Euros a year – become fully operational. “*Indeed, lots of questions are inevitably raised. The management of practices problems by a help centre proved indispensable to achieve public acceptance. We still need to strengthen inspection and maintenance of soils by competent authorities.*”



From soil to product

The Professional Union of Site Pollution Removal Companies has set a major target to itself: work on the reuse of soils derived from production processes. “*The first process is obviously pollution removal, be it on site or in external facilities*”, states the president Claude Cedou. Yet cleaned up soils, i.e. soils that are derived from thermal recovery centres or from bio-centres are considered, in France, as ICPE waste.

“*What are the grounds for such a situation? Why couldn't these soils be considered as products resulting from a recovery process, like glass for example?*” Indeed, to be recycled, glass is brought to a recycling unit – actually an ICPE – where products are generated, not waste. “*All pollution removal centres in France should then be considered as recovery centres, which would bring about a real economic benefit insofar as project owners will no longer have to pay neither the cost of pollution removal nor landfilling excess costs.*”

Another a little more innovating track would consist in exploring the possibility to reuse lands transformed into construction materials within the framework of multi-site development operations. “*The reference in this field is the English notion of 'cluster' based on which it's possible, on pre-defined and relatively significant development areas, to manage polluted soils, provided that they be actually recovered at some point in time. In other words, polluted soils need not be displaced from one site to the other, they can be transformed into construction materials.*” Such a “smart solution” could be useful for many land planning operations in France.

Back to 1976

Vincent Sol, a lawyer in the Winston & Strawn law firm, was apparently seduced by this presentation. “*The Dutch approach is interesting insofar as it is a local and pragmatic approach and that it relies on urban planning, i.e. identified needs. Yet in France, we didn't start from such a point of view but from the law on classified facilities, i. e. with an issue specific to the industry. The polluted soil management issue was then integrated to it. The result is that everything that doesn't fit to this framework now raises difficulties!*”

Yet the issue can prove quite complex with regard to the many challenges that it raises. First, disposal costs or excess costs can be high for some projects. In addition to that, the directive, which provides for natural resources recovery and protection, raises the problem of social acceptance and legal risks, as it is not part of an overall policy. “*In this regard, a key question should be asked: how should elements likely to ensure long-term legal security required for an optimal polluted soil reuse be identified?*”

Under the 1976 legislation, soils, in France, used to be considered as movables and surrounding lands as real property, while the latter did not come under the said legislation and soils were ultimately considered as waste with respect to disposal channel management conditions. “*Yet, such concepts were not available for classified facilities. It was a 'no man's land' where a high risk of making wrong choices prevailed: building sites and assimilated soils weren't necessarily managed by the best suited channels as the issue hadn't even addressed.*”

A real headache

Then the Van of Walle “revolution” occurred. The court of justice had ruled that soils, even the non excavated ones, were now to be considered as waste when they were polluted! “*Our concepts were so disrupted that we preferred to stick to our risk and utilisation approach since we didn't really understand what the consequences of this directive could be, neither could we figure out its enforcement conditions with respect to our management plan policy.*”

Despite uncertainties, good practices and better awareness then made it possible to find solutions. “*And then started a more in-depth reflection on what thresholds should be under the European directive on inert waste for non polluted soils... These soils should not have been subjected to it!*” Overall, in terms of where soils should be sent, common sense ultimately always prevailed over a strict legal approach. “*For example, soils with slight sulphate content can be sent to gypsum quarries without presenting any risk or aggravating the situation whatsoever.*”

Today, the situation is a “headache”, even if, as Vincent Sol puts it, “*France didn't wait until the European directive was introduced to explore the issue of product end-of-life and of conditions of a transition of a waste status to a product or even by-product status.*” In this somewhat chaotic background, there eventually was a tentative answer with the 2007 draft administrative memo that did not provide for an overall urban planning approach (since it applied to the soils of classified facilities for environment protection -ICPE-), yet foresaw reasonable and pragmatic conditions

for local treatment, notably in terms of transport and environment. “*The trouble is that an administrative memo consists in advices and recommendations, not rules!*”

And yet an order on soil quality would allow for huge progress, in particular by defining thresholds for direct recovery without or after treatment, by limiting contacts in the reuse of polluted soils, by advising against certain types of use (in dwelling areas for instance), by giving priority to certain channels (car parks, road embankments...), by ensuring traceability... “*This interesting approach has unfortunately never been applied. Despite the European directive, the prehistoric definition of waste of 1975, establishing waste as something intended to be abandoned, still prevails.*” We are eventually faced with a three-fold dichotomy: non polluted and polluted soils, excavated and non excavated soils and on-site and off-site used soils.

Advocating a “living environment” oriented approach

In this confusing situation in terms of the reuse of soils not derived from ICPEs (hence in principle not considered as non polluted soils), we may but recognise that they will someday have to be characterised, like what happened in the Netherlands. “*But at the end of the day, talking about polluted or non polluted soils, is there an intention to abandon them or not when it comes to reusing them?*”, asks the lawyer. Certainly not if they are on the site, in which case they do not come under the waste definition. In the case of off-site reuse, the directive states that soils are then declassified to waste. Yet the law foresees that waste from non polluted soils used on other sites must be classified with regard to sub-product related provisions. “*Albeit not revolutionary, nobody had ever thought of applying this concept to soils as such! We just need to demonstrate the existence of reuse channels which admittedly is not necessarily easy...*” But it is possible: soils, with regard to the definition of sub-product, may indeed be considered as derived from a recovery-related production process or as a sorting process.

The last big issue is: by becoming sub-products or products, would these soils be subjected to the constraints of the REACH framework? “*This could be a major hindrance to their reuse.*” But at the same time, channels to receive them need to be identified, “*since the goal is not to create a product in compliance with a standard but to do land planning. Therefore, priority must be given to the living environment approach... which must be accompanied by a debate on characterising and tracing excavated soils to find a quick way out of this issue.*”

A specific status...

The Robin des Bois association's chairman Jacky Bonnemains puts forward the necessity not to forget the environmental dimension of the issue. He insists that soils, in the first place, “*are a habitat. Not for human beings but for an invertebrate micro-fauna, a flora and bacteria that contribute to the physical and chemical balance of soils. We're therefore not dealing with cubic meters or financial expenses but with a living environment!*”, and with an intermediary space between the earth and the air likely to serve as an area for the transfer of pollutants to the vegetal realm and, beyond,

to the birds' food chains by which human beings themselves are concerned for their hunting activities.

"The removal of as much pollution as possible from the soils is therefore necessary to avoid their degradation as well as contamination hazards: this challenge is as important as that of urban planning, as asserted by all sustainable development specialists." All the more so since soils is also a path for the transfer of pollutants to water whose quality the European Waste Framework Directive as well as French regulations and public opinion demand that it be preserved, indeed even improved. In other words, the association has nothing against leaving soils whose pollution was removed and that still have traces of contamination on site, provided, however, that they be protected against rain and underground water.

"We actually don't share the opinion of land planners and legal counsels, as we consider that even after a pollution removal action, the soils that remain on the site must be the object of a specific memorisation, or should even be assigned a particular status among classified facilities for environment protection. It must indeed be kept track of site memory. Monitoring must be ensured by an operator capable of following the evolution of the soils and of mobilising financial means for possible remediation operations after a long period time. Needless to say, the same applies to excavated soils taken out of the site."

...or a law on soils

The former president of the Union of Consultants and Environment Engineers, Thierry Blondel, who participated in the drafting of the administrative memos of February 8th, 2007, confirms that the challenge today exclusively lies in the management of non-classified sites. *"This is particularly true in urban areas. In the construction of car parks or buildings on small sites, we don't know what past traces soils can contain: bottom ashes, aromatic polycyclic hydrocarbons, tars, sulphate derived from the demolition of the former structure. As a consequence, everything needs to be excavated and sent off site, with landfill sites as the only channel to evacuate dozens, sometimes hundreds of thousands of tons!"*

Nevertheless, this matter should be addressed by the working group about excavated soils that was recently created as part of the enforcement of the WFD. *"It should be noted in this regard that like the law on water, a law on soils would certainly allow setting forth the implications of this issue by introducing standards for the assessment of the quality of soils".* Yet today, the unique reference remains the ministerial order of March 15th, 2006, which sets out, in its appendix 2, acceptability criteria for the various landfill site classes. *"Many urban projects are stalled as a result".*

The president of the Professional Union of Site Pollution Removal Companies, Claude Cedou, reacts to these words. She considers that the first thing to do is ensure that there is a market for the reuse of off-site soils. *"It'd be a pity to excavate soils after making sure that everybody is OK with it if they end up in a landfill site because of the absence of any market outlet! And indeed, I'm not certain that there is such a market in France."*

Site memory

Lastly, as far as local governments are concerned, since they may not rely on any financial means for that, the strategic and operational land manager in the Community of the Agglomeration of the Saint Nazaire and the Estuary Region, Ronan Marjolet, thinks that they should urgently organise to preserve the sites' memory. *"They're indeed responsible for mapping soils of their territory and for laying down the rules for land use."* And so the CARENE has been working out a historic urban inventory intended to help anticipate future issues. *"The goal is to identify the spaces whose pollution can potentially be removed in the future, in order to find solutions to the future needs in urban 'recycling' with regard to the densification of the city."* Whereas their predecessors are often accused of having built building 'bars' and towers as part of the urban planning policy that was devised by them at that time, elected representatives of Saint Nazaire do not want to be blamed in their turn, in the future, for bund walls in urban areas. *"Yet we don't have many more solutions to treat on-site pollution. It's actually quite an interesting solution for local authorities as it allows for pollution localisation, monitoring, management... while very much reducing the bill! Indeed, if our land planning operations costs keep increasing, we'll have a hard time to 'sell' our territories to people or businesses."*

And if soils have to be taken out of sites, why not send them to other parts of the local territory such as the new industry areas for example? *"These urban extensions, indeed, require much space and sometimes inert soils that can be perfectly used, in certain geotechnical conditions, as fill material, and possibly bund walls. But of course their use in dwelling areas is out of the question. At the end of the day, that's where the Dutch approach proves to be very interesting!"*

Workshop 8

Which treatment methods for radioactive waste (not including waste from nuclear power stations)?



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Business Confederation)

abstract

Any industry not belonging to the electro-nuclear trade must also manage its radioactive waste: radioactive sources used for test activities, reinforced natural radioactive waste, radioactive waste from research or hospital activities, radioactive objects (lightening rods, lightening arresters, electroluminescent objects...), and – can't forget what's happening in the news! – contaminated products coming from abroad... Since the new national plan for waste management and radioactive materials must be drawn up by the end of 2009, it is useful to explore waste elimination sectors and to meet the players, and also to consider involving other industries.

A dialogue to accelerate solutions

One could have feared a dialogue of the deaf or no dialogue at all on a matter that often arouses emotional, cautious or even mistrustful reactions. And yet, a broad overview was achieved during this workshop, on an issue about which there should be no posturing. In relation with both addressed matters – enhanced natural radioactivity (RNR) and diffused radioactive waste –, participants were unanimous on the necessity to identify sustainable and quality solutions.

All participants expressed their concerns about a number of serious drifts and called for the acceleration of RNR identification and monitoring policy and of diffused radioactive waste identification and collection. Almost everyone has two deadlines in mind. The first deadline is the national plan for radioactive waste and material management, which should be soon completed: secured and comprehensive treatment channels



are to be proposed for all kinds of radioactive waste. The second deadline is the completion of the process of working out a long-lived waste (LLW) [long-lived low-level waste (LLLW)] storage solution that, unfortunately, was postponed again.

Albeit narrow, the spirit of the Law on Nuclear Transparency and Safety of 2006 allows for some room for manoeuvre – if all those involved act in good faith!

A shared assessment

One could have feared that the debate on a matter with such an emotional content would be difficult or even impossible. Yet participants succeeded in discussing the matter with rationality and in a concrete and practical manner. They even agreed to carry out a joint assessment of the situation of RNR.

'It's a long-lasting problem, Charlotte Nithard of Robin des Bois reminds. Thus, back in the 1950s, researchers tried to extract the uranium contained in carbon ashes, in particular in Russia. This is again the case in China or in Hungary. The term 'technologically enhanced natural radioactivity' appeared in Texas in 1974. It covers a broad range of industries, notably the rare earth elements (REE – ilmenite, zirconium) industry. REE can be used for their various properties: refraction, abrasion... The processing of REE products typically generates radioactivity concentration in tartar, notably in the oil and gas industries. But other activities are concerned by RNR: the paper industry, wood-fired power plants, drinkable water and mineral water production! It has to do with a great variety of industries and activities whose specificity is the extraction of materials that naturally have radioactive properties and whose radioactivity gets concentrated during the treatment process.'

Sylvain Bernhard, the manager of Algade (a research body specialised in radiation protection) reminds the "typical" history of the discovery of enhanced natural radioactivity. *"It often happened by chance, for instance by triggering a radioactivity scanning device when depositing waste in a storage facility. Then, after the 1996 European directive that set out provisions for the protection against ionising radiation from these materials, it was transposed into French regulations defining involved industries."*

Géraldine Dandrieux of the French Nuclear Safety Authority further argues: *"Public authorities have industrialists' very interest in mind and consider efforts to demonstrate the existence of acceptable management solutions or the willingness to define some where they don't exist as fundamental. This work is being conducted by the French Nuclear Safety Authority and other player, away from media events. Together, they are drafting the national plan for radioactive waste and material management."*

Double variable: concentration and volume

The 2006 memo defines products containing radionuclides that are not used, because of their radioactive properties, and lists the industries that can generate this waste. Therefore, there is a need to characterize waste in terms of origin and activity for their classification – which can prove quite complex. Sylvain Bernhard explains: *"To put it simply, some wastes have relatively large tonnages and weak mass*

activity levels – under five becquerels/gram –, while other wastes are produced in much smaller volumes – tartar in general – but are very heavily loaded.”

This double variable, volume/concentration, is tricky. “First, let me stress that, while radioactivity naturally occurs with materials like wood, other materials absorb radioactivity, like wood again, as a result of atmospheric fallouts from nuclear accidents or tests..., Charlotte Nithard resumes. In our opinion, the biggest challenge is to classify waste with the lowest radioactivity levels or so-called very low level or low-level radioactive waste. While the highest radioactive content levels can be found in the REE industry, it's also fundamental to take care of wastes such as carbon ashes or phosphogypsum, i.e. phosphate fertilizers. They have low content levels per kilo or m³, but the problem is that they're generally stored in very large amounts.”

“As said before, these wastes are derived from very diverse industries with very different activities. Therefore, the challenge is to define waste management channels suitable for the various categories, Géraldine Dandrieux of the ASN comments. The 2006 memo addresses the issue; its practical application should now be assessed. Furthermore, carbon ashes or phosphogypsum spoil heaps raise a specific problem: we need to make sure that existing management solutions are acceptable. The national plan for radioactive waste and material management is all about defining such solutions, making sure that they exist, checking their efficiency, strengthening environmental monitoring provisions and existing but fragile management channels.”

Challenges faced by industrialists

The hard time organisers had to gather those involved in industries that may potentially produce diffused nuclear waste or treatment facility operators shows how sensitive the subject is. Michel Quatrevalet speaks on behalf of his confederation, the MEDEF (the French Business Confederation): “Training and awareness-raising is needed in business sectors that have little knowledge of this issue. Industrialists need to have a vision and to enjoy legal security to carry out their activity. There are still many gaps, that's why this subject is not often publicly debated by economic players”.

Concerned industrialists have become aware of the problem with the multiplication of scanning devices at the entrance of factories, storage centres, scrap yards – but it is still very confusing. “Relatively low radiation levels are detected by means of relative values, i.e. scanner sensors are set at X sigma of background noise. When a freight car rolls by a scanner, the value of the surrounding radioactivity decreases because the freight car interferes with natural radioactivity. You can imagine the difficulties it raises! In addition to improving equipment maintenance and settings, reactions must be adapted to alert levels. Any ‘beep’ causes panic! But what should industrialists do? They need rational answers, provided within the framework of democratic debates...,” Michel Quatrevalet says.

Answering to a question of Isabelle Martin of Sita, the experts said that French businesses are doing rather well in radioactivity detection. They are even ahead of many other European countries, they said. And the French economic world is ready to act. “Industrialists don't want to endanger anyone... But they'd like to know where they're going, as heavy investments will be required, over a certain time period, and they



A real matter of concern

The National Agency for Radioactive Waste Management (Andra) is the French public body in charge of providing solutions for the management of historic radioactive waste derived from the electricity and nuclear industry. The agency is increasingly interested in this type of RNR waste. “For a very long time, our society had not had much consideration for ordinary and natural radioactivity, the agency's industrial director Francis Chastagner explains. There was this belief that natural radioactivity was naturally harmless, as we lived with it, so it couldn't be hazardous! As a matter of fact, with this type of waste, in which natural radioactivity was technologically concentrated activities exceeding the ‘background noise’ may be reached – we may be in the presence of long-lived radioelements, i.e. we can't just stake on the diminution of decrease in radioactive levels to diminish the nuisance of this waste. Besides, two substances are involved, thorium and uranium, and thus radium, with radioactive gases – radon and thoron. We need to be well aware of the scope of challenges to overcome and of presumed or at least suspected risks of cancer”...

Consequently, the Andra now closely follows up the evolution of RNR waste related issues. “Our facilities aren't capable of managing waste in significant amounts. But we try to provide solutions by developing long-lived waste (LLW) storage solutions. Waste repository facilities are rare, they must be wisely used. The difficulty lies in making the right choice between not overusing repository facilities dedicated to waste with actually low and innocuous radioactivity levels and identifying storage solutions in the meantime.”

need to figure out which activities will be maintained – and those that won't. Risk is the key notion we need to focus our reflection on. It's an extremely vast debate – and that's where difficulties might begin," Michel Quatrevalet argues.

Géraldine Dandrieux of the ASN agrees, pointing out the lack of facilities to receive this kind of waste, which raises the problem of safety within the various channels. "The question is what risk both local communities and authorities (prefectoral decrees...) and waste storage industry players are ready to accept, as they're rarely in favour of this type of waste."

Three channels that need to be strengthened

RNR waste management takes place within three channels, Sylvain Bernhard explains, in which management requirements depend on products' mass activity, radiological characteristics and quantities. In cases of very large quantities of products with a relatively low mass activity level, management is carried out at local level – e.g. phosphogypsum. "They should obviously not be transported but managed locally with professionalism, while covering all potential risks". "The follow-up should be careful and suitable", Charlotte Nithard of Robin des Bois insists. *There has to be a follow-up of flying ashes, fauna and flora... These sites, therefore, need to be fenced, even if it's tedious, and much more systematic follow-up must be carried out"...*

The second product channel for which a follow-up is needed is that of products in smaller quantities and with low-level activity. "Class-1 treatment mode of authorised landfill sites can be used. A real follow-up as well as the measurements and controls that local communities and information commissions need are possible in these sites," Sylvain Bernhard further argues. "The third channel is for materials with mass activity levels higher than 10 Bq/g for relatively low quantities which, to date, has been managed by the Andra".

"The channel of authorised landfill sites needs to be strengthened. The management method is a little more complicated for this waste than for conventional waste, as risk must be assessed and its acceptability determined," Géraldine Dandrieux says.

A very much expected but stalled LLLLW channel

So everyone is now expecting the LLLLW management centre whose setting up the Andra was entrusted with. "This solution will allow for long-term management of waste that presents higher risk levels than waste currently managed in conventional centres. It's important to create this channel in a sufficiently consensual approach with a management solution suited to risks presented by waste," Géraldine Dandrieux says. "For Robin des Bois, the creation of a LLLLW repository facility is a priority. We've been hearing for 10, 15, 20 years that it was going to be created, but it still hasn't! Policymakers must imperatively make their best efforts to complete this project," Charlotte Nithart says adamantly, pointing out risks related to materials scattered on industrial or "temporary" sites...

Francis Chastagner answers to these concerns by giving precise news on project progression. "The Andra chose a rather new approach for the establishment of the LLLLW

repository facility. They called for municipalities' applications. They identified a number of municipalities or cantons on a geologic map with seemingly suitable subsoil characteristics. 3 115 municipalities were consulted. The response rate was rather good: 1.5% of consulted municipalities answered, i.e. 40 of them. The Andra gathered data and identified environmental factors for the drafting of a file that they submitted to the government, stating the two selected municipalities in the Aube department."

However, these two municipalities' applications were eventually not confirmed. "Unfortunately – I'm not judging anyone –, the municipalities' elected officials faced aggressive reactions and underwent such a pressure that they eventually backed up. The process halted there, Francis Chastagner explains. But we still have a potential of 40 municipalities, so we now have to figure out carefully about how to proceed. We saw the limits of a voluntary approach, as it placed a very heavy responsibility onto local communities, i.e. often small municipalities of about 100 inhabitants... Eventually, a territorial approach with a project lead by more than one municipality would certainly be preferable. We're working on it, we think that we'll be able to resume the process – you must give these things time."

As a result, deadlines will certainly be postponed. The commissioning of the LLLLW repository facility is still scheduled for 2019, but there will probably be some delay. As far as the high-level and medium-level long-lived waste repository facility is concerned, an initial deadline was set by 2015. And if everything goes fine in 2015, it will be commissioned in 2025.

"Not in my backyard" reactions to a national challenge

The Aube municipalities' misadventure obviously taught us many lessons. Michel Quatrevalet of the Medef explains that this kind of "nimby" ("not in my backyard") attitude nurtures industrialists' reluctance, and Charlotte Nithart of Robin des Bois also quite vehemently expresses her reprobation towards such regrettable behaviours. "It's quite typical. When people have radium needles at home because their great-grandfather or grandfather was a doctor, they want the Andra to rid them thereof. But when such waste needs to be gathered, nobody wants to hear about the Andra anymore. Such behaviours create a very bad climate. Fifteen years ago, when the first attempts were made to open the LLLLW repository facility, a mayor committed suicide because of the pressure. That's why I say policymakers, i.e. ministers, need to work hard – a mayor or a federation of municipalities cannot take alone a national responsibility that engages many generations."

As a matter of fact, the Robin des Bois association was widely criticised when it took stand in favour of the LLLLW repository facility, even by some environment protection activists. "We must be pedagogical to avoid being classified as nuclear power advocates. We must explain historic radioactivity and, in the case of radium in particular, its implications for us all, through the examples of needles, fountains, watches..." Charlotte Nithart further argues. She points out a tendency to mix various kinds of waste, like LLLLW with waste from nuclear plants: this approach is not right, she thinks, because it goes against the necessary pedagogy and dialogue.

A matter of method

Is the method to ensure the success of the LLLLW project still lacking? There is a need, therefore, for better characterisation of the various concerned products and for more precise designation to avoid confusion, Sylvain Bernhard suggests. From Géraldine Dandrieux's point of view, the ASN approach remains relevant. *"Waste should be managed according to its activity level and to the risk that it presents for health and the environment, with storage solutions suitable for identified risks, for both enhanced natural radioactivity and waste radioactivity. I admit that we still need to work on defining what waste can be managed in a LLLLW repository facility and what radioactive or RNR waste can be managed in a conventional storage centre. But management solutions are increasingly clear. First, strong environmental monitoring is needed for these sites. Second, given how difficult it is to ensure treatment via authorised landfill sites, we suggest the Environment ministry should tackle the matter. Third, we consider the LLLLW repository facility as a long-term solution for waste with enhanced natural radioactivity and significant activity levels that the Andra was asked to implement, while providing industrialists with a transitional storage solution."*

A difficult inventory

The inventory of RNR materials and waste is a difficult task. The first inventory of treatment channels was assigned to the Robin des Bois association by the Environment ministry in 2005. We then realised that there was little documentation on that in France, and that the best bibliographic research was abroad. "The French Nuclear Safety Authority recommends revamping the ministerial order of 2005 on industries likely to produce materials with natural radioactivity, Géraldine Dandrieux says. And so the ASN calls for specific provisions to better take the nature of waste into account while pinpointing some of them – essentially process equipments and tartar contained in these equipments –, the aim being to define their hazard level."

Diffused and domestic nuclear waste

The second subject of this workshop was about diffused nuclear radioactive waste. *"We could consider it, in a way, as domestic nuclear waste. It can actually quite easily be found in our homes: in the alarm clock that was made in the 1950s (radium paint was used to make light-emitting needles and face). It was a time when we trusted the beneficial effects of radium, which was seen as a panacea, Francis Chastagner of the Andra says. Radium was used to make beauty creams, baby clothes, fertilisers, food for animals, but also in smoke sensors and lightning rods – about 50,000 radioactive lightning rods were commercialised and installed on*

Hazard and the general public

A question raised by the Cameroonian journalist Jean-Célestin Edjangué (Messenger daily paper) gave rise to exchanges on the balance that needs to be found in terms of communication on a subject with a significant technical content but for which the general public's awareness raising is necessary.

"As a specialist of radiation protection, I'd say that the first question to ask oneself on these materials and wastes isn't whether they're hazardous or not. We're talking about very low levels here, with no risk for human health... But of course, it's always difficult to explain. However, we need to explain how we treat these materials, what the ALARA ("As Low As Reasonably Achievable") principle means: in handling materials containing radionuclides with a potential risk of nuclear radiation, all efforts must be made to always remain as far from the risk identified by regulatory limits as possible and to optimise channels," Sylvain Bernhard says.

"We're all aware of pedagogical efforts that must be made for the general public. It's one of the conditions to make decisions acceptable, Géraldine Dandrieux further argues. Projects must be proactively advocated to convince people. We became aware thereof a few years ago, but we still need to progress. We all know that a lot of outreach efforts still need to be made." Michel Quatrevile of the Medef considers that it is a difficult work and dialogue. *"Regulations impose Industrialists to engage into a dialogue. They're increasingly aware, anyway, that it's in their interest. However, at local level, for instance, there's a dissymmetry between the parties to the dialogue. Industrialists defend their technical facility construction projects. People who have a country house near such planned facilities defend their properties... Dialogue is difficult."*

"Follow-up must be improved in France, and so there'll be better insight and better answers will be provided. Charlotte Nithart of Robin des Bois goes on. There's better groundwater follow-up in the United States... Difficulties also lie in technical aspects and in the confusion entailed by the use of various measurements – sieverts, becquerels and curies – and of notion such as exposure and effective dose... Most importantly, we shouldn't try to provide answers too quickly to questions for which we still lack elements..."

the national territory, of which 30,000 contained radium and 20,000 americium... We're talking here about activity levels that aren't negligible at all. Lastly, there's also extremely hazardous waste, although they are rarer: radium needles, which can notably be found in homes of families whose descendants were practitioners, in small boxes, with extremely hazardous exposure levels. The Andra proposed to take this radioactive waste back, and sent a brochure to the 36,000 French municipalities, but also to fire fighting and rescue services, about risks presented by these objects known as domestic nuclear waste."

Radioactive sources

As a matter of fact, this waste and associated materials have little to do with what is called radioactive "sources". The Ressources association identifies radioactive source providers in France, i.e. equipments with very variable activity levels, ranging from a few dozens becquerels to a few dozens terabecquerels, which purportedly use radioactivity for detection, benchmarking or some radiation processes. *"The specificity of French regulations is that providers have to take these sources back when they're no longer used and to resend them to their own provider;* the Ressources association's president Jean-René Caramelle explains. *In a reverse cascade chain, the source goes back to its manufacturer. Most sources in France were produced outside the country, and are sent back abroad. But France also used to be – and still is – a manufacturer of radioactive sources: organisations like the CEA, a branch of Areva that produces radioactive sources essentially for benchmarking purposes, are confronted to the same storage problem as all industrialists of the diffused nuclear waste sector, and are in need of new treatment channels."*

A financial guarantee system

"The main purpose of Ressources is to propose a financial guarantee system. In France, every source provider must commit to taking the source back. As it may have ceased its activity at the time of taking the



source back (10 years or more after its putting into circulation), a financial guarantee is substituted to the provider to pay the cost of taking it back, Jean-René Caramelle explains. *Industrialists don't have to be members of Ressources but they're obliged to underwrite a financial guarantee system. There are two of them: the Ressources system covers 85% of source providers, Andra's system covers the remaining 15%. Regulations provide for a third possibility, which is not really used: taking out insurance. There's a significant de facto difference between the Andra and Ressources systems: as source providers, we manage only recently manufactured sources. It should be stressed that objects manufactured in the past, i.e. in the 1950s-1960s, some still in the 1970s, before the inventory and the financial guarantee system were introduced, require another approach, and raise fundamentally different questions."*

The difficult task of taking back radioactive sources...

As part of its radioactive waste management mission, the Andra is naturally involved in source management. In an initial source management effort, the agency started a publication listing radioactive waste that comes out every three years on the national territory, and which the agency intends to articulate with a more prospective vision through the national plan for radioactive waste and material management. *"As far as radioactive sources are concerned, we'll certainly have to adopt a more proactive policy,* Francis Chastagner says. *In the field of lightning rods for example, out of about 50,000 units in circulation, we collected nearly 10,000 units. We now collect them at a pace of less than 500 a year: it's obviously not the solution, especially since it's aging waste the trace of which we might lose..."*

... and of storing them

A problem came up recently, as mentioned by Ressources: “*The cost of artificial radionuclides has changed a lot in recent years. As a consequence, the reuse of radioactive sources becomes relevant and high-level sources that used to end up as waste are now recyclable and recoverable. Thus, a source that ceases to be used is not necessarily a waste. The AIEA* had even introduced in the 1980s the notion of “used sealed source…”* But the most urgent problem lies in the storage. “*At present, there are few possibilities for definitive storage. Our centre in the Aube department can accept a few sources under some conditions only,*” Francis Chastagner says.

“*There are short-term and long-term challenges. As for the long-term, there are plans for a deep geological storage or the construction of another repository by Andra. But there are also big short-term challenges like making sure industrialists don’t neglect their sources and don’t turn them into orphan sources, making sure that providers take back their sources and providing safe storage facilities (until a definitive storage solution is made available)…, Géraldine Dandrieux of the ASN claims. On the other hand, we must fight against a tendency to export sources into foreign countries, because it’s simpler or less expensive, although quality is not guaranteed.*”

“*We must advance international harmonisation, Jean-René Caramelle confirms. Referring to recycling in other countries than France immediately arouses suspicion. In some Asian countries, waste gets treated in exchange for a few bank notes, although in a non-conventional manner. Regulations should thus at least be harmonised at the scale of the Union European. Yet, as we can see, the tendency is rather less and less harmony in treatment methods, threshold levels and regulations. Sending waste abroad can be tempting as a consequence indeed…*”

*International Atomic Energy Agency.

An economic challenge to overcome

As far as RNR waste, radioactive sources, diffused and domestic nuclear materials are concerned, business representatives are worried about scientific, regulatory and economic issues. Michel Quatrevaud (MEDEF) wishes that the national plan for radioactive waste and material management would impose only bearable legal, financial or commercial constraints and fears that waste collection would generate hazard out of accumulation… Thierry Delloye of Rhodia Services also expresses his concerns: “*We are a former manufacturer of RNR derived from the REE industry. We’re not sure what to think about this historic waste issue. Time goes on, storage projects are at a standstill and costs are exploding… I started working with the Andra on the LLLLW project in 1993… Since then, the cost of treatment per ton was merely multiplied by 20 or 30! If the tendency persists, some industrialists will be tempted either to reduce quantities by concentrating radioactivity, which will lead to much higher treatment costs or, on the contrary, to dilute radioactivity in order to access ordinary channels like class-1 channels for example.*”

Of course dilution is forbidden, the authorities remind. They admit, however, that the time that was lost has a cost for the various players. “*Staking on the ‘diminution*

of the inventory’ or the use of banned processes like dilution, while there’s need for a new channel, will prove a wrong calculation in the end. We need this LLLLW channel, because some waste can’t go anywhere else,” Francis Chastagner of the Andra analyses. We need to address the issue of costs at the same time. As time passes by, technologies are becoming obsolete. Businesses and institutions must find solutions that everybody can accept… “*Obviously, radioactive waste management is costly, but we have no other choice but work to find solutions suitable either to the businesses’ activity or to this waste’s life cycle.*”

Plenary session 3

Do French laws & regulations enable safe and responsible waste management?



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Mr Richard LEJEUNE, environment manager, ERDF (Electricity Network Distribution France)

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abstract

The French regulations concerning waste management have greatly evolved over the past years with a stricter control for certain activities like storage, thermal treatment and, more recently, biological treatment. There are other changes forecast in the *Greennelle Environnement* for specific waste flows. Have these recently enforced changes accomplished the expected impact regarding prevention and in reducing the environmental effects and safety of waste treatment plants? Are these treatment plants better accepted by the citizens? What are the steps to take for other types of waste flows such as treated wood, biological waste, and agricultural biodegradable products? Lastly, what are the major expectations of the various players involved (communities, companies, associative structures, etc.) regarding future changes in treatment methods?

The Grenelle Conference momentum

Within three decades, waste management related French regulations have considerably changed. Much progress has been achieved, in particular in reducing the impact of facilities on the environment and health. With the Grenelle Environment Conference, a new milestone was reached. Foundations were laid down. It is now up to the various players – industrialists, associations, policy makers, citizens – to take advantage thereof and, most importantly, to come together to go the extra mile. Additional efforts are needed indeed...

France has gone a long way since it laid down its fundamental waste management principles with the law of July 15th, 1975, as amended by the law of July 13th, 1992. New pieces of legislation such as the decree of May 15th, 1997, relating to hazardous waste classification, or the order of September 20th, 2002 relating to incineration facilities, have yet strengthened the French legislative framework. Besides, European regulations gradually completed it, forming a strong legislative basis.



The momentum accelerated with the impulse of the Grenelle Environment Conference. Two new laws (Grenelle I and Grenelle II) setting strong new ambitions were promulgated. Some activities, such as storage, thermal treatment or biological treatment are now better supervised. The operational implementation of the W3E (Waste Electrical and Electronic Equipments) channel is among the last concrete steps that were taken. There is now a total collection point coverage of the national territory. The TGAP (General Tax on Polluting Activities) was reformed, bringing about new resources for prevention and waste sorting...

The difficult transposition of European directives

Some points still need to be improved. The transposition of European directives into French legislative texts poses a few interpretation problems. It is in particular the case of the SEVESO directive, which imposes EU Member States identifying industrialist sites presenting major accident hazards. Nicolas Incarnato, an inspector of classified facilities at the DREAL (Regional Directorate for the Environment, Housing and Town and Country Planning) of Champagne-Ardenne, knows the issue very well. He is in charge of monitoring all waste industries and polluted sites for the department of La Marne.

"This experience made me aware that the nomenclature of classified facilities for environment protection on waste was completely obsolete. It's still based on a notion of product origin that doesn't take waste's intrinsic hazards into account. Such inconsistency for example makes it possible to authorise cement manufacturing plants carrying out co-incineration despite of the presence of hazardous substances in their waste stock!" A reflection is ongoing to advance this approach and, most importantly, to better take into account the emergence of new channels since the drafting of the nomenclature.

A nomenclature of classified facilities that needs to be revamped

Before going into the details of this review, Patricia Blanc, head of the service for nuisance prevention and environment quality of the MEEDDM (French Ministry of Ecology, Energy, Sustainable Development and Sea), wished to remind the audience that French standards were in compliance with European standards. So is particularly the case, as she stated, of the landfill directive as lastly amended in July 2009 or of the new IPPC (Integrated Pollution Prevention and Control) directive on incineration. The last successive upgrades of treatment facilities (incineration, storage) to standards have in recent years allowed for a very strong reduction of impacts on health and the environment. That being said, she is perfectly aware that this nomenclature needs to be revamped.

"Its review was delayed," she admits. *"We devoted much time to the consultation process. Consequences are indeed not neutral for technical facilities and economic players. But the project is about to be finalised. The new nomenclature was approved in September by the High Council on Classified Facilities. It's soon going to be examined by the State Council. Facilities will not be classified according to the origin of waste but to its related hazards and to its nature. We'll gain in clarity. A methane production category was even created,*



with a simpler declaration scheme, in particular for methane production from waste of agricultural origin."

IPPC: what is the acceptable cost for waste management?

Another European directive, the Integrated pollution prevention and control (IPPC) directive related to the pollution of air, water and soils from industrial facilities, also raises many questions. Compliance with emission standards obliges operators, every 10 years, to apply the best available technologies at an acceptable economic cost. Hearing this rather confusing definition, Nicolas Incarnato, of the DREAL of Champagne-Ardenne, immediately reacts: *"What's meant by 'economically acceptable'? First of all, we shouldn't forget that in the end, it's still waste producers, i. e. citizens, who bear the cost of these facilities."*

The real issue to him is whether environment protection costs are negotiable: *"Should we carry on investments in innovating technologies to reduce emissions as required by the IPPC directive or on the contrary consider that the current equipments funded by local governments and industrialists are satisfying?"* In other words, should the best possible environmental conditions be ensured or should expenses for industrialists and local governments be limited?

Franz Mochty, the head of the Agriculture and Forest division in the Austrian Ministry of Environment and Water, claims that this is not really the issue. *"Our own experience shows that focussing on technologies for waste treatment isn't necessarily the right solution. We need to primarily focus on and encourage separate collection*

Methane production: a real hassle

Industrialists are not the only ones having a hard time to find their way in regulations. Local governments too, find it a real hassle to put in place waste recovery projects. *"Due to the complexity of legislative texts,"* says the vice-chairman of the Lille Urban Community in charge of waste Paul Deffontaine. *"I don't want to put regulations on trial, it's just my experience. In 1992, we decided to initiate the construction of a methane production plant using urban waste. We were among precursors, just after Amiens, whose returns on experience we took advantage of."*

A 10-year process!

"The implementation of this kind of projects takes a long time. It was notably slowed down by too stringent public purchase procedures. We were in an exploratory field whereas flexibility was needed. Between our decision and the project set-up, characterisation of waste procedures considerably progressed."

The other challenge the Lille Urban Community was faced with was identifying the right contact, in particular to obtain the authorisation to inject the gas derived from methane production into the GRDF, the French Gas Distribution Network. Eventually, a survey by the AFSSET (French Agency for Environmental and Occupational Health Safety) endorsed this operation. This decision was followed by more than 18 months of discussions with the Ministry to define the conditions of this injection. After the Region's DREAL took up the issue, things accelerated.

Although the methane production unit is now in operation, its cash value has not been established yet. *"As far as electricity is concerned, the system is now running smoothly, the energy produced by wind turbines or photovoltaic panels being sold to Electricité de France (EDF), the French utility company,"* asserts Paul Deffontaine. *"This is unfortunately not the case for biogas. As a result, France is lagging behind its European neighbours, which have already put in place a legislation and most importantly, ... a marketing price."*

Conditional authorisations

Patricia Blanc, from the MEEDDM, claims that progress has already been made in defining rules for biogas injection. *"The AFSSET ruled in favour thereof provided that there's no industrial waste or waste water treatment sludge at the entrance of methane production units. I admit that this decision is very restrictive because waste water treatment sludge is very often used as a fuel. This is why we requested the AFSSET to state on the matter again. Pending its answer, prefects were instructed not to authorise the operation of facilities concerned by these restrictions. No contractual agreement is either possible with the GRDF network manager as long as doubts raised by the AFSSET haven't been dispelled."*

programmes, a field in which France still needs to progress, although other European countries lag far behind. Whatever the case may be, it's useless focussing on what neighbours are doing, since there isn't a unique solution. We rather need to think in terms of a common basis. The easiest way to proceed would be for each Member State to refer to European regulations before deciding in what solution they should invest. This is unfortunately not the case."

Regulations lacking teeth

And yet the new European Waste Framework Directive (WFD) of November 19th, 2008, has clearly set forth priorities: firstly, prevention, then recycling and, lastly, residual waste recovery. It also set new measurable targets that were transposed into the French legislation, namely a reduction by 7% a year for 5 years of the production of domestic refuse, an increase of material and organic recycling of waste to 35% by 2012 and to 45% by 2015. Some think that this is not enough. Current regulations indeed do not impose enough individual constraints to industrial waste producers in the choice of the most sustainable treatment channel. This is why, in most cases, they prefer to opt for the cheapest solution.

Processed wood: dangerous dissemination...

Such irresponsible choices have lead to particularly dangerous situations. It is in particular the case in the channel of processed wood used to manufacture railway sleepers from the French National Railways (SNCF), from France Telecom's electric poles and from ERDF (a branch of the French gas distribution company EDF, in charge of managing the public electricity distribution network).

"Under European and French legislations, these products, which contain many carcinogenic molecules – copper, chrome, arsenic and creosote –, are considered as hazardous waste", says Jacky Bonnemains, chairman of the Robin des Bois association. "To escape disposal costs, the SNCF, to mention only them, organised genuine dissemination of processed wood from their railway sleepers. They took advantage of a flaw in regulations, which authorises their reuse as bearers. Hundreds of thousands of people were and have been exposed, until now, to these hazardous substances that are to be found in the wood of their terraces, in their garden or around their swimming pool. The fact that the June 2003 order forbids the reuse of creosoted railway sleepers in public gardens but authorises it in private gardens is among the many aberrations!"

...Channel players summoned by the State

The French state decided to react by summoning channel players. A working group was thus formed in order to explore the compliance of these waste producers' practices with regulations in force. The first meeting, at the beginning of 2009, brought together the main owners of processed wood – SNCF, RFF, France Telecom and EDF –, the Ministries in charge of health and of the environment, the Robin des Bois association and the FCBA technological institute, specialised in wood and furniture.

"In order to save forest resources, among others, we tried to identify new outlets for end-of-life processed wood," explains Richard Lejeune, in charge of environment in ERDF. "After long discussions, we agreed to authorise their reuse based on stringent monitoring. We committed on four points: not sell, neither directly nor indirectly, these bearers to private individuals in order to limit their dissemination, strengthen communication on these products' dangerousness, ensure their disposal at the end of their second life cycle in ad hoc channels and, lastly, lay down strict traceability rules." There is much at stake, several hundreds of thousands of tons of this end-of-life processed wood being withdrawn every year: 150,000 tons of wood owned by the SNCF and 50,000 tons of the wood from the electric poles of France Telecom and ERDF...

Waste transfers: flawed regulations

As a more serious consequence, these hazardous waste sometimes are carried along through the oceans to the shores of countries that have less stringent regulations and, most importantly, which have no recycling capacity. Christian Djutcheu from the Cameroonian hygiene and sanitation company Hysacam regards this as a way to export hazards. To illustrate his assertion, he mentions the Probo Koala case, a health disaster that happened in September 2006. The Probo Koala oil tanker discharged tons of toxic products on the shores of Ivory Coast, provoking the death of a dozen people.

"The irresponsible European legislation is to be blamed again," Jacky Bonnemains of Robin des Bois says indignantly, adding that containers full of European W3E are passing in transit, right now, off La Baule, heading to Africa and Asia. "There, they will be burnt, treated with bare hands by people unprotected against health hazards. It's a real scandal! We have been trying, with other associations such as France Nature Environment and Les Amis de la Terre, to throw all our weight against environment agencies sending these W3E for their wild destruction in Asia and in Africa."

Other "natural" waste flows

Transported waste is not the only flow of waste. Jacky Bonnemains, of Robin des Bois, says that we must not forget natural flows.

"Significant amounts of domestic waste – various pieces of furniture, sofas, W3E waste sludge – are carried along by rivers, sometimes over hundreds of kilometres until they accumulate in deltas or are directly discharged into the sea," he says.

"These phenomena are aggravated by natural disasters – floods, earthquakes, cyclones, tsunamis – and unsupervised wild urban planning in flood-prone areas. We warned public authorities thereof, in partnership with the post-disaster GEIDE (Group of Expertise and Intervention for Waste). The Grenelle Environment Conference and the Grenelle Sea Conference took over the issue. We now hope that significant progress will be made. We have to teach people that they must not dump their garbage in nature."

Environment agencies at the front line

The general manager of the Eco-Systems environment agency Christian Brabant reacts to this allegation: “*Environment agencies forbid themselves to export W3E to African countries. It's a strong commitment and it's even our raison d'être. The proof is that we even collect end-of-life refrigerators in the Réunion Island to treat them in Metropolitan France. Due to limited waste stocks, the island doesn't avail of any treatment facility. The cost per unit to repatriate such equipment is valued at 150 Euros. It'd be less expensive and less complicated to send it to nearer countries.*”

“*However, he continues, we can't deny that there's a flaw in European regulations. Under the pretext of reuse, thousands of containers are sent to Africa and China. We look forward to addressing this issue in particular within the framework of the review of the European directive on W3E.*” Another difficulty is that big amounts of waste are escaping organised channels and are exported without going through environment agencies. In the W3E channel, these amounts represent virtually 2/3 of waste stocks! To thwart such practices, European countries have strengthened their cooperation and have been conducting many operations, most recently in the harbours of Rotterdam and Le Havre.

Promoting an integrated management of treatment channels

Nicolas Incarnato from the DREAL of Champagne-Ardenne, says that this situation highlights a major contradiction between a willingness to develop green jobs and growing exportations of waste abroad. Jacky Bonnemains of Robin des Bois goes even further. In his opinion, nothing has been done to perpetuate and consolidate recycling channels in France. As a provocation, he even questions the relevance of carrying on paper sorting.

“*With the closing down of many paper mills, mainly due to temporary cash shortages, paper stocks are sent to China, where they are recycled into packages. We find these packages in many often non-compliant Chinese products that inundate the European market. The whole phenomenon contributes to the desindustrialisation of France and Europe. Promoting an integrated ecosystem management is a very good thing. The same approach should be applied to recycling channels. Inciting people to recycle their waste is useless if it's to strengthen industries with scandalous practices from a sanitary, environmental and social point of view.*”

Give priority to monitoring

To avoid such abuses, all participants share the opinion that monitoring needs to be continuously strengthened. But Franz Mochty of the Austrian Ministry of Agriculture and Forests stresses that “*making regulations more stringent will be useless, since there's already a law that forbids exporting waste to countries that don't avail of a recycling chain, which is not respected. We need to apply a qualitative, not only quantitative, monitoring approach. The solution is to audit the whole chain in order to better target high risk companies.*”



There are two monitoring levels in France: regular in-depth monitoring (once a year) for incinerators, storage centres and large-size facilities and “crackdown” operations for small facilities. “*The latter are carried out primarily to strike people's minds,*” specifies Patricia Blanc, of the MEEDDM. “*Indeed, we don't have the capacity to control all facilities at the same time. We target in turns more diffuse sectors like used vehicles, W3E or composting facilities. All these channels were the object of a national monitoring campaign that was waged by classified facilities inspection services. We recently intervened on hazardous waste treatment lines.*”

Too many intermediaries and not enough rigour

Nicolas Incarnato from the DREAL of Champagne-Ardenne explains that waste flow monitoring difficulties are due to two phenomena: “*Firstly, the opacity of a system that is growing increasingly complex due to soaring numbers of intermediaries but also – and it's more worrying – because many businesses aren't aware of their responsibilities in managing their waste flows. This year, we waged a campaign to verify the compliance of practices of channels from one end of the chain to the other, i. e. from producers to eliminators. Although some are really aware of their responsibility, others, small producers in particular, don't pay much attention to the future of their waste.*”

European incineration stories

In France, the setting up of domestic refuse incineration units is still often rejected. In the Pas-de-Calais department, the president of a joint union, who received death threats, preferred to give up! And yet, according to Luc Valaize, chairman of the SVDU (national trade union for the treatment and recovery of urban and associated waste) that gathers the French domestic refuse incineration units operators, there are arguments in favour of incineration that should be defended. *"This technique allows reducing waste volumes by 90% and deriving maximum quantities of energy from waste, 50% of which is renewable. It also reduces the use of fossil energy and methane emissions in the atmosphere. For all these reasons, the European directive of November 19th, 2008, rightfully considers incineration as recovery beyond a certain threshold."*

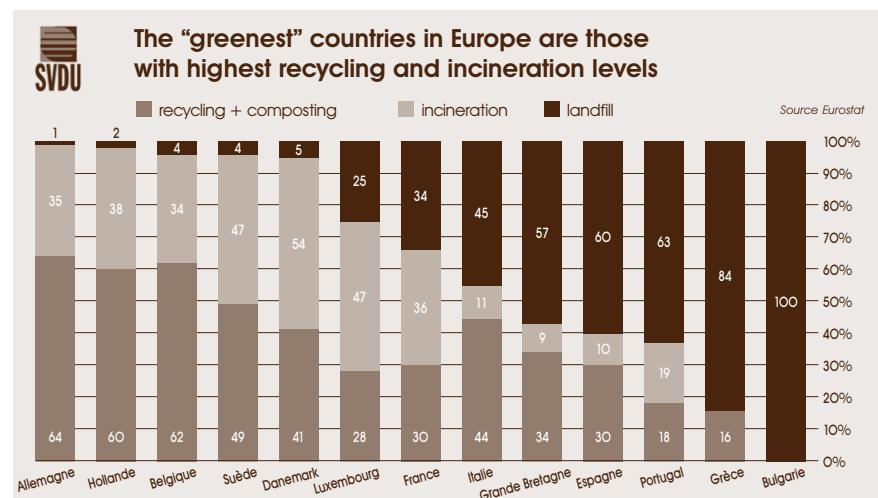
Spain, Italy, Sweden and many other countries...

In Europe, mentalities have much evolved in recent years on this issue. Several reluctant countries eventually adopted this technique, first of all Catalonia, where people had long been against it. *"After reflecting thoroughly on this issue and realising that they lacked thermal treatment capacities, they decided to engage into incineration. Likewise, in Italy, faced with the problem of refuse management in Naples, public opinion and policy makers reached a consensus, deciding to build three incinerators. Even countries considered as the most ecologically virtuous – Sweden, Germany, Denmark, Luxembourg, Belgium – incinerate at least as much waste as in France, although they sort and recycle much bigger quantities."*

"Sweden thought that incineration would have a negative impact on waste sorting and first introduced a tax in 2006. Swedish authorities then realised that it had no impact on recycling rates, and have just decided to suppress it. Over the same period, they even increased incineration capacities by virtually 20%! This example tends to demonstrate that incineration shouldn't be opposed to sorting and recycling. It can even be a very significant source of renewable energy."

Second biggest source of renewable energy in France

"If we made the calculation for France, we'd find out that incineration represents the second biggest source of renewable energy. Our intention isn't to apply an all-incineration approach again but to show that this technique is among viable waste treatment solutions."



Targeting small waste producers

Franz Mochty, from the Austrian Ministry of Agriculture, Environment and Water, shares the same opinion. *"It'd be easy to denounce big businesses that are regularly controlled, contrarily to SMEs, which aren't concerned by European regulations. Yet, even if they produce less waste, their number is much bigger. To better monitor their practices, we created a centralised database in which the type, amounts and destination of their waste, which they're obliged to communicate to us, are entered. This policy is bearing fruits. We are observing a real change in behaviours."*

Contributing to facilities acceptance

While the Grenelle Environment Conference allowed highlighting the necessity to strengthen monitoring, new tracks were also identified to encourage acceptance of incineration and storage facilities. A willingness to reduce the amounts to be incinerated and stored by 15% and to ensure the right sizing of the new incineration and storage units was expressed. Incineration and landfilling capacities should not exceed 60% of the total waste stock on a given territory.

"Big efforts have also been made to improve accountability in relation with the operation of waste treatment facilities," Patricia Blanc from the MEEDDM specifies. *"Several new provisions are being reviewed: the introduction in regulations of an obligation to measure incinerator dioxin discharge levels on a semi-continuous basis, the publication on the Internet of non-technical summaries of application files for the authorisation of facilities, and the strengthening of local consultation bodies such as local information and monitoring commissions (CLIS)."*

Virtually all incinerators and storage have a CLIS. *"These dialogue spaces, which bring together neighbouring communities, associations and operators, have allowed for very constructive progress,"* Nicolas Incarnato enthusiastically declares before concluding: *"In this way only, by working together, will we be able to take up the challenge of a more safe and responsible management of our waste."*

Plenary session 4

Grenelle Environnement: what concrete progress for waste management?



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abstract

The aspirations of the *Grenelle Environnement* – making France “a model country” in terms of waste management has indeed led to an extraordinarily positive mobilisation. At this time, the intergroup workshops were able to define several objectives which were much applauded: reduce waste production, improve recycling, better understand and control the impact of different treatment and recovery methods, reinforce dialogue, data-sharing and innovation for waste management...

The future will tell if these intentions lead to action. Happening at a pivotal period between the Grenelle laws 1 and 2, the *Assises des Déchets* (Waste Conference) will be the ideal time to get to the heart of the matter, discussing all issues in detail. There are specific themes where firm and concrete suggestions are expected: prevention, costs, implementing a stricter extended producer responsibility, polluted grounds and urbanism, port waste, public works waste, separated collection of organic waste, territorial risks (progress of future planning, constraints on new treatment capacities?)...

A New French Model?

In a relatively appeased climate, the closing session of the 10th Waste Conference took stock of the implementation of the Grenelle I and II acts. A new method of governance has been imposed for all participants since the Grenelle Environment Conference – governance by five. It is according to this method that henceforth progress in waste management will have to be built.

What about industrial waste?

Vincent Le Blan, General Delegate of the FNADE, wants to extend thinking to industrial waste, the infamous Non-hazardous Industrial Waste, whose conference at La Baule was historically specialized. "At the Grenelle conference, we were very focused on household waste, and perhaps not enough on industrial waste. There is true potential there though. Focusing on household waste is probably natural but it is a complicated subject. There is significant impact and leverage to be found in ordinary industrial waste". Alone, the reorientation of non-hazardous industrial waste represents 5 million tons, as much as the objectives set by the ADEME for the different household waste streams, packaging/paper 1.7 million tons, organic treatment through anaerobic digestion/composting 2.2 million tons, mechanical-organic treatment 800,000 tons, composting organic waste 400,000 tons..."

After the testimony of a representative from the region of Namur (Belgium), it was evident that the management of household waste in France is not necessarily ahead in all areas, and may even be behind, in particular as regards incentive charging. However, the "French model" should not be overly self-critical; it is efficient with regard to the EPR (Extended Producer Responsibility) streams and remains pertinent...particularly if it can apply the benefits of the new consultation on the "Grenelle mode".

Aside from some dissonance – how to concretely implement the priority given to prevention in the speeches – it appears that in the end a certain collective dynamic has emerged triggering significant investments (about 3.5 billion euros to retrofit old facilities or create new ones).

However, the cultivation of dialogue, or even co-management and partnership between players, must be pursued. It is thus that we will act with strength – with professionals, citizens, militants... – without taking the risk of betraying the pact of confidence that arose out of the Grenelle conference.

Grenelle Situation Report

The responsibility of providing a situation report on the progress of the "Grenelle Environnement" was entrusted to Laure Tourjansky, on behalf of the Ministry. "Two years down the road, what is the situation regarding the waste-related commitments? The first focuses on prevention and recycling, in parti-



cular on incentive charging. This is a tool that Grenelle participants believed in because it provides users with the cost of the service from which they benefit and which they can adapt accordingly. But it is complex to implement. Beyond the principle contained in article 46 of the Grenelle 1 act, work is in progress to develop it. Moreover support exists for local administrations that will set it up before the legislative obligation in the next five years".

The Grenelle environment conference also put forth an increase of the TGAP (General Tax on Polluting Activities) on stored waste, with the continuing aim of promoting prevention and recycling. "This TGAP was voted to produce a double effect: an increase that promotes recycling but also modulation that favors sites that demonstrate good environmental efficiency, the best possible energy recovery or the use of alternative transportation. It is a system that was widely discussed and that can certainly be improved upon..." It remains that the dynamic is underway. "Especially since the TGAP system is paired, and this is an original feature of the Grenelle Waste conference, with a waste policy support fund managed by the ADEME (French Environment and Energy Management Agency). With this tool, we have taken an important step but we must continue and combine this tool with the other commitments..."

Incentive Charging, TGAP and EPR...

The expansion and reinforcement of Extended Producer Responsibility (EPR) mechanisms is also a key point of the Grenelle conference. New streams are already organized: infectious waste and diffuse hazardous household waste, and also bulky waste. The desire to improve existing streams also involves work on the modulation

of upstream contributions. “*In the current WEEE eco-organization re-approval work, we have made progress on this topic*”, explains Laure Tourjansky. *Work is underway on the paper and packaging streams...*”.

Among the active topics, prevention and recycling in construction, where the commitment to reach a recycling objective is ambitious, will be based on the Grenelle 2 conference: waste management plans, pre-demolition diagnosis, implementation of an economic instrument partially supported by the ADEME fund etc. Bio-waste will follow. Without a formal commitment by the Grenelle conference, the analysis demonstrates the necessity of doubling the flows handled.

“We are moving towards a charter on the outlets for compost, hopefully soon to be signed by all the parties: the market placers, that is the downstream part of the stream, agribusiness that must understand that the use of compost from waste does not adversely affect the image of its products, the agricultural environment, associations, and the State and local administrations”. Progress in this domain also includes the supervision of anaerobic digestion during finalization, with rich debate in the Senate on the issue of fermentable substances.

Keeping the pact of confidence

Last important point, the improvement of the treatment of the residual share of waste. This involves the TGAP of course, but other questions arise: Reinforcing the monitoring of environmental impacts, new semi-continuous monitoring tools for dioxins, including prevention and recycling efforts in calibrating the processing tools etc., reinforcing long terms studies and research...

“I don't know if it can be said that we have covered half the distance”, concludes Laure Tourjansky. “But significant progress has been made with heavy immediate impact, in particular financial. The ADEME fund will be deployed through aid to project owners. We will henceforth arrive at concrete implementation that will enable us to meet our commitments and keep the initial pact of confidence according to a collectively followed calendar”.

New governance...

The notion of “pact of confidence” is at the heart of the success of the Grenelle conference. *“What is very interesting in the Grenelle process is what can “technocratically” be called five-fold governance: State / Territorial Administrations / Companies / Employees / Environmentalist NGOs”*, remarks Bruno Genty, of France Nature Environnement.

“We support this approach. Moreover, we had already implemented this practice of partnership between associations, industrialists, the State, and local administrations in the framework of certified eco-organizations”, reiterates Jacques Péliéssard, chairman of the Association of Mayors of France. *“We thus fully in favor of the Grenelle approach and at the same time to its orientation act. It gives highly proactive paths to follow and we adhere to this: prevention at the source, with 7% less waste production, recycling and composting with a 20 to 24% increase today, rising to 35% in 2012 and 45% in 2015”.*

The Belgian Example

With Véronique Arnould, representative of the Province of Namur, participants in the session were able to ascertain simultaneously that the French model, even if energized by the Grenelle conference was not necessarily the most advanced and that much remained to be done...

“With the Grenelle conference, you initiated a very interesting debate, one we undertook in Wallonia about ten years ago. In Belgium waste management is regionalized.

Sanction charge: Triggering element

In 1997, we produced 310 kg of household waste per inhabitant per year. Wallonia then launched a regional waste plan with a “sanction charge” tax that directly concerned the local administrations that produced too much waste. It was progressive but the goal was that in 2002 all local administrations producing more than 240 kg per inhabitant per year would pay an excess tax of 35 per ton! This was the triggering element. Inter-community syndicates set up the selective waste collection of packaging and especially incentive charging. The latter takes two forms: Purchased garbage bags and on-board weighing. In my inter-community of nearly 500,000 inhabitants covering 39 communities, we started in 1998, today 23 communities collect their waste with “smart containers”, standardized containers with weighing.

Globally, results are excellent since we went from 310 kg to 112 kg per inhabitant per year. And this dynamic literally spread to all selective collection. A few figures: 18 kg per inhabitant per year for packaging, 68 kg for paper/cardboard, 35 kg for glass etc.

Production divided by three!

Another element of analysis on the TGAP, widely applied here since 2004. Since we have set the prohibition for dumping for 2010, with only 4% of flows that can be considered final waste. Despite efforts made in terms of recycling and prevention, naturally residual waste still exists, waste we have chosen to treat in the four incinerators existing in Wallonia without building any new ones.

Last but not least, in my residential area we have no incinerator forcing us to transfer residual waste fairly far by river. Because it is preferable to treat on location what can be, we launched additional selective waste collection, that of organic waste. We are in the final phase of the buildup. It's not easy every day, it takes ingenuity to put the right waste in the right place to reduce the mass of waste... but I feel that with this last step of organic selective collection we will achieve less than 100 kg per year and per inhabitant!”

Patrice Robichon, for the MEDEF (French Business Confederation) has the same analysis: “*We are very satisfied with the results obtained through the Grenelle conference, and we particularly appreciate this co-construction effort*”. Philippe Vesseron, of the BRGM (Bureau of Geological and Mining Research), agrees. “*One of the major benefits of the approach was that each entity sought to reach common ground, to avoid ideological or blocking positions. When the Grenelle conference took place, this was a point of consensus for everyone that lasted thereafter including when there were a few risks of going off the roadway... Even when this did occur, what survived was the common desire to find solutions together. Caution however, we need truly shared references and information...*”

... that must be cultivated with care

“*We invested much effort, made many proposals, worked hard... for the environment*”, states Bruno Genty. “*Not everyone got what they wanted but we know that we can't be right alone. We feel that it is better to take small steps forward together than for each one of us to stay immobile in our own space. It is counterproductive to set ideal objectives that we can't reach*”.

The vice-chairman of FNE is as demanding as Philippe Vesseron in the attention paid to the future of the method. “*I call upon all the stakeholders of the Grenelle conference: We are collectively responsible for the commitments we negotiated. If these commitments are torpedoed – because there are many financial stakes involved, because much happens in the wings, because what is written in the law is not always practically enforceable – let me remind you that the special fee has existed since 1993 – we will all be responsible.*”

Successfully implementing incentive charging

The introduction and generalization of incentive charging is also a strong point in the progress of waste management that results from the Grenelle process. All the players adhere to it, or at least accept it while not making it the perfect solution. Paul Deffontaine, chairman of Cercle National du Recyclage (National Recycling Group), admits to “*preferring an incentive contribution to an incentive fee. This involves charging for the real cost of collection and treatment at the time of purchase while today this contribution accounts for only half the actual cost...*” As for Bruno Genty, he says he's been convinced and his analysis is one that appears to be shared by a certain number of players “*Let's not be hard-headed and look effectively at the good results this yields in countries close to us. Very concretely, 120 kg of residual waste per inhabitant per year is reached. Let me remind you that in France 200 kg is the 10-year goal! On the other hand, I'm not saying that incentive charging is THE solution. I'm saying that it is a good lever if intelligently articulated with a local and prevention program.*”

The Progress of EPR

For participants, one point of progress is essential: the development of the principle of Extended Producer Responsibility (EPR). “*In this regard, it is the town halls that set the example since most of the Extended Producer Responsibility files were inspired by local elected officials: Eco-packaging, Eco-Folio, WEEE, and now textiles. We are strongly*



in favor of this principle considering that the existing streams must be secured and new ones must be developed: infectious waste and hazardous household waste” analyzes Jacques Péliéssard. “*In the future, we feel that the EPR streams must move along two tracks: recyclability and dangerousness (finance the recovery and elimination of hazardous products)*”.

“*An EPR stream that is becoming urgent concerns hazardous and diffuse objects. This is qualitative prevention on the one hand and on the other concerns products found in incineration plants, composting and storage: the stakes are truly significant*”, adds Vincent Le Blan, for the FNADÉ (National Federation of Waste Management and Environmental Services).

While EPR garners unanimous support, France Nature Environnement calls for caution however. “*We are not in favor of EPR that would cover 100% of the costs. If this were the case, for the greater financial benefit of territorial administrations, the consumer would cease to be held accountable. This is a very important point*” affirms Bruno Genty. “*In a market economy, there is co-responsibility between those who manufacture and those who consume. If there are commitments that reinforce the responsibility of producers, others are needed that make the consumer responsible. It is important that they be articulated... even if it is complex*”.

And what about shared responsibility?

“*We have always pleaded in favor of sharing costs between the eco-organization and local administrations, with a progressive build up of the eco-organization. But it is out of the question, for it would effectively become a means of eliminating the accountability of the*

taxpayer and consumer, that all costs be covered by the eco-organization!" specifies Jacques Péliard. An opinion subtly contested by Paul Deffontaine, chairman of the National Recycling Group. "I believe that we must hedge on the intelligence of public service: that is the entity that channels the most products with the best efficiency. So let us share the responsibility of collection and treatment... but not necessarily share the cost".

We must take care not to cut ourselves off from consumers, inhabitants, citizens, notes Bernard Casnin, on behalf of the General Housing Federation (Confédération Générale du Logement). "If people do not act, there will be no stream. While on the producer side we must stop making everything disposable, we must also look at the way we consume to move toward "better consumption". We must be responsible for our consumption which supposes that we are informed. How can we develop, in particular in the framework of local prevention plans, a common message between all the players that is accessible to all?"

Who forgets prevention?

Like Bruno Genty, of FNE, some players are troubled by the fuzziness of some of the vocabulary and especially by its consequences. "We say that prevention is a priority and at the same time we say that waste is a resource. If for a moment I may be politically incorrect, this means that we shouldn't implement prevention, that on the contrary we must produce more and more waste since then we'll have more and more resources! When taxpayers see the cost of waste on their tax return and we tell them it's a resource... I'm afraid that one day the territorial administrations will be facing a revolution!"

The shared objective is to develop prevention and recycling with the henceforth known ranking of priorities. It is only when action has been abandoned that recycling must be promoted. Prevention is essential but it is triggered upstream and that is where we must act. "If it is said that prevention is the priority, let us translate this into concrete measures. A manufacturer that puts a durable, sober and economical product on the market will pay the same contribution as the manufacturer who markets a product that will last six months, is produced far away and that cannot be repaired! We must really make an effort to go further". An opinion that Patrice Robichon for the MEDEF is close to sharing, even if he recommends taking precautions: "Remember that companies are very much attached to the creation of value, the creation of jobs, the maintenance of business. We must beware of implementing prevention for prevention's sake without concerning ourselves with the impact on business. We must experiment different systems when we are unsure of the result".

There is a balance to be found among the streams, as summarized by Vincent Le Blan in a few figures: "The goal of increasing prevention represents a little less than 2 million tons in five years when the reduction of incineration and storage tonnage should represent about 5.4 million tons. It is this difference, the allocation of efforts between prevention/incineration/storage that is at the heart of the thinking we must do together." To be able to ascertain all the investment stakes, we must build or rebuild alternatives with less dumping and storage: create or renovate the materials recovery centers as the current fleet is beginning to age. The amount of investments was estimated at 3.5 billion euros. No small amount, in particular in a period of economic crisis.

A favorable report... but much remains to be done

When taking stock, each participant is relatively positive with regard to the Grenelle conference on waste. "Today we only have a slightly different attitude regarding two points" affirms Philippe Vesseron. "First on the issues of energy and climate that are today much more constraining, but also concerning raw materials, a disrupted, jostled universe for which our conclusions would certainly be different..."

On the other hand, prevention is sure to remain a major priority. Bruno Genty recalls that in Europe production of solid municipal waste per individual is 500 kg, when the production of industrial waste is 3.7 tons. "We are no longer aware of the quantity of resources consumed to satisfy consumption modes: 50 tons annually for each one of us! Wanting to prolong the lifetime of a product, asking manufacturers of bottled water to reintroduce deposits, defending companies and their jobs by proposing the diversification of their production is not simply the whim of ecologists... Especially since, as demonstrated by the ADEME, producing less waste limits household spending!".

And if the "French model" isn't so bad, as affirmed by Jacques Péliard, the success obtained regarding extended producer responsibility must be pursued with new thinking on incentive charging, for example.

In any case, we must play on the complementary nature of the streams, affirm together the players. Laure Tourjansky, for the MEEDDM, remarks: "We all know that we must follow the calendars established or sketched out during the Grenelle conference, and accept that not everything moves at the same pace... The goal is to continue to consult, to integrate new societal, technical or legislative "controls", regulatory constraints or new work directions..." .



Directive-cadre
Framework Directive

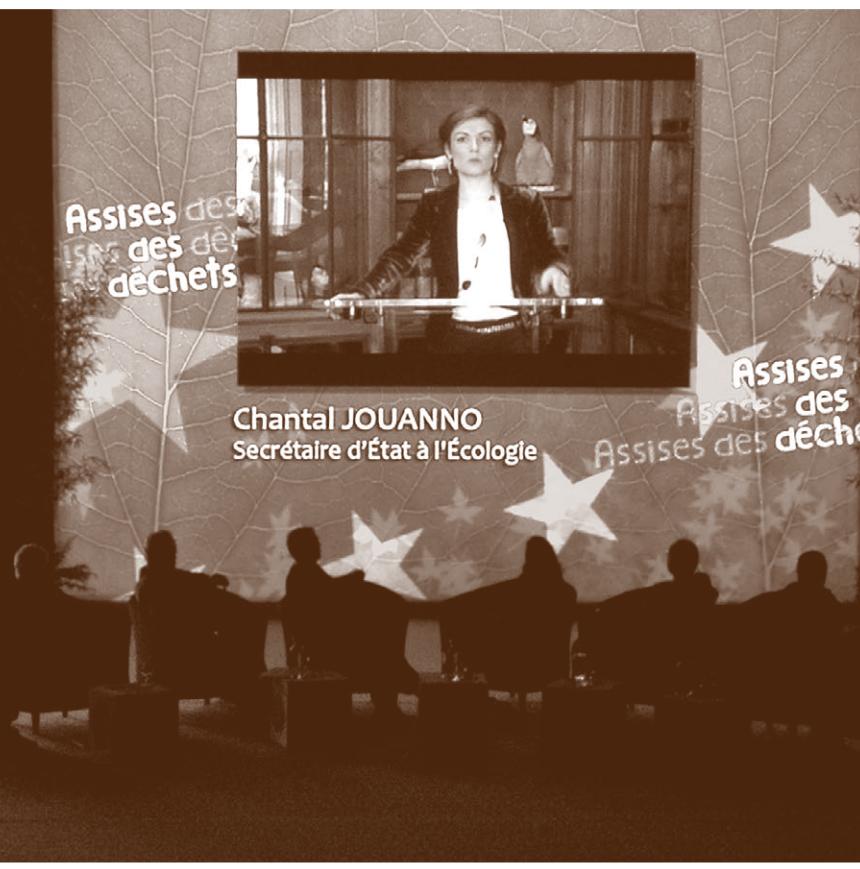
Assises des déchets
21 et 22 octobre 2009
Atlantia La Baule



European best practices
um der Welt zu gehen



Speech by...



Mrs Chantal Jouanno

Secretary of State for Ecology

I- Introduction

Before starting my speech, I do apologise for not being able to be physically with you today.

I am talking to you in front of the Parliament, which is reviewing the carbon tax. This matter, as you all know, is the object of very essential environmental challenges. It is thus crucial to be able to answer all legitimate questions that are raised by Parliament Members – and, through them, by the Nation.

However, I could not reconcile myself with being the first Minister in charge of the Environment not to speak in front of you since the creation of the *Assises*. I thus decided to join you via video recording.

Lastly, let me very sincerely congratulate and thank the event organisers. It is an important meeting for all players from the waste management sector.

Madams, Sirs,

I would like to present you the main orientations of the government's waste policy.

The waste management issue has long gone beyond the technical debate. It has become a societal debate on our living styles and consumption habits and related abuses.

Our responsibility is first to reduce our waste, and to increasingly recover it – whilst making sure that we do not just succumb to current trends or easy solutions.

II- The overall framework – the direction is set

Two new fundamental pillars have risen since the last *Assises*:

- The first pillar: the Grenelle laws. The Grenelle 1 law set the direction, targets and the main measures to implement. The Grenelle 2 draft law, which was voted in the Senate and is due to be soon reviewed in the National Assembly, provides for their concrete implementation.

- The second pillar is the Waste Framework Directive (WFD). It sets forth the hierarchy in waste management methods and introduces new major concepts such as the end of waste status.

Its transposition will also imply reviewing reference definitions and strengthening planning, reflecting on our hazardous waste monitoring regulations, on waste transport, as well as on waste trade and brokerage, which are not ordinary activities. They must be better monitored and controlled.

III- The road map – the governmental action plan

The richness of the commitments taken in round tables of the Grenelle Conference and that were taken up in the Grenelle 1 law shows the ferment of ideas about this issue. Many players need benchmarks and a framework to apply and implement all these new targets.

This is what I have been devoting myself to since last summer.

First of all, on September 9th, I set up a renewed National Waste Council, which is intended to become the consultation body for the implementation of measures required to reach targets. It is not just another commission, but a genuine Waste Parliament in charge of following up the implementation of actions in the field of waste and of providing a critical analysis in the positive sense of the word. I trust Fabienne Labrette-Ménager's ability to give substance to this commission.

We then needed a road map. It is the object of the government's 2009-2011 waste action plan. I know that it was handed over to you yesterday; I'd like to go back over a few chore aspects.

The action plan adopted by the government, with its five strategic lines, should form the framework of your action. I shall go over the main lines with regard to your work.

3.1- The first line is of course to reduce the production of domestic and associated refuse by 7% per capita over the next five years and to act for waste prevention by businesses.

Our experiments with pilot households have established that it was largely possible.

We will finally avail of the means to really progress:

- With Jean-Louis Borloo and the ADEME, we launched an ambitious prevention information campaign, a reminder of simple gestures for all publics – households

and businesses. It will go on for three years. Of course, it should be part of a consistent overall scheme.

- We then voted the introduction, within five years, of a variable part in waste pricing.

It is a far-reaching project that requires proper assistance. From this year on, ADEME's subsidies will change in order to support pioneering local governments.

- We also need to support local governments' prevention programmes as well as all environmental labelling and product eco-design schemes. A fund was created for the ADEME to finance them.

Other tracks will be followed: limit the squandering of food and the quantities of useless gadgets, put in place a functionality economy.

3.2- The second line aims to promote recycling. Targets are 35% of sorted waste by 2012 and 45% by 2015. Much work is needed in this field too.

- This implies gradually harmonising sorting instructions to make French people's life easier and setting up the Commission for harmonisation and mediation to make local governments' and recyclers' life easier too.

- It is all the more necessary since we are setting up new Enlarged Producer Responsibility channels (*waste of activities of care with infectious risk, diffuse hazardous household waste and bulky household waste*). The evolution of the packaging scheme has been started within the framework of the newly approved environment agencies.

I do warn those who would like to push for generalizing the EPR scheme without any precaution. Going too far and too quickly might jeopardise what has been making these channels successful: a suitable organisation allowing for the improvement of targeted waste sorting and recycling. The EPR scheme should not be restricted to yet another tax.

It should also be noted that recycling is going to be carried out, in coming years, within a new regulatory framework: the WFD makes it possible to for some waste to re-enter product status. This complex point was debated here. France has been very much engaged on this issue and it will continue.

3.3- Organic waste is another major recovery-related challenge that I would like to underline.

Whereas almost one third of household waste collected is constituted by organic waste, only 14% undergo biological treatment.

I wish we would double organic recovery by 2015.

All tracks must be explored:

- oblige major organic waste producers, particularly canteens, to sort this waste as provided in the ENE law.

- Generalise domestic composting, particularly by examining conditions of the setting up of community composting units and autonomous composting units in institutions.

- Secure compost market outlets within a concerted national coherence framework duplicated in territories. A charter is soon going to be signed between all players.

- Develop methane production based on environmental monitoring for energy and material recovery.

3.4- The outcome from these working lines is indeed to reduce our needs for waste treatment by 15% by 2012.

To put it clearly: the number of incinerators and, most importantly, of landfill sites, will have to be reduced within the framework of a reformed planning scheme. Of course it does not spell the end of incinerators and landfill sites!

Indeed, whatever our performance in terms of prevention and recycling, we will still have to develop treatment tools for residual waste.

For that purpose, they need to be rightly sized (less than 60% of the amounts of waste collected on the concerned territory). Besides, we will reach this target only if we ensure exemplarity and total transparency of projects and even more so of their operation. The best technology will have to be applied on every site. In this regard, I shall remind you of my commitment to ensuring compliance of storage sites with European standards, which had long been announced and have been in force since last July.

3.5- The last line of our action plan is the management of waste from the construction and civil engineering sector, i.e. another major challenge of the WFD; it should be improved, for the purpose of better recycling. By 2020, 70% of waste from the construction and civil engineering sector should undergo material recovery.

Efforts will not only concern household waste, but indeed all waste flows. There will be a gradual change in pricing and support provided in this field too.

IV- Financial means

A successful action plan requires financial means in line with our ambitions. It is the case in the field of waste, in particular with the scheme introduced by the finance law of 2009, and whose concrete implementation has started.

Our goal is to set up a combined subsidies / incentive taxation scheme. The increase in taxes on final waste treatment schemes coupled with an increase in prevention and recycling subsidies by the same amount is an important leverage in this process towards a prevention and recycling society.

The reform of the General Tax on Polluting Activities (TGAP) on incineration and landfills should be understood as follows: until now, incineration was more interesting than sorting. The relevance of this measure relies in the fact that it comes along with "premiums" that will make it possible to develop alternative management methods.

The previously announced TGAP is gradual, clearly understandable and adaptable to ecological and energy efficiency of sites. Moreover, the extension of EPR channels brings about additional funding for sorting and recycling.

In 2009, the ADEME adjusted its subsidising system to fund new projects. In coming years, its financial means are going to be aligned with challenges to be taken up by local governments: €M259 are due to be allocated in 2011, versus €M55 in 2008. The budget thus doubled between 2008 and 2009 and will double in 2010.

I am counting on you for sharing and explaining this approach, which constitute a strong leverage for the shift to a recycling and recovery society.

Conclusion

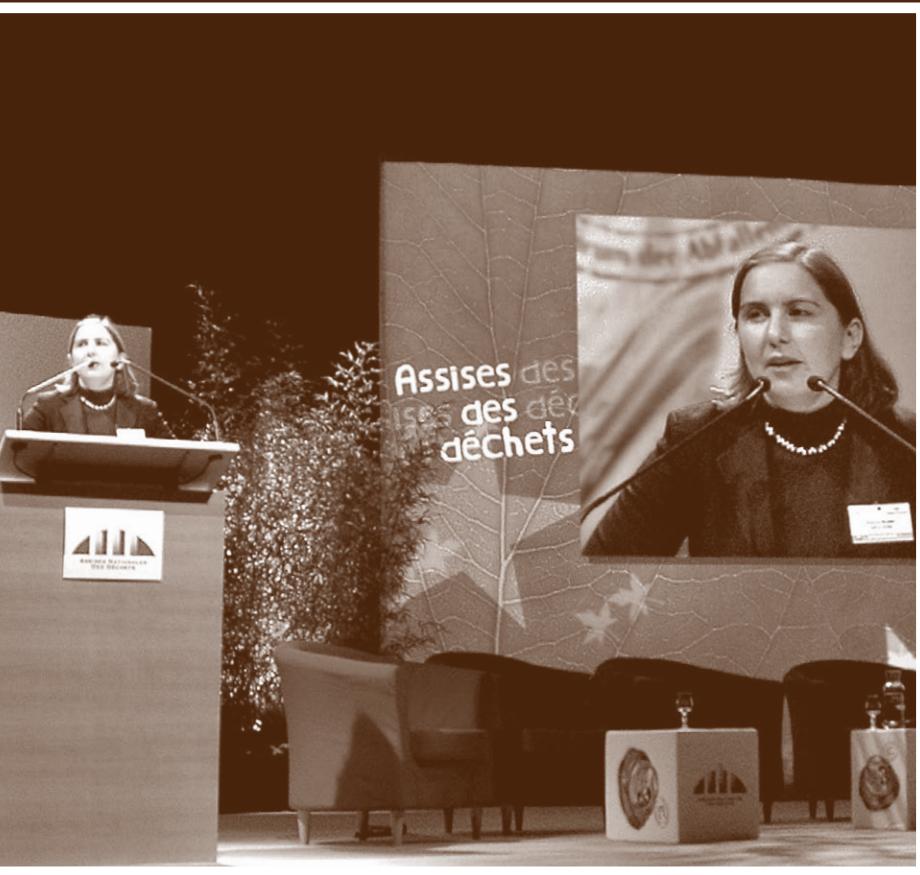
As you can see, our policy is coherent and relies on a comprehensive range of technical and financial measures that bind every party.

I hope the action plan and the road map that were handed over to you will help you in your heavy task.

I will personally remain very much engaged in the waste policy implementation and will always be willing to listen to your opinion.

I am counting on you. Thank you.

Closing speech by...



Mrs Patricia Blanc

Head of the service for prevention of nuisances
and the quality of the environment - MEEDDM

Madams, Sirs,

As a conclusion of this *Assises* edition, I would like to thank their organisers and all of you, for participating in plenary sessions and workshops, for also being present and active between them, in the corridors... The success of events like this one lies in all their special moments, highlights and exchanges.

These debates showed, above all, the Grenelle Conference commitments' relevance. The road map that was elaborated, even though it has changed, remains robust. I think that we should all stick to it. These commitments bind us all collectively. Not only those of the French state or of local governments: they're all absolutely relevant and, for most of them, they have even partially been implemented.

The Grenelle Conference commitments are based, indeed, on complementary instruments. We hear now and then: you focus too much on taxes, you have staked too much on the General Tax on Polluting Activities (TGAP), you expect too much from regulations... This is not so simple. Complementary and well balanced instruments were adopted in the Grenelle Conference. To reach the efficiency that is sought, we will have to accomplish the whole range of actions foreseen, and not select this or that action. Planning, with plans that are evolving to become prevention and management plans, but also tax oriented instruments – the gradual TGAP, incentive pricing... – communication campaigns waged by the ADEME, in particular on prevention and then regulation issues... all these actions answer to one another and supplement one another.

In these *Assises*, we thus collectively realised that regulations might not be as flawed as some say and that, instead, we need to strengthen monitoring. This is just an example, simply put, which I think shows the necessity to implement the Grenelle Conference instruments as complementary instruments.

Anticipation was the second very much debated principle, and which I think is a crucial one. Thanks to the Grenelle Conference, we now avail of a road map for several years, we now know where we are heading, we know the TGAP rate for several years... Players need to be knowledgeable of the whole scenario and have visibility to be able to anticipate. I think that one of the benefits of the Grenelle

Conference is that it sets stable conditions for our work on a long run. In contrast, some may also see it as a drawback and feel impatient as time will be needed for some goals to be fulfilled... But it is important to take time to discuss these issues, to consult with the various stakeholders, to work out indicators... in order to ensure sustainability.

“ ...some issues,
of course, are
not simple, and
some problems
remain... ”

Let us now step back a little and analyse the European context. We had the privilege to welcome a few colleagues from other countries. Their testimonies taught us that simplistic comparisons restricted to certain aspects or parameters should be avoided. On the contrary, we need to look at the whole balance of any waste policy. In this regard, the road map of the Grenelle Conference is of a quality that can be compared to that of other countries and in line with the recommendations of the European framework.

The two-day debate in La Baule allowed clarifying future orientation and sharing experiences. Some issues, of course, are not simple, and some problems remain. Discussions highlighted some aspects that might have been overlooked in the Grenelle Conference and that need to be taken into account... But I am certain that what matters first and foremost is what the Grenelle commitments stipulate and our capacity to fulfil them together... I would thus like to thank you all for your very active participation thereto... and for these two days of debates and exchanges in La Baule.

Thank you all, thank you for your attention, and have a safe return back home.

Postface



Mr Bruno Genty

Vice-chairman of France Nature Environnement

Waste is a very relevant indicator of production and consumption modes. Like faecal pellets that are a source of information about animals' habits, human waste indicates quite clearly the way we have been consuming this planet unceasingly depicted as threatened¹...

Those who keep telling this apocalyptic story should pay a little more attention to their own waste. What would they see? Contrarily to what can be found in a faecal pellet, they would notice that human beings do not digest (or to a very little extent) what they consume and that they swallow and regurgitate materials that are sometimes hazardous for their own health! In our garbage, we thus find *entire* goods (sometimes still in operating condition), toxic substances... Of course, this inventory varies according to the place on the planet the *garbage* of which we are referring to and according to users: it is more or less voluminous and more or less hazardous.

In short, this all brings us back over a core issue: the amount and quality of the waste human beings produce depend on the way they chose to conduct their daily activities. The issue at stake is thus as much the reduction of amounts as that – albeit more restrictive – of the sustainable management of waste.

At this point, the 10th *Assises des Déchets* highlighted two confrontational tendencies: on the one hand, those (many people) who assert that waste is a resource and that optimal recovery (material but also energy recovery) is the cure-all solution; on the other hand, those (not as many people) who claim that a change in paradigm is needed and who stress the limits of any waste recovery approach that would be deemed self-sufficient.

The latter, as you will certainly have understood, are resolutely in favour of waste prevention. Although they absolutely do not deny the interest and necessity of recycling², they are aware of its limits. To put it simply: recovery should not become an alibi to waste resources.

As a food for thought, it can be interesting to ask the following introductory questions:

If waste is considered as renewable energy³, should human beings not be incited to produce always more?

Whose interest is it (on a financial point of view in particular) to thrust forward that waste is a resource?

If waste is actually a resource, how should the fact that it remains a negative saving⁴?

Should reusable but non-recyclable products be delivered on the market rather than single-use but recyclable products?

There is obviously not necessarily only one answer to all these questions that underline, though, the necessity not to restrict waste policies to the sole "end-of-pipe" management and to explore production and consumption challenges upstream from the stage of abandon. As an illustration, it should be noted that if the Grenelle commitment to strongly reduce the consumption of pesticides becomes a reality, this will *ipso facto* reduce waste noxiousness.

The fact that the final holder of an object (be it a company or a private individual) sees only part of the waste resulting from its consumption is certainly a significant hindrance to cultural change. Thus when my mobile phone goes out of service, I will consider that I generated a few hundreds of grams of waste. The truth is that about 75 kg of resources are consumed to manufacture this kind of device⁵. It's a little bit like the iceberg syndrome (any similarity with the Titanic is purely incidental!). More generally, in Europe, the ratio between solid municipal waste and consumed resources is of 1 to 100⁶.

Waste classification certainly explains, to some extent, our narrow-mindedness about consequences of our production and consumption modes. Indeed, is the separation in different categories not a way to dilute responsibilities or even to designate scapegoats? Thus, official French figures reveal that out of the 868 million tons of waste produced every year, only 3.5% are generated by households whereas 41% are derived from the construction and civil engineering sector⁷. When a mason carries out works on my request, is waste produced as a result not mine rather than his? When the construction of a road generates residues, since I use this road, am I not a little bit responsible for it? These questions are not meaningless and have to do with sometimes absurd practices⁸. Answering them implies highlighting the co-responsibility of producers and consumers, which is comfortable for no one. For consumers, this implies no longer shouting from rooftops that everything is to be blamed upon industrialists; for producers, it means that consumers will be more demanding and that they will no longer be able to sell them 'wasteful' products (single-use short-lifecycle products...).

These 10th *Assises des Déchets* enabled various players (businesses, local governments, associations...) to have a say, these players having been engaged in concrete waste reduction actions. The issue could at last be addressed in a more transversal manner (and not only in the roundtable dedicated to prevention), in exchanges on planning, channels, waste status... However, the *Assises* also highlighted the widespread reluctance that remains with regard to such change in paradigm. It seems that we are getting out, at last, of the very hypocritical period of the façade consensus on prevention. Everybody would then claim that it was a priority before going back right away to a *serious matter*: waste management. With this tenth edition, at least, reluctance is voiced, rupture lines appear more clearly. They show that prevention is taking a concrete turn and that it is time, in Europe, for a transition from an exclusively waste-growth uncoupling oriented approach to a focus on minimising the consumption of resources and its corollary, the production of rejections... A genuine debate, fed by concrete actions (no longer by *experiments*), can set off.

Bruno GENTY
Vice-chairman of France Nature Environnement

1- Human beings are certainly more threatened than the planet!

2- Some of them were among the first in France to actively campaign to promote a sorting-recycling approach, coming up against the opposition of specialists of all sorts who claimed that it was not possible!

3- Heard in the 10th *Assises* and unfortunately not disclaimed by the European Union...

4- By underlining that citizens are knowledgeable of only a portion of the costs, through their Charge or Fee for Removal of Household Waste (TEOM or REOM); how will they react when they realise that they also pay via "eco-contributions"? The final bill will certainly make them more sensitive to prevention benefits. However, I hear the arguments of all those who will inevitably remind us that recycling is now a global market (especially for metals). I invite them to meditate (or better, to calculate the earth and energy consumed to extract raw materials, the energy consumed to transform raw materials into materials...) I even read recently in a *scientific* review overtly sponsored by a waste multinational company the article of a prominent academe who claimed that the proof that waste had really become a resource lied in the fact that the Southern hemisphere imported increasing volumes from the North (sic)!

5- Federico A. et al., Material Input per Unit Service (MIPS) for the Italian mobile telephone network, abstract, 13th Discussion Forum on Life Cycle Analysis, Environmental impact of telecommunication system and services, April 25 2001, Swiss Federal Institute of Technology, Lausanne.

6- Sources: EUROSTAT and the European Environment Agency (EEA)

7- Source: Les déchets en chiffres – 2009, ADEME

8- Lately, a mason handed me over two estimates: the first one was less expensive but I would have to take my refuse to a sorting unit myself; with the higher one, the mason would have to go to a much farther sorting unit dedicated to craft workers.

Credits

We first of all would like to thank the Regional Council for the Pays de la Loire, a faithful partner of the *Assises des Déchets*, whose commitment has never faltered since the first *Assises*.

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Francis CHASTAGNER from the ANDRA, co-facilitator of workshop 8

Jean-Christophe GAVALLET from the Regional Council of Pays de la Loire, co-facilitator of workshop 4

Pascal GENNEVIEVE de VEOLIA Propreté, co-facilitator of the 2nd plenary session

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Jérôme AMAR, director of a regional construction and civil engineering agency of Veolia Propreté
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Sylvain BERNHARD, director, Algade
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Christian BRABANT, general manager, Eco-Systèmes
Jean-René CARAMELLE, chairman of the Ressources association
Lourdes CARREIRA, counsellor, Ministry of the Environment, Portugal
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Let us strive together to improve waste management.
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