Appeal number: TC/2009/12911

LANDFILL TAX-biodegradable material provided to appellant by waste contractors-sent to landfill by appellant-material decomposes and produces landfill gas including methane-methane used to power gas engines generating electricity-whether material sent to landfill said to be attributable to electricity generation discarded as waste by appellant-yes-appeal dismissed

FIRST-TIER TRIBUNAL
TAX CHAMBER

PATERSONS OF GREENOAKHILL LTD **Appellant**

- and -

THE COMMISSIONERS FOR HER MAJESTY'S REVENUE & CUSTOMS **Respondents**

TRIBUNAL: Judge David Demack
Roger Freeston FRICS (Member)

Sitting in public at Manchester on 5,6,8,9,12 and 13 March 2012

Roderick Cordara QC and Zizhen Yang instructed by KPMG, Manchester, for the Appellant

Melanie Hall QC and Simon Charles instructed by the General Counsel and Solicitor to HM Revenue and Customs, for the Respondents

DECISION

Introduction

1. This appeal is concerned with the liability to landfill tax of the appellant company, Patersons of Greenoakhill Ltd ("Patersons"). Landfill tax was introduced in the Finance Act 1996 and, for convenience, since the appeal is mainly concerned with the legislative provisions contained in that Act, throughout the remainder of our decision all references to sections and subsections of an Act of Parliament without more are to sections and subsections thereof.

2. Patersons owns and operates a landfill site at Hamilton Road, Mount Vernon, Glasgow, Scotland ("the Site"). Its site permit allows it to accept non-hazardous material, most of which it sends to landfill. Some of the material sent to landfill, being biodegradable, decomposes and produces landfill gas which consists mainly of methane and carbon dioxide. Patersons uses the methane so obtained to power gas engines. The engines generate electricity. Patersons claims not to discard that part of the material said to produce methane, discarding being a necessary prerequisite of the charge to tax. Consequently, by letter of 21 April 2009 Patersons, by its representatives, KPMG, made a claim for repayment of landfill tax of £17,628,504.15 overpaid between 31 March 2006 and 31 March 2009 said to be in respect of material used to generate renewable energy. Where appropriate we shall refer to that period as "the claim period". By letter of 14 February 2012, Patersons reduced its claim to £3,538,046.09. Patersons bases the quantum of its claim on the decomposition percentage of material deposited using a formulaic approach known as the GasSim model. The method it has adopted to calculate its claim as to quantum is set out in detail in the First Schedule to our decision.

3. We should explain that biodegradable material is carbon based material present in all living things and in materials made from living things. Predominantly, it consists of carbon, hydrogen, oxygen and nitrogen. The term biodegradable means that the material breaks up by decomposition, a biological process whereby living organisms, microbes, break down the material, enabling the organisms to grow and, in the process, release wastes in the form of gas. Biodegradable material includes that classified as putrescible, the latter, such as food, degrading more quickly than the former. Where the process of decomposition takes place in anaerobic conditions, i.e. in the absence of oxygen, as in the case of landfill sites, the microbes generate landfill gas. The volume of methane in landfill gas produced in anaerobic degradation follows a recognised curve, which quickly rises to a peak, and then tails off exponentially; it also depends on the nature of the material deposited and other factors, such as the amount of oxygen and water present in the landfill site, and atmospheric conditions

4. In the letter of 21 April 2009, KPMG claimed that four criteria contained in s.40(2) of the Finance Act 1996 for landfill tax to become due were "not fulfilled simultaneously in respect of the use of landfill material in the manner claimed and, as a result, landfill tax is not due on landfill material used to generate renewable energy".

5. The Commissioners rejected Patersons' initial claim on 21 July 2009, saying that "at the point the waste is deposited in the void all four criteria of section 40(2) of the Finance Act 1996 are fulfilled and a taxable disposal has taken place".

6. Patersons then appealed to the tribunal and elaborated on its repayment claim in its notice of appeal as follows:

> "6) It is the appellant's contention that material that generates landfill gas within a landfill site is not waste within the meaning of sections 40 and 64 Finance Act 1996 where the appellant:
>
> a) is, on the facts, the person making the disposal;
>
> b) captures and uses the gas which it produces to generate electricity; or
>
> c) sells the right to capture and use the gas to a third party.
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> 7) As a result, the appellant contends that the gas producing material is recycled within the landfill site and the appellant intends that this should be the case. Landfill tax is therefore not due on landfill material used in this way.
>
> 8)...
>
> 9) The appellant contends therefore that if the material is not disposed of as waste, as defined by section 64 Finance Act 1996, because the site operator intends that it will be used to create landfill gas for the generation of electricity, then at least one of the criteria under section 40(2) Finance Act 1996 is not fulfilled and no tax is due".

7. In later supplying further and better particulars of its reasons for appealing, Patersons said that it had formed a general intention to use material for the purpose of producing electricity at the time it commissioned the installation of the gas engines connected at the Site. It further claimed that its general intention to produce gas crystallised at the time the company took responsibility for the waste on acceptance of a waste transfer notice for it.

8. In summary, the issue in the appeal is whether, as the Commissioners submit, all the material sent to landfill at the Site during the claim period was disposed of by Patersons with the intention of discarding it so that it was liable to landfill tax, or whether, as Patersons maintains, only part of it was disposed of with the intention of its being discarded, methane in the landfill gas from the remainder being intended to generate electricity, so that landfill tax was due only on the part discarded.

9. Although the parties agree that the Site is a landfill site, since it is situate in Scotland a written ministerial statement made to Parliament on 21 February 2012 by the Economic Secretary to the Treasury applied to it. That statement indicated that landfill sites in Scotland had unintentionally been outside the scope of landfill tax since 2000. The Finance Act 2012, enacted on 17 July 2012, corrected that flaw in the legislation.

10. At the outset of the hearing, Mr Roderick Cordara QC, leading counsel for Patersons, indicated that he intended to make application for the notice of appeal to be amended to take account of the flaw in the legislation. But he did not in fact make the application, which Mrs Melanie Hall QC, leading counsel for the Commissioners, indicated she would be strongly resisting. In the event, we were informed shortly after the hearing ended that the parties had agreed to make written submissions separately to deal with the matter. If it is still necessary, we therefore propose to make a separate decision dealing with what came to be described as "the Scottish question".

11. There are two other matters which the parties have agreed should not be dealt with in this decision. One is quantum, the other is the possibility of the Commissioners raising the defence of unjust enrichment in the event of our deciding the appeal in favour of Patersons. However, we cannot completely disregard quantum as argument relating to it has a bearing on Patersons' liability to tax, the latter being the only subject on which we are presently required to adjudicate.

12. As we have already said, leading counsel for Patersons was Mr Roderick Cordara QC, and leading counsel for the Commissioners, Mrs Melanie Hall QC. Mr Cordara led Miss Zizhen Yang, and Mrs Hall led Mr Simon Charles.

13. Counsel produced six bundles of copy documents, including the witness statements of five witnesses who were called to give oral evidence. Those witnesses were:

a) Mr Stuart Selvey, Patersons' site engineer;
b) Mr Gary Grantham, the technical director of Sinclair Knight Merz (Europe) Ltd, who specialises in providing consultancy services to the landfill industry;
c) Mr William Paterson, the chairman of Patersons, who was also until 30 November 2010 its managing director;
d) Mr Thomas Main Paterson, the son of Mr William Paterson, who succeeded his father as managing director of Patersons;
e) Mr Mark Bourn, a research scientist in the Environment Agency's Evidence Directorate working in the climate change and resource efficiency team.

14. In addition to the documentary and oral evidence, on 21 February 2012 the tribunal visited the Site. The visit was telerecorded and we were provided with a DVD of it. In evidence, Mr Paterson junior confirmed, and we accept, that the factual information with which we were provided on the visit was correct.

15. From all the evidence presented to us, we make the findings of fact which follow the relevant parts of the landfill tax legislation and the case law in point in the appeal. We also include certain regulatory material, which takes the form presented to us by Mrs Hall in her skeleton argument. That material is to be found in the Second Schedule to our decision.

16. Notwithstanding that the appeal is concerned with Patersons' liability to tax in the claim period, the evidence was presented to us on the basis that the Site is

presently operated very similarly, if not identically, to its operation in the claim period. In reciting the facts we find we therefore propose to use the present tense, except where it is clearly inappropriate to do so.

The landfill tax legislation

17. Part III of the Finance Act 1996 contains the principal charging provisions to landfill tax. It extends from section 39 of that Act to section 70. Section 39 provides that "A tax, to be known as landfill tax, shall be charged in accordance with this Part".

18. Section 40 deals with the charge to tax in the following terms:

> "(1) Tax shall be charged on a taxable disposal.
> (2) A disposal is a taxable disposal if -
> (a) it is a disposal of material as waste,
> (b) it is made by way of landfill,
> (c) it is made at a landfill site, and
> (d) it is made on or after 1st October 1996.
> (3) For this purpose a disposal is made at a landfill site if the land on or under which it is made constitutes or falls within land which is a landfill site at the time of the disposal."

19. We might at this point observe that it is common ground that subsections (b), (c) and (d) of s.40(2) are satisfied; only (a) is in dispute.

20. By s.41 liability to pay the tax is imposed on the landfill site operator, he being defined as the person who is at the time of the disposal the operator of the landfill site which constitutes or contains the land on or under which the disposal is made.

21. Section 42 prescribes the amount of in the following terms:

> "(1) The amount of tax charged on a taxable disposal shall be found by taking –
> (a) [£13]* for each whole tonne disposed of and a proportionately reduced sum for any additional part of a tonne, or
> (b) a proportionately reduced sum if less than a tonne is disposed of.
> (2) Where the material disposed of consists entirely of qualifying material this section applies as if the reference to [£13]* were to £2.
> (3) Qualifying material is material for the time being listed for the purposes of this section in an order.
> (4) The Treasury must have regard to the object of securing that material as listed if it is of a kind commonly described as inactive or inert."

*This is the figure included in the Finance Act 1996. It has since been increased on a number of occasions.

22. Sections 47 to 57 concern the administration and collection of landfill tax.

23. Section 64 explains what is meant by "a disposal of material as waste" as follows:

"(1) A disposal of material is a disposal of it as waste if the person making the disposal does so with the intention of discarding the material.

(2) The fact that the person making the disposal or any other person could benefit from or making use of the material is irrelevant.

(3) Where a person makes a disposal on behalf of another person, for the purposes of subsections (1) and (2) above the person on whose behalf the disposal is made shall be treated as making the disposal.

(4) The reference in subsection (3) above to a disposal on behalf of another person includes references to a disposal –

(a) at the request of another person;

(b) in pursuance of a contract with another person."

24. Section 65 interprets s.40(2)(b) as follows:

"(1) There is a disposal of material by way of landfill if –

(a) it is deposited on the surface of land or on a structure set into the surface, or

(b) it is deposited under the surface of land.

(2) Subsection (1) above applies whether or not the material is placed in a container before it is deposited.

(3) Subsection (1) (b) above applies whether the material –

(a) is covered with earth after it is deposited, or

(b) is deposited in a cavity (such as a cavern or mine).

(4) If material is deposited on the surface of land (or on a structure set into the surface) with a view to it being covered with earth the disposal must be treated as made when the material is deposited and not when it is covered..."

25. So far as material, section 70 provides:

"(1) Unless the context otherwise requires –

'material' means material of all kinds, including objects, substances and products of all kinds;

'taxable disposal' has the meaning given by section 40 above.

(2) A landfill disposal is a disposal –

(a) of material as waste, and

(b) made by way of landfill."

26. The Finance Act 1996 makes provision for the Landfill Tax Regulations 1996. Part V of those regulations deals with "Credit: Permanent Removals etc.", and the parts thereof relevant for present purposes are the following:

"Entitlement to credit

21.(1) An entitlement to credit arises under this Part where-

(a) a registered person has accounted for an amount of tax and, ..., he has paid that tax; and

(b) in relation to the disposal on which that tax was charged, either –

(i) the reuse condition has been satisfied; ...

(2) The reuse condition is satisfied where –

(a) the disposal has been made with the intention that the material comprised in it –

(i) would be recycled or incinerated, or

(ii)removed for use (other than by way of a further disposal) at a place other than a relevant site;

(b) that material, or some of it, has been recycled, incinerated or permanently removed from the landfill site, as the case may be, in accordance with that intention;

(c) that recycling, incineration or removal –

(i) has taken place no later than one year after the date of the disposal; or

(ii)...

(d) the registered person has, before the disposal, notified the Commissioners in writing that he intends to make one or more removals of material in relation to which sub-paragraphs (a) to (c) above will be satisfied.

(6) The amount of the credit arising under this Part shall be equal to the tax that was charged on the disposal; except that where only some of the material comprised in that disposal is removed, the amount of the credit shall be such proportion of that tax as the material removed forms of the total of the material."

Case law

27. The case law in point in the appeal consists of but four cases, those of the *Commissioners of Customs and Excise v Parkwood Landfill Ltd* [2003] 1 WLR 697, ("Parkwood"), *Commissioners of Revenue and Customs v Waste Recycling Group* [2008] EWCA Civ 849 ("WRG"), *ICI Chemicals and Polymers Ltd v Commissioners*

of Customs and Excise (1998) WL 1120723 ("ICICP"), and *Customs and Excise Commissioners v Darfish Ltd* [2000] All ER (D) 316.

28. We can deal with the *Darfish* case quickly. Two relevant points emerge from the judgment of Moses J in that case. First, the point of disposal is a moment in time and, secondly, the learned judge was unimpressed by the proposition that the point in time at which title passes could ever cast any light on the question of intention.

29. The facts in *Parkwood* were that a local authority delivered waste to a recycling company which divided the waste into that capable of being recycled, and that which was not. The latter was disposed of at Parkwood's landfill site, and landfill tax paid on it. Parkwood also bought some of the recycled material, in the form of aggregates and fines, and used it on its landfill site for roadmaking purposes and landscaping. The Court of appeal held that landfill tax was payable when material was disposed of as waste by way of landfill at a landfill site, but not when recycled material was used at such a site. Consequently, the Court decided that Parkwood was not liable to landfill tax on the material used for roadmaking and landscaping.

30. The leading judgment was given by Aldous LJ. At [9] and [10] of his judgment, he explained the relevant law in the following way:

> "9. Landfill tax was introduced as from 1 October 1996 by the Finance Act 1996. The tax is a creature of domestic statute in that it is not a tax required under any provisions of Community law. However the United Kingdom does have obligations in Community law to take appropriate steps to encourage the prevention, recycling and processing of waste under Council Directive 75/442/EEC. The Environmental Protection Act 1990 is the key piece of domestic legislation enacted to meet this obligation. Landfill tax can therefore be seen as a separate domestic initiative aimed at protecting the environment and securing the ambitions of the Directive.
>
> 10. A government White Paper of December 1995 entitled "Making Waste Work" (Cm 3040) preceded the imposition of landfill tax. It examined the strategies to be adopted to reduce the environmental impact of waste disposal. So far as landfill was concerned, three main objectives were set out. First, to reduce the amount of waste; second to reduce the amount of material going to landfill; and third to place the cost of landfill on the person disposing of the waste. In that way waste producers would become aware of the cost of their activities. The central purpose of the landfill tax was stated to be
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> > 'to ensure that landfill costs reflect environmental impact thereby encouraging business and consumers in a cost effective and non-regulatory manner, to produce less waste; to recover value from more of the waste that is produced; and to dispose of less waste in landfill sites.' "

31. Having observed that the differences between the parties to the appeal turned upon whether s.40(2) required the disposal, which was the taxable disposal, to satisfy all the conditions of the subsection, Aldous LJ rejected a submission by counsel for

the Commissioners that the scheme of the relevant sections of the 1996 Act was to tax all waste material going to landfill unless specifically excepted. He did so, saying:

> "20. I do not believe that the scheme of the Act is that submitted by Mr Havers [counsel for the Commissioners]. The Act must, in my view, be construed against the background of its purpose. There is no dispute that one of the purposes of the Act was to promote recycling and to reduce the amount of waste going to landfill. To tax recycled material used for road making and the like at landfill sites would be contrary to that purpose. If that had been part of the scheme of the Act, then I would have expected there to be a clearer indication in the relevant sections.
>
> 21. The crux of the dispute between the parties does not turn upon the construction of the word 'disposal'. It depends upon what is a taxable disposal. Is it a disposal made at one time?
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> 22. I am of the view that the natural meaning of section 40(2) requires a disposal which is a taxable disposal to satisfy the conditions in paragraphs (a), (b), (c) and (d) at the same time. Those paragraphs used the word 'it' to refer back to the 'disposal' which suggests that the disposal has to be made at a landfill site by way of landfill and also to be a disposal of material as waste.
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> 23. The tax is a landfill tax, not a landfill and recycling tax. The tax is to be paid when waste material is disposed by way of landfill in a landfill site: not on waste material (e.g. fines) which has been recycled (e.g. into blocks) which may be used in a landfill site (e.g. to build a wall or hard standing). The disposal referred to in section 40(2) is a particular disposal."

32. Aldous LJ added at [27] and [28]:

> "27. The commissioners also submitted that there was nothing in the statute which suggested that material which had been discarded as waste ceased to be waste because it had been successfully recycled. That submission is contrary to common sense. Take material which is thrown away. That is waste. Melt it down and mould it into a spare part for a machine and it is not waste. There need be no change in chemical substance to convert waste into a useful product. It is the act of recycling which is important. This is recognised by Parliament in its drive to promote recycling rather than disposal and recognised by the cumulative effect of section 40(2).
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> 28. The commissioners accept that their argument leads to the result that companies such as Parkwood will be liable for tax if they use recycled material for site engineering or building purposes, whereas they would not be liable for tax if they used fresh materials. That cannot have been the intention of Parliament when they introduced the landfill tax. The purpose of the legislation was to tax waste material deposited at landfill sites and not to tax deposits at landfill sites of useful material produced from waste material."

33. Aldous LJ concluded at [30] that "it is the intention of the disposer at the site" that is relevant; "the tax bites upon the person who discards not who recycles."

34. In *WRG*, the group of companies concerned provided waste management services and, as a landfill site operator, made a landfill tax repayment claim in relation to inert materials, such as construction and demolition waste, which it used on its landfill site for engineering purposes such as the construction of site roads, or in compliance with waste management licence conditions requiring daily coverage of the site.

35. The Court of Appeal confirmed that landfill tax was payable only if there had been a disposal of material "as waste" for the purpose of s.40(2)(a), and there was a disposal of material as waste if the person disposing of the material intended to discard it, see s.64(1), the Chancellor (with whom the other members of the court agreed) saying:

> " 29. Whether or not there is a liability to landfill tax in respect of the materials to which this appeal relates depends on the proper interpretation and application of the provisions of Part III of Finance Act 1996. We are bound by the decision of this court in Parkwood in respect of the aspects of interpretation with which it dealt. But we are not concerned with the applicability to the facts of this case of the judgment of this court in Parkwood or of Moses J. in Darfish. In my view the decisions of both the Tribunal and Barling J. are open to the criticism that too much time was taken up with the application of those judgments to the categories of material which I have mentioned and not enough to the application of the legislation to the facts of this case.
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> 30. The question is whether there was a taxable disposal of the materials used by WRG for daily cover and road construction. That depends on whether there was a disposal which satisfied all four conditions laid down in s.40(2). The decision of this court in Parkwood establishes that all four conditions must be satisfied at the same time. Though elements of the taxable disposal may occur sequentially, and to that extent the decision of Moses J. in Darfish is consistent with the decision of this court in Parkwood, the four conditions for liability specified in s.40(2) must be satisfied at the same time. That moment must be the time at which the last of them is satisfied. That is likely to be the moment when the material is disposed of as landfill in accordance with the provisions of s.65. "
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> ...
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> 33. In those circumstances, in my view, it is clear that, assuming there to have been a disposal at all, the disposal relevant for the purposes of s.40(2)(a) was made by WRG on its own behalf. So the question posed by s.64(1) is whether WRG then intended to discard the materials. The word "discard" appears to me to be used in its ordinary meaning of "cast aside", "reject" or "abandon" and does not comprehend the retention and used of the material for the purposes of the owner of it. I agree with counsel for WRG that s.64(2) does not apply in

such circumstances because there is, at the relevant time, either no disposal or no disposal with the intention of discarding the material.

34. It follows from this conclusion that the relevant intention may well not be that of the original producer of the materials. There is no principle that material once labelled as "waste" is always "waste" just because the original producer of it threw it away. That is not the relevant time at which the satisfaction of the conditions imposed by s.40(2) is to be considered. (1) Recycling may indicate a change in the relevant intention but it is not an essential prerequisite. (2) Re-use by the owner of the material for the time being may do likewise. Thus although the passing of title is not conclusive, it is, in my view, of greater relevance than Moses J., the Tribunal or Barling J. were prepared to attribute to it.

35. It may be that the economic circumstances surrounding the acquisition of the materials in question by the ultimate disposer of them will cast light on his intention at the relevant time. They cannot, as I see it, affect the decision on this appeal because the use of the relevant materials by WRG is clear and such use is conclusive of its intention at the relevant time by whatever means and on whatever terms WRG acquired them.

36. In my view, the materials used by WRG for daily cover and building roads were not the subject matter of a taxable disposal as defined in s.40(2). ..."

36. The Court held that no landfill tax was chargeable on the material on the basis that the relevant instruction for the purpose of s.64(1) was that of the landfill site operator, and that the operator had no intention of discarding the material.

37. In *ICICP*, the tribunal accepted a number of submissions by counsel for the Commissioners. First, it accepted at [25] there is no necessity to have recourse to any definition outside the Finance Act 1996 itself. And then at [30] it also accepted:

"1) that the power to tax must be derived from within the four corners of the statute creating the taxing power;

2) that where the words of a taxing statute are clear, it is impermissible to refer to, e.g. Parliamentary material;

3) that the power to tax created by section 39 of the 1996 Act and those sections following s. 39 are not powers that stem from any European Directive or were enacted to give effect directly to any European purpose."

Energy recovery from waste

38. Energy recovery from waste can be achieved either by the direct process of burning, or by subjecting the waste to a biological process such as anaerobic digestion. The highest value of energy recovery from waste is obtained by burning it in incinerators. Incinerators burn waste at very high temperatures and the resulting heat can be used to create kinetic energy and, in turn, generate electricity.

39. As we have said, anaerobic digestion produces methane. The ignition of methane in a conventional spark ignition engine also releases energy, in this case in the form of kinetic energy. That energy can be converted into heat and electricity through a generator.

40. The commercial energy recovery process, known as the gas utilisation scheme, is the same as anaerobic digestion, but on a larger scale.

The facts

41. Patersons is family owned and managed, and is a subsidiary of Patersons Quarries Ltd, a group holding company. The holding company can trace its origin back to 1826. In addition to Patersons, the group contains three engineering companies and a facilities management company. The group employs some 600 people, and in 2009 had a turnover of £47 million.

42. The Site which extends to 91 hectares lies to the east of Glasgow, is bounded by the A74 road to the north, and by the River Clyde to the south. The M74 Motorway crosses the Site, dividing it into two distinct areas.

43. From the 1930s onwards the Site was used as a sand and gravel quarry. Patersons acquired it whilst it was being so used. On supplies of sand and gravel being exhausted, Patersons determined to continue operating the Site as a landfill site. In order to do so, it had first to obtain a waste management licence and planning permission for the operation.

44. Patersons was granted a waste disposal licence for the Site on 15 December 1978. By virtue of s.77(2) of the Environmental Protection Act 1990, on the company registering for landfill tax that licence fell to be treated as a waste management licence. It therefore became subject to the provisions of Part II of the Environmental Protection Act 1990. The change to waste management licence took place on 7 March 1995. Para 139 of the licence provided that, "By September 1995 a suitable, whole site, landfill gas collection system requires to be installed and maintained in an efficient and effective working order to the satisfaction of the Director of Environmental Health of the City of Glasgow District Council". As a result Patersons, as a temporary measure, started using a gas collection system consisting of a network of pipes and a pump to draw off the landfill gas, collect and flare it. And para.140 of the licence went on to say, "This licence requires that by September 1995 the landfill gas collected on site requires to be flared or utilised or subject to other satisfactory control as approved by the Director of Environmental Health of the City of Glasgow District Council". The licence was modified on 27 June 2000 to authorise the disposal, keeping and treating of waste in accordance with a working plan, which had to be reviewed every 12 months. The result of each review had to be presented to the Scottish Environment Protection Agency ("SEPA"). Any changes made to the working plan as a result of a review could be implemented only with SEPA's written consent.

45. In the associated planning application Patersons sought permission for the "installation of a gas management (abstraction and flaring) system comprising gas flare stack, compound and underground pipes...". The application was granted on 19 October 1995, the use sought being said to be "incidental to the lawful use of the land as a landfill site".

46. Patersons operated the Site under a waste management licence until 29 March 2007, when the licence expired. The following day the licence was replaced by a pollution, prevention and control (PPC) permit, which continues in force to this day. The permit provides for the collection, treatment and management of landfill gas, and is the means whereby many of the requirements of the Landfill Directive 75/442 are implemented, including the requirements for landfill gas management. The parts of the permit relevant for present purposes are the following:

> "1.1.2 The Permitted Activities are landfill activities receiving more than 10 tonnes in any day or with a total capacity exceeding 25,000 tonnes, excluding landfills of inert waste together with the Directly Associated Activities specified in Condition 1.1.4
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> 6. CONTAINMENT AND CAPPING
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> 6.1. **Geological Barrier**
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> 6.1.1. No waste shall be deposited in an area of the Site Landfill unless the base and sides of that area consist of an artificially established, engineered, compacted mineral layer having as a minimum the following standards:
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> a) a geosynthetic clay liner with hydrated thickness greater than or equal to 10 millimetres, an unhydrated thickness greater than or equal to 6 millimetres and a permeability of less than or equal to 2x10-11 metres/second; and
>
> b) a compacted layer of clay with a thickness of greater than or equal to 0.5 metres and a permeability of less than or equal to 1x10-9 metres/second.
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> 6.5 **Leachate management**
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> 6.5.1 Leachate management shall be carried out in accordance with the Management Plan. Contaminated water shall be collected, treated and discharged in accordance with the Management Plan.
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> 7. LANDFILLING OPERATIONS
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> 7.2 **Waste Emplacement**
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> 7.2.3 At the end of each working day cover material shall be applied on areas of the Site Landfill used for the disposal of waste to prevent wind blown litter and animal nuisance

8. LANDFILL GAS

8.1 Landfill Gas Management Systems

8.1.1. A landfill gas management system shall be provided for each cell or phase, the objective of which shall be to collect, extract and dispose of or utilise landfill gas arising from the Permitted Installation in such a way that minimises damage to or deterioration of the environment and risk to human health or serious detriment to the amenities of the locality.

8.1.2. The landfill gas management system shall be operated in accordance with the Management Plan.

8.1.3. By 30 June 2007 the operator shall prepare and implement a reviewed Gas Management Plan. The Gas Management Plan shall provide procedures to minimise the nuisance and hazards arising from landfill gas production at the Site...

8.1.5. The landfill gas management system shall have sufficient capacity and extent to optimise the collection, extraction and disposal or use of the landfill gas which is generated at the Permitted Installation.

8.1.6. The landfill gas management system shall be operated and maintained to meet the standards specified in any other conditions of this Permit for:

a) balancing the extraction system; and

b) limiting emissions from the site, landfill gas flaring system and any landfill gas utilisation system provided.

8.1.13. A review of the gas management system shall be carried out on an annual basis, to ensure that the system is continuing to meet its design and performance standards. The first review shall be carried out, recorded and submitted to SEPA by 30 June 2007 and incorporated into the revised Landfill Gas Management Plan. Subsequent reviews shall be carried out not more than one year following the previous review. The review shall incorporate a survey of capped areas to ensure their integrity is maintained. Details of the review shall be recorded and submitted to SEPA."

47. The current gas management plan for the Site, revised no. 5, was produced exclusively for Patersons in June 2010 by EnviroCentre. As we understand it, it differs but little, if at all, from the earlier plan. The Gas Management Philosophy is set out therein as follows:

"Patersons of Greenoakhill are dedicated to ensuring that landfill gas is controlled safely and effectively to prevent pollution of the environment and harm to human health. They are committed to maximising the use of the gases generated by the degrading waste, in line with the requirements of the Landfill Directive and the Landfill (Scotland) Regulations 2003, as amended. To

facilitate this, a landfill gas management system shall be provided for each cell or phase to facilitate the collection, treatment and utilisation or disposal of landfill gas arising."

48. That philosophy was set out in Patersons' earlier gas management plan in identical terms.

49. The permit was varied on 17 December 2007 to require a construction quality assurance plan for the installation of any permanent landfill gas management infrastructure. Such a plan is a formal means of ensuring that the infrastructure meets the necessary standards.

50. We observe, and find, that although the Gas Management Philosophy indicates that Patersons is committed to "maximising the use of the gases generated by the degrading waste", and claims to have had such intention at least as early as 2000, the company's legal obligation was, and is, restricted to dealing with the gas in accordance with its PPC permit.

51. Patersons claims that the commitment to maximising use so expressed goes to the company's commercial intention support of the claim. All Patersons' witnesses maintained that the company has an obligation to use the methane produced at the Site. We accept that the company has an obligation to deal with the gas in accordance with its permit, but whether that obligation indicates its intention commercially to use the methane is a matter with which we shall later deal following our consideration of the submissions of the parties.

Gas collection infrastructure

52. Patersons developed the Site for landfill purposes in stages so that it now consists of four zones. Zones 1 and 2 form what Patersons refers to as the Old Site, and contain gas producing materials. Those zones were developed under the waste management licensing system. They were not sealed and were operated on the basis that the harmful materials they contained would be filtered out naturally due to the geological conditions found on the Site. Zones 1 and 2 have now closed to the acceptance of landfill, but continue to produce landfill gas. Zone 3, referred to by Patersons as the New Site, also contains gas producing materials, was developed under the Pollution, Prevention and Control (Scotland) Regulations 2000 ("the PPC Regulations"), and became operational in 2007. Zone 4 is an inert area not containing any gas producing materials.

53. Each zone in the Site consists of a series of cells which have been engineered to operate independently of each other. Each cell within zone 3 is engineered over a basin in which liquid waste collects, and is constructed in such a way as to prevent gas and other materials migrating from one part of the Site to another. Deposit of the material in cells creates manageable units and isolates pollutants.

54. Zone 3 was engineered by Patersons to comply with the PPC Regulations in such a way as to be consistent with guidance produced by the Department of the Environment ("the DOE"). The DOE Waste Management Paper 26B explains the

engineering requirements for the Site, and summarises the system required for landfill gas management. It includes a requirement for containment and collection or utilisation of the landfill gas. More detailed engineering requirements were set out in the now superseded DOE Waste Management Paper No.27.

55. Patersons achieves containment by engineering each cell to create a sealed vessel. It first creates an impermeable base layer of clay over which an impermeable liner of high density polyethylene is placed. The liner prevents the migration of liquids and gases through the base of the Site. The company uses inert materials to cover and protect the liner in a layer known as "fluff". On top of the fluff layer it places aggregates to act as a drainage layer, and has a system in place for management of the leachate levels in the Site. The leachate management system contains a plastic pipe which feeds into a sump where leachate naturally collects. The leachate is then pumped out and spread onto the remainder of the Site. Leachate recirculation may reduce the temperature of material in landfill, and thereby slow the process of methane production. To prevent migration of landfill gas through the top of a cell filled with waste material, it is capped with clay and other materials impermeable to gases. Such engineering promotes the production of landfill gas which, as we have said, is generated in anaerobic conditions. Once a cell has been infilled with material, Patersons caps it with clay and other materials impermeable to gases to prevent migration through the top of the cell. It claims to do so to promote the production of landfill gas.

The gas collection system

56. The gas collection system Patersons uses comprises wells drilled into the Site, a network of pipes, and a series of pumps to draw off the landfill gas. The company surveys each cell to determine how deep the Site can be drilled, and seeks to drill its average well to a depth of 30 metres.

57. Mr Selvey, or someone instructed by him, determines where gas wells should be located. The first well to be drilled in any cell is the deepest. The other wells are drilled as Mr Selvey directs, usually some 40 metres apart, but none is drilled to a depth that might damage the drainage layer. Patersons claims that the distance it has chosen between each well ensures that it obtains the highest quality gas and keeps drilling costs to a minimum. It maintains that if wells are too widely spaced, landfill gas can migrate round the Site, creating safety problems. Mr Bourn accepted that the collection well spacing at the Site was generally consistent with the Government's guidance, as contained in its publication Guidance on the Management of Landfill Gas.

58. Patersons engages specialist contractors to drill wells. They use a rig mounted on caterpillar tracks for the purpose. Having drilled into a capped cell they then place a perforated tube in the drill hole, and the gap between the piping and the hole is filled with aggregates to stop landfill material blocking the perforations. If, whilst drilling, a rig hits a solid object, Patersons abandons the well concerned, backfilling the drill hole with bentonite, an impure clay. That prevents both excess moisture entering the cell, and gas escaping.

59. Each well is connected to a vent at the wellhead via an airtight seal. The wellhead contains a control valve and sampling point which can be attached to a gas analyser. The control valves have a mechanism which can be physically adjusted by means of a spanner to adjust the gas flow from a well. The airtight seal is required to prevent air being drawn in by the negative pressure in the capped cell; the capped cell and gas system must be airtight. If air enters the system it can render gas unusable because Patersons gas engines require good quality gas to operate efficiently. Gas contaminated by containing too much oxygen will cut out an engine and thus stop electricity generation; it may also cause a risk of underground fires.

60. Each well is also connected to a network of overground pipes which transport the gas from the well to a gas compound on the Site. The pipes, constructed of high density polyethylene, are welded together by means of an electro-fusion coupling. Strong connection between the pipes is essential as the Site is prone to movement caused by the use of heavy machinery and landfill settlement.

61. As the pipes near the gas compound their diameter increases to accommodate the increased volume of gas. The network of pipes includes a number of manifolds which are essentially gas pipe interconnectors allowing the accumulation of gas from a number of pipes into a single larger pipe.

62. There is a time delay of between a few weeks and a few months from the capping of the well to its drilling. That is due to particular conditions, such as wet weather. Every effort is made to drill and connect the pipework as quickly as possible.

63. The network of pipes on and in the Site includes a number of isolation valves which are required to enable necessary repair work to be carried out from time to time.

64. The pipe network also includes a number of "knockout pots", where any excess moisture is collected. Collection is necessary to remove moisture from the gas to ensure that it is usable in Patersons gas engines. The liquid sitting in the sump is pumped off periodically and returned to landfill.

65. The gas collection pipework is linked to two pumps which draw the gas off the Site.

66. In addition to the main wellheads, there are other wells known as "pin wells". They are of lesser diameter than the main wells and are used both as fine controls to maximise the collection of gas and to prevent problems from gas migration.

67. The process of anaerobic decomposition which takes place on the Site differs substantially from that in an anaerobic digestion plant. As we have explained, the process in the former is one of simply allowing nature to take its course, and to produce landfill gas in the process of time – time for the purpose being measured in months and years. In the latter waste material is burned and processed from start to finish in a matter of a few hours.

Issues with gas production

68. To maintain the gas yield from the Site, the network of pipes requires active management. Patersons claims to ensure maximum efficiency in gas production and collection by equalising the volume of gas coming off the Site and that of gas being produced. It avoids the over-extraction of gas as that causes the rate of the chemical reaction to reduce and can lead to excess air, i.e. oxygen, being drawn into the system. On the other hand, it also avoids the under-extraction of gas as that can lead to gas migration around the Site, as well as to an over-concentration of methane in the gas collected.

69. Patersons claims good landfill gas to consist of between 50% and 60% methane. If the level of oxygen in the gas is too high the gas engines do not perform properly. The company controls the level of oxygen entering the system manually by attaching a gas analyser to the wellhead and varying the flow thereat.

70. Mr Selvey records the levels of landfill gas and oxygen and, if necessary, adjusts the rate of flow of gas by using the adjustable mechanism at the control valve. He is also required to adjust the flow rate on the valve to take account of weather conditions, as high atmospheric pressure tends to hold the gas in the ground, whereas lower pressure draws gas off the Site. Moisture levels within the Site also affect gas production, warm moist conditions being ideal for the production of landfill gas. Glasgow being an area of relatively high rainfall, it is generally unnecessary for Patersons to add moisture to the gas producing material, but there are some dry pockets on the Site which need added moisture. They are dealt with by Patersons pumping leachate into them from the sump at the bottom of the cell.

71. Patersons has no facilities for storing gas and so controls its flow by the valve at the wellhead. The gas produced is usually drawn off because the company is looking for the greatest possible electricity production. As we have already mentioned, Patersons' permit contains no requirement that it generate electricity from methane extracted from landfill gas at the Site. As we understand it, the carbon dioxide content of landfill gas is of no use to Patersons, and is released into the atmosphere.

72. The work carried out by Mr Selvey includes the monitoring of gas production which larger operators of landfill sites, such as Biffa itself, remotely carry out using computers for the purpose.

Electricity generation

73. At some time in the 1990s, Patersons, which had previously been asked by a company interested in electricity generation whether it was interested in energy production from landfill gas, itself commissioned a feasibility study into the potential for revenue from electricity generation at the Site. The resultant report indicated that the quantity and quality of landfill gas produced at the Site was suitable for use for power generation.

74. One section of the report indicated that under the Electricity Act 1989, as supported by a framework of Renewables Orders, there were Government incentives

encouraging power generation. (In Scotland such Orders are known as Scottish Renewables Orders, or SROs). This was helpful to Patersons as the relevant SRO provided a mechanism under which an electricity generator could enter into a contract for electricity generation providing a premium tariff, linked to the Retail Price Index, over a guaranteed period of between 15 and 20 years.

75. Patersons concluded from the report that, although the necessary infrastructure would be costly, power generation could prove profitable for it. It therefore decided to apply for an SRO contract. To obtain such a contract, a contractor was required to submit a bid as to the price at which it would be willing to supply electricity. The bid document had to identify the infrastructure to be used to make the supply and the bid had to be equal to or lower than the offer price to be successful.

76. Patersons first bid was unsuccessful, but in 1999 it successfully made a second bid. It was then required to, and did in fact, make a considerable investment in gas engines, grid connection and personnel. Initially Patersons purchased four gas engines, but has since purchased a further four.

77. The 8 engines which Patersons uses to generate gas are Jenbacher J320 internal combustion piston gas engines. The Jenbacher is the only engine on the commercial market designed specifically to be fuelled by gas. They are the most expensive on the market, and were purchased by Patersons for their reputed reliability and quality. As we mentioned earlier, Patersons purchased the engines in two groups of four. Each engine generates 415 volts which are transformed, i.e. increased, to a voltage of 11,000. The electricity is then supplied by means of underground cables to a nearby sub-station and through to the National Grid.

78. On 30 June 1999 Patersons was granted planning permission for the "installation of waste gas to energy generation plant."

79. As Patersons had no connection from the Site to the National Grid at the time, it had to arrange for a connection to the Grid by underground cables. On 8 September 1999 Scottish Power wrote to Patersons setting out the details of its generating plant connection to the Scottish Power Distribution System.

80. Evidence was adduced, and we accept, that Patersons has spent some millions of pounds in setting up its electricity generating capacity including purchasing the gas engines and connecting the whole electricity system to the National Grid. We were not provided with full details of the monies so expended, but agree with Mr Cordara that the details are of little or no matter.

81. We find that prior to 1999 Patersons had no intention commercially to exploit methane produced at the Site. Nevertheless, material the company sent to landfill before that year continues to produce methane. In our judgment, a decision the company claims to have made in 1999 generally to exploit all waste in the Site cannot transform a pre-1999 decision to discard material into an intention not to do so.

82. Also in our judgment, the gas extraction infrastructure which Patersons has put in place on the Site was primarily installed to satisfy its regulatory legislative

obligation to provide it. We find it to be essentially the same as if the landfill gas was being flared rather than used.

83. On 31 December 2005 Patersons contracted with NFPA Ltd for the supply of electricity to the relevant connection point and undertook to make the supply available to the contracted capacity throughout the terms of the agreement between the two.

84. Electricity generation has proved extremely profitable for Patersons, and it now makes twice as much profit therefrom as it makes from tipping by waste contractors.

The gas compound

85. A single pipe feeds gas into a compound in which Patersons has installed its 8 electricity generating engines. The pipe is connected to each one engine. Upon entry into the compound the pipe divides into two, and each feeder pipe is attached to a separate flare stack. The stacks are required for the burning of methane should the electricity generating engines fail.

86. Each flare stack has a pilot light which ignites should the flare stacks be required. The pilot lights in turn ignite the main flame. The flare stacks are flared very rarely, and then only as part of a maintenance check or when there has been a full shutdown of the gas plant.

87. Each of the four older engines has a power output of 1006kW, and each of the four newer ones, 1065kW. Each engine has an electronic control panel which provides diagnostic information such as the engine's temperature, pressure and electrical output. The engines are started, or loaded up, gradually for safety reasons.

88. Like the pipework, the gas engines require constant maintenance to ensure their maximum efficiency, and for safety reasons. Every 5 weeks, or after each 1000 hours of use, Patersons stops each one, changes its spark plugs, oil and filters, and undertakes any necessary minor repairs. After 20,000 hours of use, an external contractor strips down each engine and replaces any major faulty parts. And after 40,000 hours of use such contractor undertakes a complete overhaul of each engine.

89. If an engine stops for any reason, e.g. because of a power cut, it is programmed to call Mr Selvey or his assistant, depending on which of them is on duty. The duty engineer reports to the Site immediately and restarts the engine. If an engine is turned off it is necessary to flare the gas, and to ensure the shortest break as possible in electricity generation.

90. The engines are most efficient when run at full power. If there is not enough methane to keep all 8 engines running at maximum power, Mr Selvey is required to ensure that the number of engines running at full power reflects the total amount of methane available.

91. The electricity demands of the Site, such as for the pumps and site office, are met from the electricity generated by the engines, and it is the remaining electricity generated that is sold to the National Grid.

92. At the time of the site visit only 5 of Patersons' 8 gas engines were operating, the Site producing insufficient methane to power the other three. We were told, and accept, that Glasgow City Council has recently awarded a contract to one of Patersons' customers for the collection of domestic waste, and the company hopes that customer will use the Site to deposit at least some of the waste concerned. Domestic waste containing more putrescible material than industrial and commercial waste, Patersons also hopes that the Site will in future produce more methane and enable it to power all its gas engines. In the past the Site has produced sufficient methane to power all 8 engines simultaneously.

Operational process

93. Waste contractors bring to the Site material of which they wish to dispose using purpose-built vehicles licensed and regulated by SEPA. Each such contractor holds a waste carrier's licence. The Control of Pollution Act 1989 and the Controlled Waste Regulations 1991 impose a duty of care on the person holding the waste and require the transfer of waste to be documented on a waste transfer note. In Scotland the waste transfer note is required to indicate the type of material to which it relates by reference to an EWC code, a European code designed for the purpose. The driver of the vehicle bringing waste to the Site normally brings the waste transfer note with him and on entry hands it to Patersons' weighbridge operator.

94. The weighbridge operator is responsible for making appropriate checks on the contents of each vehicle's load to ensure that it corresponds to the description on the waste transfer note, and that the customer holds a waste carrier's licence. As Patersons deals only with customers with whom it has a contract and is aware of the licences each holds, the latter requirement is a formality.

95. Patersons is not authorised to receive hazardous waste at the main part of the Site, and if any such material is identified by the weighbridge operator the load is 'quarantined', i.e. removed to and placed in a specially licensed cell.

96. Once the weighbridge operator is satisfied that he may accept a load, he issues the vehicle's driver with a weighbridge ticket and instructs him to proceed to the tipping area. If the material consists of building or similar waste, so that the entirety of it is capable of being recycled, it is deposited on a particular area of the Site where recycling takes place. All other material is taken to what is known as the 'transfer station'. That is a holding area where material is tipped before being transferred in Patersons' own on-site specialist dumper trucks to other parts of the Site. It is common ground that, ignoring material designated as recyclable on its arrival at the Site, Patersons takes ownership of the material provided by waste contractors on its being deposited at the transfer station: it then has title to the waste when it moves the material and places it in landfill or otherwise deals with it.

97. At the transfer station, or void, there are two separate areas, one which accepts waste mainly or exclusively destined for landfill, and the other waste some of which is capable of being recycled, using that word in the sense of extracting already existing material merely requiring physical separation from that destined for landfill.

Patersons has a recycling plant which mechanically sorts waste in the latter category, and also has a group of men who manually extract from the remaining material that which is recyclable. Wood, metal, clean cardboard, bricks and stones, all being recyclable, are extracted and are sold off the Site for further reprocessing. The rest of the material is sent to landfill. It is impossible to say what percentage of that material will prove biodegradable. As we mentioned earlier, Patersons is entitled to recover the landfill tax paid on material which proves to be recyclable, and makes its claims in that behalf based on the weight of material concerned.

98. It is from the material sent to landfill that landfill gas, and hence methane, is produced. The production process requires no action by Patersons; the decomposition process is triggered by the deposit into landfill. Material decomposes at different rates so that some produces landfill gas in a matter of weeks, whilst other takes much longer for the degeneration process to begin. But when decomposition has begun, it continues for a lengthy period of time – a period which it is impossible to calculate, but which may extend to 50 or more years. Nor can it be said what quantity or quality of methane will be produced by any given load of waste material deposited into landfill; if either quantity or quality prove insufficient to drive Pattersons' gas engines it will not be used, unless it can be combined with other methane of good quality and in sufficient quantity.

99. When empty, delivery vehicles leave the Site, again passing over the weighbridge. On the return journey their tare weight is recorded and compared with the gross weight on entry. As the contracts with most of its customers are of a rolling variety, Patersons invoices its customers monthly, including on each invoice landfill tax at the standard rate on all waste deposited.

The terms of Patersons' contracts for landfill

100. With the exception of a written contract with Biffa Waste Services Ltd ("Biffa"), a major waste contractor, Patersons does not have written contracts or standard terms and conditions on which it deals with others of its customers who wish to deposit waste material at the Site. But it has negotiated an individual price for the deposit of material with each regular customer. The customer's agreed price for each category of waste, which takes account of its potential to produce landfill gas, is entered on Patersons' computer system, and is applied in calculating the customer's monthly invoice.

101. Patersons' contract with Biffa, which is personal to that company, represents some 50% of Paterson's waste business at the Site. It commenced on 30 March 1998. The recitals to the contract provide as follows:

> "(A) The Site Operator [Patersons] operates the Landfill Site known as the Greenoakhill Tip ("the Landfill Site"); and
>
> (B) Biffa and the Site Operator have agreed arrangements for the delivery by Biffa to the Landfill Site of domestic, commercial and industrial waste and other

controlled waste (other than Clydesdale Waste) on the terms and conditions aftermentioned."

Para 3.1 of the contract provides that "During Normal Working Hours [as defined] throughout the Period of this Agreement Biffa shall be entitled to deliver domestic and/or industrial waste (including controlled waste) to the Landfill Site for disposal and subject always to Biffa making payment of all sums due under this Agreement the Site Operator shall accept the Waste". At para 3.4.4. Biffa is required to comply with the Licence for the Site and Regulatory Requirements, again as defined. By para 5 of the contract, Biffa is required to dispose at the Site a minimum percentage of the waste it collects from a defined geographical area.

102. We find that sums paid by Biffa under para 3.1 of the contract are for tipping waste. And on the basis of the recitals to, and those of the contents of, para 3 of the Biffa contract to which we refer above, we also find that Patersons agreement with Biffa is to receive waste from the latter and to deal with it as such; it is not to receive that waste as electricity generating fuel. We further find that the parties act on the terms of that contract.

103. The contract also requires Patersons to offer Biffa its best market price for waste, so that it cannot charge Biffa more than the lowest price it charges any of its other customers. Patersons maintains that has been a commercial constraint on its electricity production business, and will remain so until the Biffa contract expires in 2013.

104. Whilst, as we have said, Patersons contracts with the remainder of its customers have not been reduced to writing, we are satisfied, and thus find, that, excluding price, which is the subject of negotiation with individual customers, it deals with all its customers on terms very similar, if not identical, to those on which it deals with Biffa. No evidence was adduced from those customers to indicate that any one of them contracted to supply Patersons with waste material for energy generating purposes and, in its absence, notwithstanding claims to the contrary by messrs Paterson, we are not prepared to accept that the company receives waste material from any of them on terms different from those on which it receives waste from Biffa.

Miscellaneous facts

105. There are a number of miscellaneous findings of fact we must make that are relevant to Patersons' intention with regard to the disposing of material.

106. We are satisfied, and thus find, that a great many steps taken by Patersons in connection with the operation of the Site which it maintains to be evidence of its intention not to discard material disposed in landfill are necessary, or are required, to comply with its site permit or its regulatory obligations. Indeed, we are unable to identify anything it does beyond powering and supplying its gas engines with methane as not being a regulatory requirement. In order that there may be no dispute as to the actions to which we refer, we list below the specific findings of fact we make, and indicate the persons on whose evidence we rely for the purposes.

107. Many of the steps concerned are carried out by Mr Selvey. He admitted to performing his duties in accordance with the Site permit, and consistently with the Regulations to which the Site is subject. Amongst other matters Mr Selvey dealt with in evidence he accepted that:

1) the need to monitor landfill gas collection is a requirement of the Site permit, safety and environmental regulations;
2) Patersons is obliged under the Site permit, and other regulations, to prevent gas migration;
3) the Site permit requires Patersons
    a. to create sealed cells, and to contain and cap them;
    b. to install in each cell an impermeable base layer;
    c. to place aggregates on inert material above the base layer to act as a drainage layer;
    d. to manage leachate; and
    e. to cap each cell

108. Mr Selvey admitted, and we find, that Patersons' gas collection system is what he described as "bog standard", and contains no features taking it beyond "the norm for discharging [Patersons'] obligations to capture the gas." He further admitted that, in so far as Patersons is converting methane into electricity, it is discharging its obligations under the Site permit. Mr Selvey yet further accepted that:

1) each of the features Patersons' gas collection infrastructure would have been necessary, even had there been no gas engines on site:
2) preventing gas escapes is a regulatory requirement, as is that of preventing moisture entering cells;
3) preventing air being drawn into cells by negative pressure is a regulatory requirement;
4) balancing gas flow is "part and parcel" of a landfill site's operation, and is an obligation under the Site permit;
5) the construction of the network of pipes is concerned with the obligation to capture landfill gas;
6) the pipe collection network is necessary, whether there are engines on the Site or not;
7) the need for manifolds is "part and parcel" of the monitoring and balancing obligations and they are necessary regardless of whether there is conversion into electricity;
8) isolation valves are also necessary whether or not there are engines on the Site;
9) knockout pots are necessary irrespective of whether there are gas engines generating electricity;
10) pumping is the standard, indeed the only, way of capturing gas from the Site;
11) when carrying out inspections, he is "essentially discharging an obligation of [Patersons] under … part of the [Site] permit; and
12) Patersons is obliged to manage leachate

109. Mr Paterson junior accepted that Patersons has to liaise with the regulator on a regular basis with regard to costs, and that dealing with frozen pipework is part of the company's regulatory obligation.

110. Finally, Mr Grantham admitted that "there are very strong drivers to ensure that gas migration is minimised". He also accepted that:

1) "it is part of [Patersons'] regulatory obligations to take steps to avoid wind blown litter";
2) "it is a regulatory requirement [for Patersons] to employ staff to manage its fields";
3) "it is part of [Patersons'] obligation to provide effective gas management with effective monitoring and balancing"; and
4) Patersons has "an obligation to monitor the quality of the gas".

Calculation of Patersons' claim

111. Mr Grantham explained how Patersons had calculated its tax repayment claim as set out in the First Schedule to our decision saying that it had sought to identify the weight of biodegradable mass within the waste deposited at the Site which would produce landfill gas. Its claim was based on assumptions that each load of domestic waste is 44.61% gas producing, commercial waste is 67.89% gas producing, industrial waste is 32.6% gas producing, waste that is 50% commercial and 50% industrial is 50.25% gas producing, and waste that is 60% commercial and 40% industrial is 53.77% gas producing. Those assumptions were made in part on the basis of scientific and statistical data. The methodology used was the same as that used for the purpose of operating GasSim, a risk assessment tool developed for the Environment Agency by Envirocentre (and endorsed by the SEPA) which is said to indicate how much gas should be produced at a particular site. GasSim is one of three risk assessment tools used in the landfill industry. Each tool produces fairly similar, but not identical results. We were not told why Patersons chose the GasSim model in preference to one of the other two. Comparison of the estimated gas production at an unidentified site with that actually obtained showed that in 2009 there was a discrepancy of 10% between the gas produced and the estimate, that discrepancy being attributed to ordinary inefficiencies in the collection network by Envirocentre. Patersons claimed that it intends to maximise the amount of gas it captures to produce electricity, but accepted that its collection infrastructure was not 100% efficient. It also disclosed that the basis of its claim was for the material which produced landfill gas, and not on that of the volume of gas that could be captured.

112. In cross-examination, Mr Grantham accepted that the reliability of the GasSim model, which deals with annual amounts, rather than individual loads, of material, is the subject of serious scientific debate.

113. He explained the GasSim model as having two aspects: those of the content of the raw material sent to landfill and the site conditions "in terms of the size of the cell". We should add that we find that Patersons does not feed the EWG codes

identifying the material sent to landfill into the model used to calculate the tax it seeks the Commissioners to repay; they are completely ignored.

Submissions for the Commissioners

114. Mrs Hall rejects a contention by Mr Cordara that the cases of *Parkwood* and *WRG* are binding on the tribunal for the proposition that the use Patersons claims to make of biodegradable material it puts into landfill is conclusive of its intention not to discard material at the point of disposal. She maintains that Patersons' interpretation of the two Court of Appeal judgments is one of the most flawed features of the appeal: the facts with which the Court of Appeal was concerned, and the assumptions on which its statements of principle were based, differed substantially from the facts and principles with which the instant appeal is concerned.

115. She focuses first on the word "material" in section 40(2)(a) maintaining that material must have mass, must occupy space, must be something capable of disposal, and must be physical and perceptible to the senses as a tangible substance. Mrs Hall maintains that material must meet those criteria is apparent, not just from s.40(2), but from many other parts of Part III of the 1996 Act. For instance, since by s. 42(1)(a) landfill tax is payable by the tonne, it must be capable of being weighed. In s.43(4)(a) reference is made to "naturally occurring mineral material", and by s.43A, which deals with contaminated land, material must be something capable of being removed from one part of the land to another part, implying that the thing under consideration must have a physical presence. By s.44(3), quarrying and mining material which may be excluded from the tax must be "naturally occurring material extracted from the earth". By s.64(1), whatever the material is, it must be capable of disposal, and only a tangible, measurable thing can be the subject of a disposal. By s.65(1) material must be capable of being deposited on or under the surface of land, or on a structure set into its surface. Section 68 provides for regulations to determine how the weight of material disposed of shall be calculated.

116. Mrs Hall contends that it is important to note that s.42 prescribes the amount of tax "per tonne" for three reasons:

(a) If Parliament had intended landfill tax not to be payable in respect of a portion of material deposited into a landfill site, it would have provided some mechanism for calculating the deduction to be made at the point of disposal. No such mechanism was needed in cases such as those of *Parkwood* or *WRG* because the diverted tonnage of material used by landfill site operators in those cases was readily identifiable.

(b) The s.40(2) conditions must all be met at the time the material is put into landfill. It is at that point that the question of intention must be answered by reference to an identifiable tonnage of material. But it is impossible at that or any other stage to identify the tonnage of material sent to landfill that will produce methane. Further, what Patersons is exploiting commercially is not the material itself but methane, which does not exist at the point of disposal.

(c) A necessary corollary to Patersons' case is that it had an intention to discard an unascertainable proportion of material at the time of deposit (which meant that it could properly be classified as waste), but had no such intention with regard to the equally unascertained balance (which meant it could not be so classified). Mrs Hall submits that such a proposition is absurd, having regard to what actually happens on the Site, and is not one that fits the overall scheme of the legislation. That absurdity is compounded by the fact that methane is being produced by degrading material which was in the Site before landfill tax came into existence. Parliament could not have intended to impose the tax on material the history of which it would be necessary to check to ascertain whether anybody had the required intention.

117. What Parliament meant by "material" must be put in context by considering the reasoning the Court of Appeal deployed in dealing with the issues in *Parkwood* and *WRG*. Mrs Hall maintains that the facts of those two cases could not be further removed from those of the instant case: Patersons uses something, methane, that does not exist at the time of deposit. The tribunal can deduce nothing of any real value from the two judgments because the assumed premise of the Court of Appeal's reasoning in each of those cases, the existence of something physical and perceptible, was that it had mass, occupied space, and was diverted from landfill.

118. Mrs Hall notes that neither judgment addressed the key issue in the instant appeal: that only something which physically exists can be put on or under land. Parliament had already singled out for special consideration the distinction between active waste, biodegradable waste, on the one hand, and inert waste on the other. She submits that had it been Parliament's intention to exclude the use of methane generated by the biodegradation process from the scope of the tax, it would have done so. She accepts that Parliament laid the foundation for such a finding in s.42(4), but claims that it limited special treatment to special categories of waste, namely biodegradable or inert, to the rates of tax to be applicable to them.

119. Next, Mrs Hall turns to what she describes as the "all important" s.64, first accepting the relevant intention in the instant case to be that of Patersons. She invites us to note the definite article in s.64(1) – *the* intention to discard, not *an* intention to do so and – submits that, on the facts of the instant case, there can be only one intention per disposal; the concept of having two or more intentions with regard to the one disposal is meaningless. Three concepts are engaged here: those of waste, intention, and discarding.

120. Mrs Hall explains that the Commissioners rely on what they contend to be Patersons' primary intention with regard to material deposited as landfill. In the absence of any authority on the point, she submits that is a perfectly coherent way of seeking Parliament's intention. Landfill site operators will typically have multiple intentions when material is put into landfill, some of which will be secondary or immaterial. The intention to make a profit and the intention to create a landscape which is suitable for the proposed end use of the site may both be present, but would not be material because they would be classified as secondary or ancillary. Further, Article 3(19) of the revised Waste Framework Directive 2998/98/EC provides that

"disposal" means ". . . any operation which is not recovery even where the operation has a secondary consequence the reclamation of substances or energy". "Recovery" means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function in the plant or in the wider economy". And, as mentioned in the Second Schedule to our decision, since landfill tax is a domestic initiative aimed at protecting the environment and securing the ambitions of EU Council Directives on waste in dealing with the legislation concerned, Mrs Hall submits that it is necessary to have regard to the broader EU context.

121. What Mrs Hall claims to be important from the case law is that material is waste if the person making the disposal intends to cast it aside, reject or abandon it (see [33] of the judgment of the Chancellor in *WRG*). However, the word "waste" in s.64(1) cannot be considered in isolation; it has to be the subject of a composite analysis. An intention is that someone plans or intends to do in relation to something which, at the moment the intention is formed, is identifiable. The relevance of that on the facts of the instant case is, according to Mrs Hall, that at the point of disposal no methane exists in the material disposed of, and Patersons accepts that some of the material will never convert into landfill gas.

122. Further, in the instant case there are a number of unknown factors in relation to material: what percentage of it is biodegradable? how much methane will be produced by a particular load of waste? when will production of methane start? when will production stop? how much of the biodegradable material will degrade? and how much methane of suitable quality will be enough to drive an engine? Mrs Hall contrasts those factors with the facts of *WRG* and *Parkwood* where in each case the landfill operator could stand at the void and determine that a particular deposit, which was eminently tangible, identifiable and weighable, would be used as daily cover or to build roads.

123. Mrs Hall further contends that the accuracy of the GasSim model is the subject of serious scientific debate, so that Patersons cannot accurately determine exactly what it is putting into the ground. The whole notion that Patersons intends to use something in a way that it is obliged to do in discharging a regulatory requirement is not the sort of use that Parliament had in mind. Even if the facts are considered separately from the law, where is the engineering of the Site devoted to producing methane, as opposed to collecting it? In the Commissioners' judgment, there is none.

124. In relation to discarding, Mrs Hall accepts, on the basis of the judgments in *WRG* and *Parkwood*, that to "discard" material does not include its use. She adds that in the instant case material which enters the Site as waste occupies space in it in exactly the same way as it occupies the space if the methane produced is not used to generate electricity; the settlement will be the same regardless of whether Patersons converts the methane into electricity. That goes to the question of whether Patersons can bring itself within the *WRG* case, which excludes the retention of material in addition to use. In the instant case, the material is not retained by Patersons, but is put into the void; in WRG the material was retained and put on the roads.

125. Mrs Hall then turns to deal in detail with the *Parkwood* case, observing that the Court of Appeal was there concerned with (a) recycled materials which were (b) purchased and used for landscaping and road making purposes. At [20] to [28] of its judgment the Court concluded that to tax recycled material in circumstances where that material had been used for road making and the like at landfill sites would be contrary to the Finance Act 1996. It was against that background that the Court concluded at [23] that the tax is a landfill tax and not a landfill and recycling tax, so that Patersons' reliance on that paragraph is misguided. The Court's conclusion was amplified at [28], Aldous LJ saying "The purpose of the legislation was to tax waste material deposited at landfill sites and not to tax deposits at landfill sites of useful material produced from waste material." Mrs Hall notes that those two facts significantly informed the reasoning of the Court, adding that the use to which Parkwood put the material is the first obvious point of distinction between that case and the instant one; in the former there was an obvious physical, tangible use of the disputed material whose existence was never in doubt – a use totally absent in the instant case.

126. The other headline point of distinction between the two cases identified by Mrs Hall is obtained from [5] to [8] of *Parkwood*, namely that a recycling company sold aggregates and fines to *Parkwood* to use at its landfill site for road making and landscaping at a price of £2.50 per tonne: the commercial objective of the transactions was to enable *Parkwood* to do the very thing it actually did with material bought for that purpose. She submits that that contrasts sharply with the economic and commercial circumstances surrounding the acquisition of material in the instant case.

127. Mrs Hall further submits that the distinction between the facts of the two cases is very important, as the Biffa contract shows. Biffa is not selling waste to Patersons as fuel for its energy production business; it pays Patersons a tipping price as a landfill site operator, and the material comes into Patersons hands as Biffa's waste. Some such material goes to landfill; some is recycled out. That Patersons has the intention of acquiring the Biffa waste for landfilling purposes is capable of deduction in the absence of evidence to the contrary. In Mrs Hall's submission, that is a key factual distinction between the instant case and that of *Parkwood* which went to the essence of the Court's reasoning in the latter

128. Mrs Hall next observes that at [9] of its judgment the Court of Appeal looked at the EU context of landfill tax, but notes that Council Directive 75/442, to which the court referred, had already been amended by the time the Court gave judgment, so that its reference was incomplete and incorrect. Nevertheless, the Court of Appeal had no difficulty in putting the landfill tax into what Mrs Hall describes as "its broader European context".

129. Nothing Patersons does reduces the amount of waste going to landfill; it acknowledges that some recycling takes place before the point of deposit, but admits that all of the remaining material goes to landfill and becomes part of it. The reasoning of the Court of Appeal cannot therefore be transposed on to the facts of the instant case.

130. If Parliament had intended the commercial exploitation of methane, which Mrs Hall maintains to be an inevitable by-product of the process of biodegradation, to fall outside the scope of landfill tax one would have expected there to have been a clearer indication in the legislation. That there is no such indication suggests that Parliament did not intend to exempt anything approaching that which Patersons is doing.

131. Mrs Hall also submits that the material which Patersons sends to landfill is not recycled; it is put into the ground. Nor is the methane produced as a by-product of the degradation of the material the sort of recycling to which the Court of Appeal was referring in *Parkwood*.

132. Accepting that landfill tax is designed to promote recycling, Mrs Hall further submits that the reasoning at [27] of *Parkwood* was predicated on the material there in issue being tangible, physical material; and that methane was not the type of material the Court of Appeal had in mind. Methane does not exist at the time material is disposed of, and when it subsequently comes into existence it cannot be classified as material in the sense used by Parliament in Part III of the Finance Act 1996.

133. Next, Mrs Hall deals with *WRG*. In that case the Court of Appeal held material set aside for daily cover not to be liable to landfill tax. As in Patersons' case, cover was set aside for the purpose; it was retained. However, Mrs Hall submits that the Commissioners' case does not turn on retention or no retention, but rather on the lack of any recognisable use of the material.

134. In *WRG*, Mrs Hall claims the Court of Appeal to have been influenced by the fact that the material under consideration was merely deposited on the landfill site. The Chancellor's view that Parliament may not have intended such material to be taxed was tempered by a submission by *WRG* that the material was disposed of by way of landfill, see [31] of his judgment. However, he clearly had doubts as to whether there had been a disposal at all, and simply assumed that there had been, see [33]. The fact that the inert material under consideration had been (a) retained by *WRG* in the sense of being held or kept back from the landfill, and (b) used in the same state for the purposes of WRG, in Mrs Hall's submission, meant that the material itself had not been discarded in the sense of "cast aside", "rejected" or "abandoned", see [33]. She contends that in such cases there is no disposal, or no disposal with the intention of discarding the material. She adds that the Court of Appeal did not address the situation that arises in the instant case where (a) the active material for which the credit is sought is not kept back from landfill, and (b) the material is not physically used by Patersons.

135. The material in point in *WRG* was inert. Mrs Hall submits that Mr Cordara's proposition that the tribunal is bound by the Court of Appeal's reasoning in that case in circumstances where it was dealing with material which had exactly the opposite characteristics to the material in point in the instant appeal is very difficult to sustain.

136. Then, in *WRG* there was a finding that the group was actively seeking the supply of materials needed for construction purposes. In Mrs Hall's further

submission what Mr Cordara is seeking to do is to copy and paste that notion into Patersons' case. She contends that no relevant point arises from its so doing.

137. As revealed by [16], [23], [26] and [35] of *WRG*, Mrs Hall notes that in that case it was held to matter not by what means and on what terms WRG acquired the material; it was put to a use not contemplated by the Finance Act 1996. In the instant case, the economic circumstances surrounding the acquisition by Patersons of material are reflected in the Biffa contract, and show that it is receiving and acquiring Biffa's waste in its capacity as a landfill site operator. (In this context and in others of her submissions, Mrs Hall uses the "Biffa contract" as shorthand for Patersons' contracts with all its customers who bring waste materials to the Site).

138. Mrs Hall identifies [34] and [35] of *WRG* as important, the Chancellor indicating three possible circumstances in which an intention may be said to have changed; recycling, re-use, and the possibility of the economic circumstances surrounding the acquisition of the materials in question by the ultimate disposer of them possibly casting light on his intention at the relevant time.

139. She submits that for a number of reasons the instant case differs from *WRG*, and in not being is not one of a change in intention. First, it concerns material completely different from that in point in *WRG*. Secondly, a relevant intention for the purpose of s.40(2)(a) cannot be generated by reference to a commercial decision Patersons claims to have made in 2000 to exploit the methane in landfill material, so that Patersons' intention with regard to that material ceases to exist; it is subsumed or diverted. That she maintains is sufficient for the Commissioners' purposes, but there is more.

140. If that intention had really continued throughout the period 2000 to 2006, the terms on which Patersons dealt with Biffa and its other customers would have changed; the circumstances surrounding the acquisition of material would not have been those described in recitals A and B to the Biffa contract, but rather that Biffa provided fuel for Patersons electricity generating business. That circumstance is relevant to intention. At the critical point when Patersons receives material at the void, it comes to be landfilled. Mrs Hall contends that that is entirely inconsistent with the suggestion that the intention to use it for electricity generating purposes continues at that point; it clearly does not. Patersons receives the Biffa waste with the intention of landfilling it; that is why it charges Biffa a tipping price.

141. Patersons receives waste for a variety of purposes, some for recycling, some for daily cover, some for fluff, and other for basal engineering. But Mrs Hall maintains that over-arching intention is fractured soon after material arrives on site; the intention goes off in different directions with different fiscal consequences.

142. The instant case is not one in which use can be described as conclusive of Patersons' intention. In Mrs Hall's contention, Patersons claim that its case is analogous to that of *WRG* is a profound perversion of the reasoning of the Court of Appeal in that case, the judgment being far removed from the facts of the instant case and the legal principles engaged.

143. In conclusion of that section of her submissions dealing with *Parkwood* and *WRG* Mrs Hall contends that the determinative issues in the instant appeal have not been addressed by any court or tribunal.

144. Next, she submits that since methane is a by-product of a process which takes place subsequent to disposal and does not exist at the point of disposal, it cannot be said that the material producing it is recycled: it is the methane, and not the material, that is converted into electricity.

145. Mrs Hall then deals with a number of points arising out of the notice of appeal. First, she observes that the settlement of the material on the Site is the same whether the methane is flared or used. She does so against a background of a claim by Patersons in para.6 of its notice of appeal that "Material which generates landfill gas is not waste". She particularly notes that it is the material itself which is said not to be waste. At para.7 of the notice of appeal, Patersons claimed that "The gas producing material is recycled within the landfill site and the appellant intends that this should be the case". At para.9 it added, "The material is not disposed of as waste, as defined in s.64, because the site operator intends that it, the material, will be used to create landfill gas". Mrs Hall claims that para.9 indicates a different intention on the part of Patersons – namely that the material will create methane. Against that background Mrs Hall claims para.9 to show that Patersons appears to have no intention to use the material discarded; the material itself will create the methane. She refers to the Commissioners' claim on the point, to be found at para.34 of the amended statement of case:

> "The purification process and the production of landfill gases are both natural and inevitable consequences of allowing biodegradable material to rot. The material remains in the same location and decomposes to the same state. Whether landfill gases are used to generate electricity or not the material is not used for any other purpose."

146. Mrs Hall then deals with what Mr Cordara describes as the "passivity point". He claims that the fact that material remained untouched and unprocessed did not concern the Court of Appeal in *Parkwood* and *WRG*. In response, Mrs Hall replies that it would have done so had the instant case been before the court. She maintains that Patersons' claim that it has a further use for the material on its being deposited into landfill is incorrect; the company has no further use for the material for it produces methane without any intervention whatsoever.

147. Dealing next with the "temporal element" identified by Mr Cordara– that a disposal is something which takes place when the material is put into the operative part of the Site, that being the moment when the four conditions in s.40(2) are met - Mrs Hall accepts that those parts of the waste used for daily cover, fluff, etc, cease to be waste in Patersons' hands on being so applied, but observes that the appeal is not concerned with such material, but rather with that going into the void; and it is at the point that it does so that the four conditions have to be satisfied.